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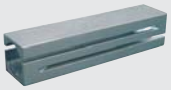
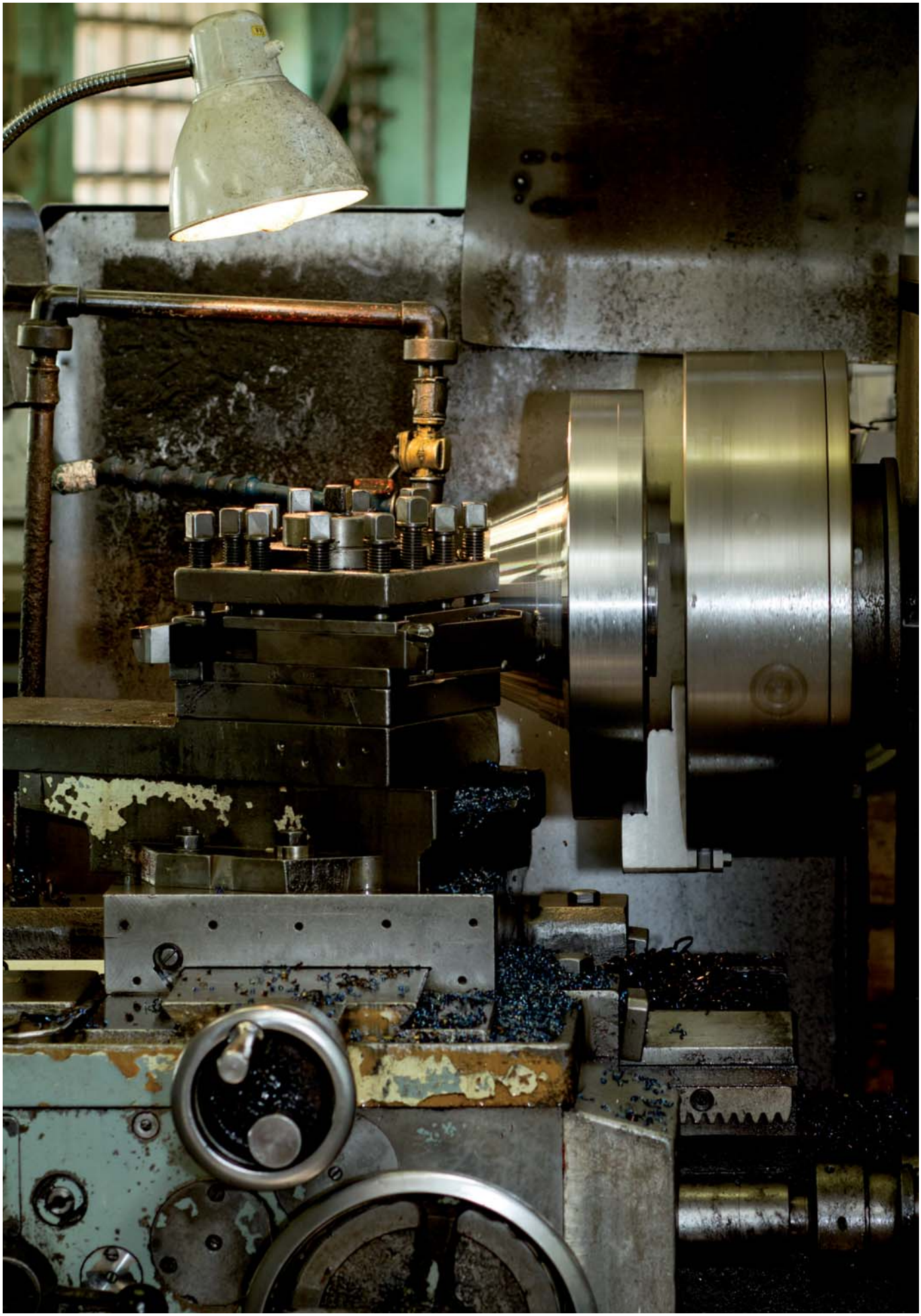


Cu avans in noile dimensiuni

Bestseller

Freze cilindro-frontale din carbura de la pag. 2/57



PRODUSE NOI

NOU

Freza cilindro-fontala din carbura monobloc, SL

- Protectie eficienta impotriva uzurii datorita stratificarii Fire
- Viteza de taiere cu cca. 50 % mai mare decat la dispozitive nestratificate

42 15366 646 pagina 2/64

NOU

Freza degrosare din carbura monobloc

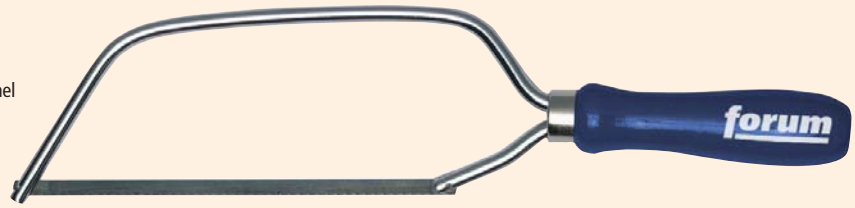
- Dantura speciala produce scurt si usor de indepartat
- Prin pasul inegal al toroanelor de 36° si 38° se obtine o utilizare fara vibratii

42 15371 115 pagina 2/69

NOU

Fierastrau universal

- Maner rezistent din lemn de fag
- Protectie buna anticoroziva datorita stratului de nichel



42 15406 150 pagina 2/97

NOU

Panza bimetal de debitat

- Panza bimetal cu banda foarte flexibila
- Duritate varfuri dinti 67-69 HRC
- Recomandat pentru toate tipurile de oteluri chiar si oteluri inalt aliate

42 15409 400 pagina 2/101

NOUTATI

Utilizati noile produse.

Explicatii pentru alegerea corecta a sculelor

Nota importanta: Datele despre viteza de taiere se bazeaza pe utilaje uzuale si corespund unor valori de referinta!

Clasificare dupa simboluri

Suprafata	Cod comanda	Otel <850 N	Otel <1000 N	Otel <1400 N	Otel <42 HRC	Otel <52 HRC	Otel <56 HRC	Otel <62 HRC	Otel >62 HRC	INOX	Ti, aliaje Ti, oteluri speciale	Fonta	Al, nemetale, aliaje nemetale	Cupru, alama, bronz	Emulsii	Ulei	Aer	fara racire
	99 99999...	■	■	■	■	■				◧		■	□	◧				

■ recomandat ◧ adecvat □ ocazional

Clasificare dupa valori

Suprafata	Cod comanda	Otel <850 N	Otel <1000 N	Otel <1400 N	Otel <42 HRC	Otel <52 HRC	Otel <56 HRC	Otel <62 HRC	Otel >62 HRC	INOX	Ti, aliaje Ti, oteluri speciale	Fonta	Al, nemetale, aliaje nemetale	Cupru, alama, bronz	Emulsii	Ulei	Aer	fara racire
	99 99999...	**35**	35	25	25	19				50	**40**	90	**75**					

Cifre ingrosate = recomandat Cifre normale = adecvat

Formule

Simbol	Descriere	Unitate de masura	Formule
v_c	Viteza de taiere	m/min	$v_c = \frac{\pi \cdot DC \cdot n}{1000}$
D_c	Diametru freza	mm	
n	Rotatii per min	Rot/min	$n = \frac{v_c \cdot 1000}{\pi \cdot D_c}$
f	Avans per rotatie	mm/a	$f = \frac{v_f}{n}$
v_f	Avans per minut	mm/min	$v_f = n \cdot z_n \cdot f_x$
v_x	Avans per dinte	mm/dinte	$f_x = \frac{v_f}{n \cdot z_n}$
z_n	Numar dinti		

Nr. comanda.	Descriere	Numar dinti	DIN	Tip	Material	Pagina	Suprafata	Otel <850 N	Otel <1000 N	Otel <1400 N	Otel <42 HRC	Otel <52 HRC	INOX	Ti, aliaje Ti, oteluri speciale	Fonta	Al, nemetale, aliaje nemetale	Cupru, alama, bronz
42 15301...	Freza cilindro - frontala	8–10	1880	N	HSS Co5	2/13	blank	25	20								
42 15304...	Freza cilindro - frontala	7–10	1880	NF	HSS Co5	2/13	blank	25	20								
42 15305...	Freza cilindro - frontala	7–10	1880	NR	HSS Co5	2/13	blank	25	20				12		22	105	75
42 15307...	Freza cilindro - frontala	7–10	1880	HR	HSS Co8	2/14	blank	25	20						22		
42 15308...	Freza cilindro - frontala	7–10	1880	HR	HSS Co8	2/14	TiCN	60	45	27			23	20	35		
42 15309...	Freza disc	28–40	1834-A	N	HSS Co5	2/14	blank	15	12						14		

Codurile marcate cu • nu se regasesc in stoc, livrare rapida

Acoperire – tratarea suprafetelor

Scule din otel rapid sau carbura sunt utilizate datorita proprietatilor generale bune fara tratament suplimentar de suprafata, fiind denumite blank. Pentru utilizari speciale se folosesc scule cu diverse tipuri de acoperiri ale suprafetei care ofera o rezistenta ridicata la uzura.

Produsele noastre urmatoarele tipuri de acoperiri: TiAlN, Fire, TiCN, TiAlN-S. Fiecare strat de acoperire este recomandat pentru diverse domenii de utilizare.

INFO

Acoperire TiAlN (Titanaluminiunitrid)
Identificare vizuala culoare negru-violet
Strat special pentru operatiuni de aschiere in materiale abrazive (fonta, AlSi) si/sau solicitari la temperaturi ridicare, fara racire sau cu racire limitata, ex. la gauri adanci sau diametre mici. La solicitari mari pot fi observate avantajele acoperirii TiAlN.

Acoperire TiCN (Titancarbonnitrid)
Identificare vizuala culoare griviolet
Multistrat cu structura laminara. Aduce avantaje semnificative la prelucrarea otelului, a materialelor greu de prelucrat sau materiale cu o duritate/rezistenta peste medie.

Strat Fire
Identificare vizuala culoare rosie
Multistrat TiAlN/TiN. Stratul Fire confera o rezistenta buna la uzura respectiv o stabilitate termica ridicata. Sunt utilizate la prelucrari cu racire, racire minima sau fara emulsie de racire.

Strat TiAlN-S
Identificare vizuala culoare albastru neon
Multistrat special NANO pe baza de TiAlN cu adaos de silicon. Proprietatile siliconului impiedica ruperea/casarea materialului de baza. Rezistent la uzura. Recomandat in special pentru prelucrare dura cu avans mare.

Tabel duritati

Rm (N/mm²)	HRC	HB30	HV10
240	–	71	75
255	–	76	80
270	–	81	85
285	–	86	90
305	–	90	95
320	–	95	100
335	–	100	105
350	–	105	110
370	–	109	115
385	–	114	120
400	–	119	125
415	–	124	130
430	–	128	135
450	–	133	140
465	–	138	145
480	–	143	150
495	–	147	155
510	–	152	160
530	–	157	165
545	–	162	170
560	–	166	175
575	–	171	180
595	–	176	185
610	–	181	190
625	–	185	195
640	–	190	200
660	–	195	205
675	–	199	210
690	–	204	215

Rm (N/mm²)	HRC	HB30	HV10
705	–	209	220
720	–	214	225
740	–	219	230
755	–	223	235
770	–	228	240
785	–	233	245
800	22	238	250
820	23	242	255
835	24	247	260
860	25	255	268
870	26	258	272
900	27	266	280
920	28	273	287
940	29	278	293
970	30	287	302
995	31	295	310
1020	32	301	317
1050	33	311	327
1080	34	319	336
1110	35	328	345
1040	36	337	355
1170	37	346	364
1200	38	354	373
1230	39	363	382
1260	40	372	392
1300	41	383	403
1330	42	393	413
1360	43	402	423
1400	44	413	434

Rm (N/mm²)	HRC	HB30	HV10
1440	45	424	446
1480	46	435	458
1530	47	449	473
1570	48	460	484
1620	49	472	497
1680	50	488	514
1730	51	501	527
1790	52	517	544
1845	53	532	560
1910	54	549	578
1980	55	567	596
2050	56	584	615
2140	57	607	639
2180	58	622	655
–	59	–	675
–	60	–	698
–	61	–	720
–	62	–	745
–	63	–	773
–	64	–	800
–	65	–	829
–	66	–	864
–	67	–	900
–	68	–	940

Toleranta DIN ISO 286

Toleranta: Pozitionare si calitate dimensiune exterioara	Domeniu dimensiune nominala in mm/valori tolerante in µm									
	de 1 pana la 3	peste 3 pana la 6	peste 6 pana la 10	peste 10 pana la 18	peste 18 pana la 30	peste 30 pana la 50	peste 50 pana la 80	peste 80 pana la 120	peste 120 pana la 180	peste 180 pana la 250
d 9	–20	–30	–40	–50	–65	–80	–100	–120	–145	–170
	–45	–60	–76	–93	–117	–142	–174	–207	–245	–285
d 11	–20	–30	–40	–50	–65	–80	–100	–120	–145	–170
	–80	–105	–130	–160	–195	–240	–290	–340	–395	–460
e 8*	–14	–20	–25	–32	–40	–50	–60	–72	–85	–100
	–28	–38	–47	–59	–73	–89	–106	–126	–148	–172
f 8	–6	–10	–13	–16	–20	–25	–30	–36	–43	–50
	–20	–28	–35	–43	–53	–64	–76	–96	–106	–122
f 9	–6	–10	–13	–16	–20	–25	–30	–36	–43	–50
	–31	–40	–49	–59	–72	–87	–104	–123	–143	–165
h 6	0	0	0	0	0	0	0	0	0	0
	–6	–8	–9	–11	–13	–16	–19	–22	–25	–29
h 7	0	0	0	0	0	0	0	0	0	0
	–10	–12	–15	–15	–21	–25	–30	–35	–40	–46
h 8	0	0	0	0	0	0	0	0	0	0
	–14	–18	–22	–27	–33	–39	–46	–54	–63	–72
h 9	0	0	0	0	0	0	0	0	0	0
	–25	–30	–36	–43	–52	–62	–74	–87	–100	–115
h 10	0	0	0	0	0	0	0	0	0	0
	–40	–48	–58	–70	–84	–100	–120	–140	–160	–185
h 11	0	0	0	0	0	0	0	0	0	0
	–60	–75	–90	–110	–130	–160	–190	–220	–250	–290
h 12	0	0	0	0	0	0	0	0	0	0
	–100	–120	–150	–180	–210	–250	–300	–350	–400	–460
js 11	+30	+38	+45	+55	+65	+80	+95	+110	+125	+145
	–30	–38	–45	–55	–65	–80	–95	–110	–125	–145
js 14	+125	+150	+180	+215	+260	+310	+370	+435	+500	+575
	–125	–150	–180	–215	–260	–310	–370	–435	–500	–575
js 16	+300	+375	+450	+550	+650	+800	+950	+1100	+1250	+1450
	–300	–375	–450	–550	–650	–800	–950	–1100	–1250	–1450
k 10	+40	+48	+58	+70	+84	+100	+120	+140	+160	+185
	0	0	0	0	0	0	0	0	0	0
k 11	+60	+75	+90	+110	+130	+160	+190	+220	+250	+290
	0	0	0	0	0	0	0	0	0	0
k 12	+90	+120	+150	+180	+210	+250	+300	+350	+400	+460
	0	0	0	0	0	0	0	0	0	0
k 16	+600	+750	+900	+1100	+1300	+1600	+1900	+2200	+2500	+2900
	0	0	0	0	0	0	0	0	0	0

* Toleranta freza conform e8 produce o canelura cu toleranta P9 intr-o singura trecere.

Codurile marcate cu • nu se regasesc in stoc, livrare rapida

Formule

Simbol	Descriere	Unitate de masura	Formule
v_c	Viteza de taiere	m/min	$v_c = \frac{\pi \cdot DC \cdot n}{1000}$
D_c	Diametru freza	mm	
n	Numar rotatii per min	min^{-1}	$n = \frac{v_c \cdot 1000}{\pi \cdot D_c}$
f	Avans per rotatie	mm/a	$f = \frac{v_f}{n}$
v_f	Avans per min	mm/min	$v_f = n \cdot z_n \cdot f_z$
f_z	Avans per dinte	mm/dinte	$f_z = \frac{V_f}{n \cdot z_n}$
z_n	Numar dinti		
Q	Volum tensionare	cm^3/min	$Q = \frac{a_p \cdot a_e \cdot f}{1000}$
a_p	Adancime de taiere	mm	
a_e	Latime taiere	mm	
T	Perioada de prelucrare	min	$T = \frac{l_f}{v_f}$
l_f	Lungime freza	mm	
$D_{(eff)}$	Diametru efectiv	mm	$D_{(eff)} = 2 \cdot \sqrt{D \cdot ap - ap^2}$
$D_{(eff)}$	Diametru efectiv la unghi de indoire β	mm	$D_{(eff)} = D \cdot \sin\left[\beta + \arccos\left(\frac{D-2a_p}{D}\right)\right]$

forum Valori de referinta pentru viteza de taiere V_c in m/min

	Material	Rezistenta la tractiune	Descriere material	Nr.material	Rezistenta la tractiune in miez	Factor de corectie (x fz)
1	**Material otel**					
1.1	Otel extrudat la rece, fier moale, magnetic	≤ 400 N/mm²	Q-St37-3 R-Fe80	1.0123 1.1014		1,2
1.2	Oteluri automate, oteluri uzuale de constructii	≤ 600 N/mm²	9SMnPb28 St37-2	1.0718 1.0037	500 – 700 N/mm² 340 – 470 N/mm²	1,2
1.3	Oteluri automate, oteluri de constructii, oteluri aliate, otel turnat	≤ 850 N/mm²	St70-2 GS-25CrMo4	1.0070 1.7218	700 – 900 N/mm² 650 – 950 N/mm²	1,1
1.4	Oteluri calite, oteluri tratate, oteluri nitrurate, oteluri prelucrate la rece	≤ 1100 N/mm²	16MnCr5 Ck45 100Cr6 X155CrVMo12-1	1.7131 1.1191 1.3505 1.2379	500 – 700 N/mm² 600 – 800 N/mm² 700 – 900 N/mm² 900 – 1100 N/mm²	1,0
1.5	Oteluri tratate, oteluri nitrurate, oteluri prelucrate la cald, oteluri tratate pana la 44 HRC	≤ 1400 N/mm²	42CrMo4V X30WCrV5-3 X38CrMoV5-3	1.7225 1.2567 1.2367	1200 – 1400 N/mm² 1100 N/mm² 900 – 1100 N/mm²	0,9
1.6	oteluri tratate > 44–55 HRC		55NiCrMoV6	1.2713	47 – 52 HRC	
1.7	oteluri tratate > 55–60 HRC		45WCrV7	1.2542	56 – 57 HRC	
1.8	oteluri tratate > 60–63 HRC		X155CrVMo12-1	1.2379	60 – 63 HRC	
1.9	oteluri tratate > 63–66 HRC		X210CrW12	1.2436	63 – 64 HRC	
1.10	oteluri inoxidabile, oteluri rezistente la acizi, oteluri rezistente la temperaturi ridicate	≤ 850 N/mm²	X10NiCrAlTi32-20 [INCOLOY800] X12CrNiTi18-9 X6CrNiMoTi17-12-2	1.4876 1.4878 1.4571	610 – 850 N/mm² 500 – 700 N/mm² 500 – 730 N/mm²	1,0
1.11	oteluri rezistente la rugina/ acizi si temperaturi ridicate	≤ 1100 N/mm²	X45SiCr4	1.4704	900 – 1100 N/mm²	0,9
1.12	oteluri rezistente la rugina/ acizi si temperaturi ridicate	≤ 1400 N/mm²	X5NiCrTi26-15	1.4980	1200 N/mm²	0,8
1.13	aliaje speciale din otel		FerroTiC Hardox500		800 – 900 N/mm² 1300 – 1400 N/mm²	
2	**Materiale turnate**					
2.1	Fonta		GG 20 GG 30	0.6020 0.6030	120 – 220 HB 220 – 270 HB	1,1
2.2	Fonta ductila		GGG 40 GGG 70	0.7040 0.7070	400 N/mm² 700 – 1050 N/mm²	1,0
2.3	Fonta cu vermicular		GGV (80 % Perlit) GGV (100 % Perlit)		220 HB 230 HB	1,0
2.4	Fonta temperata		GTW 40 GTS 65	0.8040 0.8165	360 – 420 N/mm² 580 – 650 N/mm²	1,0
2.5	Fonta dura pana la 400 HB				400 HB	
3	**Cupru, aliaje cupru, bronz, alama**					
3.1	Cupru pur si cupru aliaj scazut	≤ 500 N/mm²	E-Cu	2.0060	250 – 350 N/mm²	1,2
3.2	Aliaje cupru-zinc (alama) (span lung)		CuZn40 [Ms60] CuZn37 [Ms63]	2.0360 2.0321	340 – 490 N/mm² 310 – 550 N/mm²	1,1
3.3	Aliaj cupru-zinc (alama) (span scurt)		CuZn39Pb2 [Ms58]	2.0380	380 – 500 N/mm²	1,1
3.4	Aliaj cupru aluminiu (alubronz) (span lung) aliaj cupru staniu. (bronz) (span lung)		CuAl10Ni	2.0966	500 – 800 N/mm²	1,1
3.5	Aliaj cupru staniu (bronz) (span scurt)		GCuSn5ZnPb [Rg5] GCuSn7ZnPb [Rg7]	2.1096 2.1090	150 – 300 N/mm² 150 – 300 N/mm²	1,2
3.6	Aliaje speciale cupru pana la Q18		Ampco16		630 N/mm²	1,0
3.7	Aliaje speciale cupru peste Q18		Ampco20		600 N/mm²	
4	Aliaje nichel/cobalt					
4.1	Aliaje nichel/ cobalt rezistente la caldura	≤ 850 N/mm²	NiCu30Fe [MONEL400]	2.4360	420 – 610 N/mm²	1,0
4.2	Aliaje nichel/ cobalt rezistente la caldura mare	850 – 1400 N/mm²	NiCr19NbMo [INCONEL718]	2.4668	850 – 1190 N/mm²	0,9
4.3	Aliaje nichel/ cobalt rezistente la caldura mare	> 1400 N/mm²	Haynes 25 (L605)		1550 – 2000 N/mm²	
5	**Aliaje aluminiu**					
5.1	Aliaje forjate aluminiu		Al 99,5 [F13] AlCuMg1 [F39]	3.0255 3.1325	100 – 250 N/mm² 300 – 500 N/mm²	1,5
5.2	Aliaje alu- fonta ≤ 5 % Si		G-AlMg3	3.3541	130 – 190 N/mm²	1,3
5.3	Aliaje alu- fonta > 5 % - ≤ 12 % Si		GD-AlSi9Cu3 GD-AlSi12	3.2163 3.2582	240 – 310 N/mm² 220 – 300 N/mm²	1,3
5.4	Aliaje alu- fonta > 12 % Si		G-AlSi17Cu4		180 – 250 N/mm²	1,3
6	**Aliaje magneziu**					
6.1	Aliaje forjate magneziu		MgAl6	3.5662	300 – 500 N/mm²	1,3
6.2	Aliaje magneziu- fonta		GMgAl9Zn1	3.5912	300 – 500 N/mm²	1,5
7	**Titan, aliaje titan**					
7.1	Titan pur, aliaje titan	≤ 900 N/mm²	Ti3 [Ti99.4] TiAl6V4	3.7055 3.7164	700 N/mm² 700 – 900 N/mm²	1,0
7.2	Aliaje titan	900 – 1250 N/mm²	TiAl4Mo4Sn2	3.7185	900 – 1250 N/mm²	0,8
8	Materiale plastice					
8.1	Duroplast (span scurt)		BACHELITA		110 N/mm²	2,0
8.2	Termoplastice (span lung)		HOSTALEN		80 N/mm²	2,0
8.3	materiale plastice armate cu fibre		CFK/GFK/AFK		800 – 1500 N/mm²	
9	Materiale pentru utilizare speciala					
9.1	Grafit		C-8000		60 N/mm²	0,7
9.2	Aliaje de cupru si tungsten		W-Cu 80/20		230 – 250 HV	1,0

Dispozitive de frezare de la pagina 2/13

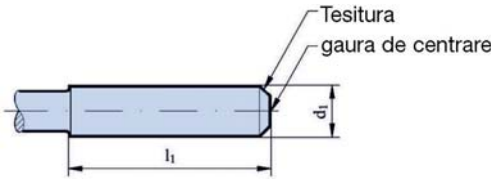
Codurile marcate cu • nu se regasesc in stoc, livrare rapida

forum Valori de referinta pentru viteza de taiere V_c in m/min

Freza frontala cu valt/HSS-E		Freza pentru gaura lunga/HSS-E		Freza canale/ forme HSS-E		
Nestrat. Ambalare	Strat. TiCN Ambalare	Nestrat. Ambalare	Strat. TIAIN Ambalare	Nestrat. Ambalare	Strat. TiCN/TiAIN Ambalare	Factor de corectie (x fz)
20– 35	55– 70	30– 40	60– 80	30– 40	60– 80	1,2
25– 30	50– 60	29– 33	54– 66	29– 33	54– 66	1,2
23– 28	45– 65	26– 31	50– 62	26– 31	50– 62	1,1
18– 23	40– 50	20– 26	45– 53	20– 26	45– 53	1,0
14– 18	25– 30	15– 20	28– 35	15– 20	28– 35	0,8
						0,7
						1,1
						1,0
						0,9
9– 16	18– 27	10– 18	20– 30	10– 18	20– 30	1,0
	13– 18	9– 14	14– 20	9– 14	14– 20	0,9
	9– 13	7– 12	10– 14	7– 12	10– 14	0,7
						0,7
20– 25	30– 40	23– 28	35– 47	23– 28	35– 47	1,1
19– 23	30– 35	21– 26	32– 40	21– 26	32– 40	1,1
16– 20	25– 30	18– 22	28– 32	18– 22	28– 32	1,0
27– 36	40– 55	30– 40	45– 60	30– 40	45– 60	1,1
						0,8
35– 55	60– 90	40– 60	70–100	40– 60	70–100	1,2
100–120	145–160	110–130	160–180	110–130	160–180	1,1
90–110	135–150	100–120	150–170	100–120	150–170	1,1
20– 30	25– 40	25– 35	30– 50	25– 35	30– 50	1,2
100–120	160–180	120–140	180–200	120–140	180–200	1,2
	16– 21	12– 18	18– 23	12– 18	18– 23	1,0
						0,7
	9– 16	6– 9	10– 18	6– 9	10– 18	1,1
	8– 13	5– 7	9– 14	5– 7	9– 14	1,0
						0,7
130–120		150–250	250–350	150–250	250–350	1,9
90–130		100–150	150–200	100–150	150–200	1,8
55– 65			130–160		130–160	1,6
			60– 90		60– 90	1,5
90–110		100–120	200–240	100–120	200–240	1,8
90–110		100–120	200–240	100–120	200–240	1,9
	18– 23	15– 18	20– 25	15– 18	20– 25	1,0
	14– 18	10– 13	15– 20	10– 13	15– 20	0,9
25– 45		30– 50	60– 80	30– 50	60– 80	2,0
90–130		100–150	220–250	100–150	220–250	2,0
						1,0
			40– 60		40– 60	1,0
	18– 27		20– 30		20– 30	1,1

Tipuri de coada

Neted



Forma A

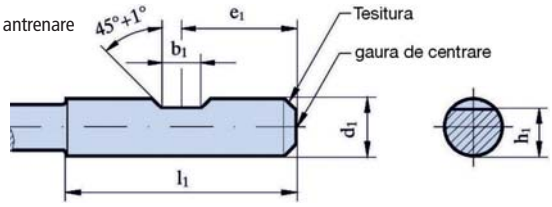
Dimensiuni in mm d1 h8	l1 +2 0
3	28
4	28
5	28
6	36
8	36

Dimensiuni in mm d1 h8	l1 +2 0
10	40
12	45
16	48
20	50
25	56

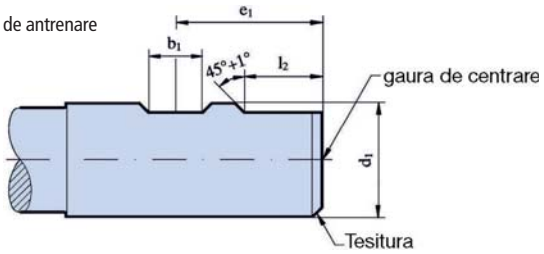
Dimensiuni in mm d1 h8	l1 +2 0
32	60
40	70
50	80
63	90

Cu tesitura laterala

cu **o** suprafata de antrenare
pentru
d1 = 6...20 mm



cu **doua** suprafete de antrenare
pentru
d1 = 25...63 mm

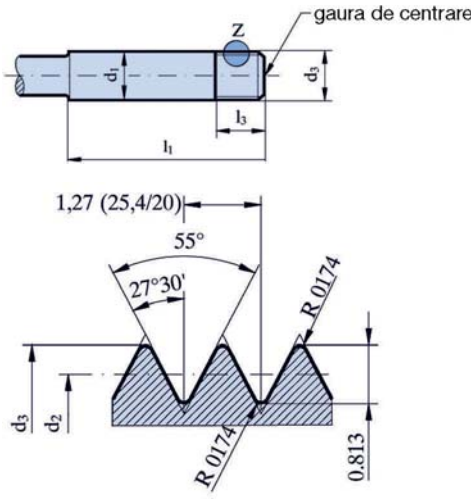


Forma B

Dimensiuni in mm d_1 h6	b1 + 0,05 0	e1 0 –1	h1 h13	l1 + 2 0	l2 + 1 0	Gaura de centrare Forma R DIN 332 partea 1
6	4,2	18	4,8	36	–	1,6 x 2,5
8	5,5	18	6,6	36	–	1,6 x 3,35
10	7	20	8,4	40	–	1,6 x 3,35
10	7	20	8,4	40	–	1,6 x 3,35
16	10	24	14,2	48	–	2,0 x 4,25
20	11	25	18,2	50	–	2,5 x 5,3
25	12	32	23	56	17	2,5 x 5,3
32	14	36	30	60	19	3,15 x 6,7
40	14	40	38	70	19	3,15 x 6,7
50	18	45	47,8	80	23	3,15 x 6,7
63	18	50	60,8	90	23	3,15 x 6,7

Cu filet de strangere

Detaliu Z
(in sectiune)
Profil filet conform
DIN ISO 228 partea 1



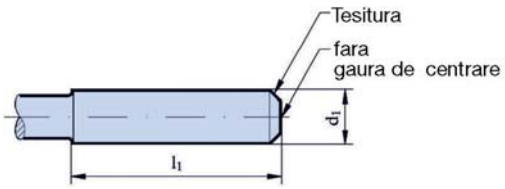
Forma D

Dimensiuni in mm d_1 h8	d3 Tolerante	d2 Tolerante	l1 + 2 0	l3 + 2 0	gaura de centrare forma R SIN 332 partea 1
6	5,9 0 -0,1	5,087 0 0,1	36	10	1,6 x 2,5
10	9,9 0 -0,1	9,087 0 -0,1	40	10	1,6 x 3,35
12	11,9 0 -0,1	11,087 0 -0,1	45	10	1,6 x 3,35
16	15,9 0 -0,1	15,087 0 -0,1	48	10	2,0 x 4,25
20	19,9 0 -0,15	19,087 0 -0,15	50	15	2,5 x 5,3
25	24,9 0 -0,15	24,087 0 -0,15	56	15	2,5 x 5,3
32	31,9 0 -0,15	31,087 0 -0,15	60	15	3,15 x 6,7

Codurile marcate cu • nu se regasesc in stoc, livrare rapida

Tipuri de coada

Neted

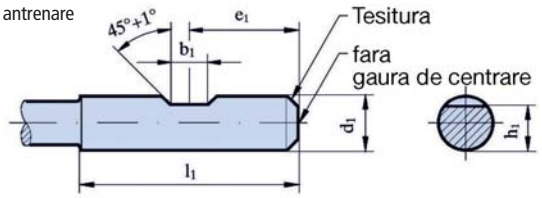


Forma HA

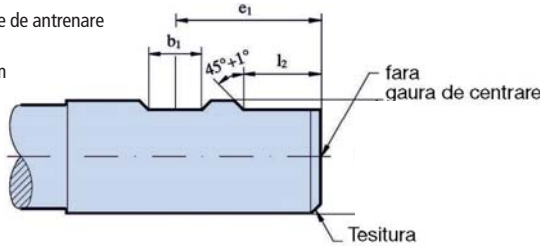
Dimensiuni in mm									
d_1	l_2 + 2	d_1	l_2 + 2	d_1	l_2 + 2
h6	0	h6	0	h6	0
2	28	8	36	18	48
3	28	10	40	20	50
4	28	12	45	25	56
5	28	14	45	32	60
6	36	16	48		

Cu tesitura laterala

cu **o** suprafata de antrenare
Pentru
d1 = 6 en 20 mm



cu **doua** suprafete de antrenare
pentru
d1 = 25 en 32 mm

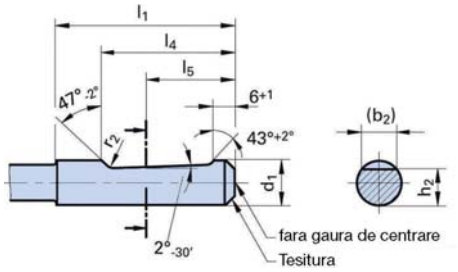


Forma HB

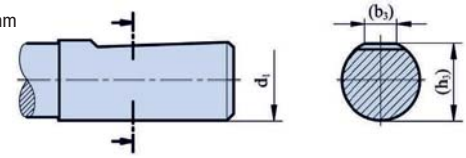
Dimensiuni in mm					
d_1	b_1 + 0,05	e_1 0	h_1 h11	l_1 + 2	l_2 + 1
h6	0	–1		0	0
6	4,2	18	5,1	36	–
8	5,5	18	6,9	36	–
10	7	20	8,5	40	–
12	8	22,5	10,4	45	–
14	8	22,5	12,7	45	–
16	10	24	14,2	48	–
18	10	24	16,2	48	–
20	11	25	18,2	50	–
25	12	32	23	56	17
32	14	36	30	60	19

Cu suprafata de prindere inclinata fara canal de racire*

pentru d_1 =
6 – 20 mm



pentru d_1 = 25 si 32 mm



Forma HE

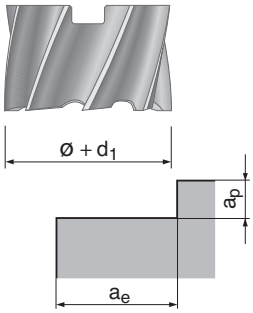
Dimensiuni in mm								
d_1	(b_2)	(b_3)	h_2	(h_3)	l_1 + 2	l_4 0	l_5 dimen-siune nominala	r_2
h6	≈		h11		0	–1		min
6	4,3	–	5,1	–	36	25	18	1,2
8	5,5	–	6,9	–	36	25	18	1,2
10	7,1	–	8,5	–	40	28	20	1,2
12	8,2	–	10,4	–	45	33	22,5	1,2
14	8,1	–	12,7	–	45	33	22,5	1,2
16	10,1	–	14,2	–	48	36	24	1,6
18	10,8	–	16,2	–	48	36	24	1,6
20	11,4	–	18,2	–	50	38	25	1,6
25	13,6	9,3	23,0	24,1	56	44	32	1,6
32	15,5	9,9	30,0	31,2	60	48	35	1,6

* Executie: coada cilindrica conform **DIN 6535** executata cu sau fara canal de racire.
Utilizarea sculelor pentru piese si forme diferite, respectiv canalele de racire, sunt continute in tabelele corespunzatoare.

forum Freza cilindro - frontala

Valori de referinta pentru avans per dinte f_z in mm

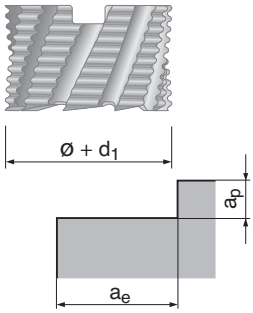
Model N



$a_p = 0,05 \times d_1$

$a_e = 0,75 \times d_1$

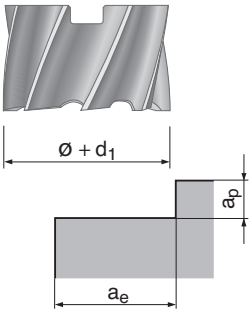
Model NF, HR, NR



$a_p = 0,2 \times d_1$

$a_e = 0,75 \times d_1$

Model W



$a_e = 0,75 \times d_1$

Ø d_1	nestratificat	stratificat	nestratificat	stratificat	nestratificat
30	0,043		0,056		
35	0,046		0,060		
40	0,049	0,054	0,064	0,070	0,060
50	0,055	0,060	0,071	0,078	0,066
60	0,060		0,077		
63	0,061	0,067	0,079	0,087	0,074
75	0,066		0,086		
80	0,065	0,071	0,084	0,092	0,078
90	0,061		0,080		
100	0,059	0,065	0,076	0,084	0,071
125	0,054		0,070		0,065

Retineti ca valoarea fz din tabelul de mai sus trebuie inmultita cu un factor de corectie corespunzator. Factorii de corectie ii gasiti in tabelul pe paginile 2/8–2/9.

General este valabil:

$$f_{z\,Freze} = \left[f_{z\,Tabel}\right] \times [\text{factor de corectie}]$$

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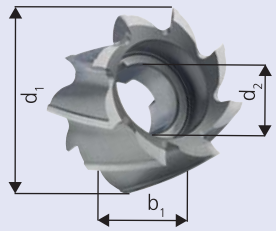
forum Freza cilindro - frontala

- HSS Co5
- Tip N
- DIN 1880
- Profil rectificat
- Recomandat pentru frezare pe circumferinta sau cilindrica

HSS Co5 | Tip N | DIN 1880 | DIN 138 | 25° | 12°

i Pagina 2/12
P Pagina 2/4



Blank 42 15301...

Suprafata	Cod comanda	Otel <850 N	Otel <1000 N	Otel <1400 N	Otel <42 HRC	Otel <52 HRC	Otel <56 HRC	Otel <62 HRC	Otel >62 HRC	INOX	Ti, aliaje Ti, oteluri speciale	Fonta	Al, nemetale, aliaje nemetale	Cupru, alama, bronz	Emulsii	Ulei	Aer	fara racire
Blank	42 15301...	25	20												■			

Ø x latime d_1 = k10 x b_1 = k16 mm	forum Cod comanda 42 15301...	Blank	Gaura d_2 = H7 mm	Numar dinti
40 x 32	...010		16	8
50 x 36	...013		22	8

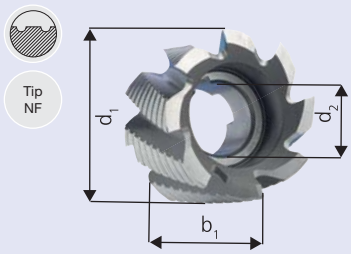
Ø x latime d_1 = k10 x b_1 = k16 mm	forum Cod comanda 42 15301...	Blank	Gaura d_2 = H7 mm	Numar dinti
63 x 40	...016		27	8
80 x 45	...019		27	10

forum Freza cilindro - frontala

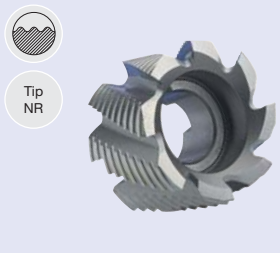
- HSS Co5
- DIN 1880
- Profil rectificat
- Recomandat pentru frezare pe circumferinta sau frontala

HSS Co5 | DIN 1880 | DIN 138 | 25° | 14°

i Pagina 2/12
P Pagina 2/4



Blank 42 15304...



Blank 42 15305...

Suprafata	Cod comanda	Otel <850 N	Otel <1000 N	Otel <1400 N	Otel <42 HRC	Otel <52 HRC	Otel <56 HRC	Otel <62 HRC	Otel >62 HRC	INOX	Ti, aliaje Ti, oteluri speciale	Fonta	Al, nemetale, aliaje nemetale	Cupru, alama, bronz	Emulsii	Ulei	Aer	fara racire
Blank	42 15304...	25	20												■			
Blank	42 15305...	25	20							12		22	105	75	■			

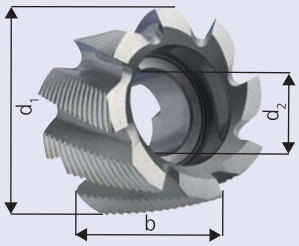
Ø x latime d_1 = js14 x b_1 = k16 mm	forum Cod comanda 42 15304...	Blank	forum Cod comanda 42 15305...	Blank	Gaura d_2 = H7 mm	Numar dinti
40 x 32	...010		...010		16	7
50 x 36	...013		...013		22	8
63 x 40	...016		...016		27	8
80 x 45	...019		...019		27	10

forum Freza cilindro - frontala

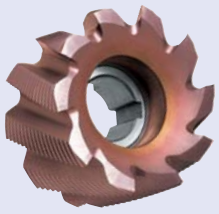
- HSS Co8
- Model HR
- DIN 1880
- Profil rectificat
- Recomandat pentru frezare pe circumferinta sau cilindrica

HSS Co8 | Tip HR | DIN 1880 | DIN 138 | 25° | 14°

Pagina 2/12
Pagina 2/4



Blank 42 15307...



TiCN 42 15308...

Suprafata	Cod comanda	Otel <850 N	Otel <1000 N	Otel <1400 N	Otel <42 HRC	Otel <52 HRC	Otel <56 HRC	Otel <62 HRC	Otel >62 HRC	INOX	Ti, aliaje Ti, oteluri speciale	Fonta	Al, nemetale, aliaje nemetale	Cupru, alama, bronz	Emulsii	Ulei	Aer	fara racire
Blank	42 15307...	25	20									22			■			
TiCN	42 15308...	60	45	27						23	20	35			■			

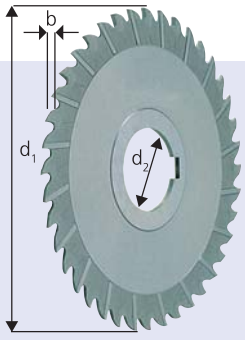
Ø x latime d_1 = js14 x b = k16 mm	forum Cod comanda Blank 42 15307...	forum Cod comanda TiCN 42 15308...	Gaura d_2 = H7 mm	Numar dinti
40 x 32	...010	...010	16	7
50 x 36	...013	...013	22	8
63 x 40	...016	...016	27	8
80 x 45	...019	...019	27	10

forum Freza disc ingusta

- HSS Co5
- Tip H
- DIN 1834 Forma A
- Pentru frezarea fantelor si canelurilor
- Precizie mare si rezultate foarte bune de frezare

HSS Co5 | Tip H | DIN 1834-A | DIN 138

Pagina 2/4



Blank 42 15309...

Accesorii optionale

Solutii de racire gasiti la Pagina 9/60

Suprafata	Cod comanda	Otel <850 N	Otel <1000 N	Otel <1400 N	Otel <42 HRC	Otel <52 HRC	Otel <56 HRC	Otel <62 HRC	Otel >62 HRC	INOX	Ti, aliaje Ti, oteluri speciale	Fonta	Al, nemetale, aliaje nemetale	Cupru, alama, bronz	Emulsii	Ulei	Aer	fara racire
Blank	42 15309...	15	12									14			■			

Ø x latime d_1 = js16 x b = k11 mm	forum Cod comanda Blank 42 15309...	Gaura d_2 = H7 mm	Numar dinti
63 x 1,6	...010	22	28
63 x 2,0	...013	22	28
63 x 2,5	...016	22	28
63 x 3,0	...019	22	28
63 x 4,0	...022	22	28
80 x 2,0	...028	27	32
80 x 2,5	...031	27	32
80 x 3,0	...034	27	32
80 x 4,0	...037	27	32
100 x 2,0	...043	32	36

Ø x latime d_1 = js16 x b = k11 mm	forum Cod comanda Blank 42 15309...	Gaura d_2 = H7 mm	Numar dinti
100 x 2,5	...046	32	36
100 x 3,0	...049	32	36
100 x 4,0	...052	32	36
100 x 5,0	...055	32	36
125 x 2,0	...061	32	40
125 x 2,5	...064	32	40
125 x 3,0	...067	32	40
125 x 4,0	...070	32	40
125 x 5,0	...073	32	40
125 x 6,0	...076	32	40

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Nr. comanda	Descriere	Numar dinti	DIN	Tip	Material	Pagina	Acoperire	Otel <850 N	Otel <1000 N	Otel <1400 N	Otel <42 HRC	Otel <52 HRC	INOX	Ti, aliaje Ti, oteluri speciale	Fonta	Al, nemetale, aliaje nemetale	Cupru, alama, bronz
42 15310	Freza cilindro - frontala	2	327-D	N	HSS Co8	2/18	Blank	35	23	18					25	175	40
42 15311	Freza cilindro - frontala	2	327-D	N	HSS Co8	2/18	TiAlN	60	50	33					40	275	110
42 15312	Freza cilindro - frontala	2	WN	N	HSS Co8	2/18	Blank	35	23	18						125	60
42 15314	Freza cilindro - frontala	3	327	N	HSS Co8	2/19	Blank	35	23	18					25		60
42 15315	Freza cilindro - frontala	3	327	N	HSS Co8	2/19	TiAlN	60	50	33			22		40	275	110
42 15316	Freza cilindro - frontala	3	844-K	N	HSS Co8	2/19	Blank	35	23	18					25	125	60
42 15317	Freza cilindro - frontala	3	844-K	W	HSS Co8	2/21	Blank									175	90
42 15319	Freza cilindro - frontala	4–6	844-K	N	HSS Co8	2/21	Blank	35	23	18					26	125	60
42 15320	Freza cilindro - frontala	4	844-K	N	HSS Co8	2/21	TiAlN	60	50	30			23		40	275	100
42 15321	Freza cilindro - frontala	4	844-L	N	HSS Co8	2/22	Blank	35	23	18					23		
42 15322	Freza pentru degrosare fina	4	844-K	NF	HSS Co5	2/22	Blank	35	23	18			13		23		
42 15324	Freza degrosare	3	844-K	NR	HSS Co8	2/23	Blank	35	23	18							
42 15325	Freza degrosare	3	844-K	NR	HSS Co8	2/23	TiAlN	60	50	30			15	15		105	50
42 15324	Freza degrosare	4	844-K	NR	HSS Co8	2/23	Blank	35	23	18			13	10			

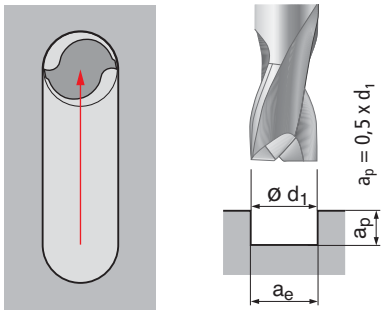
Nr. comanda	Descriere	Numar dinti	DIN	Tip	Material	Pagina	Acoperire	Otel <850 N	Otel <1000 N	Otel <1400 N	Otel <42 HRC	Otel <52 HRC	INOX	Ti, aliaje Ti, oteluri speciale	Fonta	Al, nemetale, aliaje nemetale	Cupru, alama, bronz
42 15325	Freza degrosare	4	844-K	NR	HSS Co8	2/23	TiAlN	60	50	30	25		14	14		105	50
42 15327	Freza degrosare	4	844-K	HR	HSS Co10	2/24	Blank	35	23	18			12	15	35		
42 15328	Freza degrosare	3–4	844-K	HR	HSS Co10	2/24	TiAlN	60	50	30	25		25	20	50		
42 15330	Freza cu cap sferic	2	~327-D	N	HSS Co8	2/24	Blank	30	18	13							
42 15331	Freza cu cap sferic	2	~844-B	N	HSS Co8	2/25	Blank	30	18	13						95	

Codurile marcate cu • nu se regasesc in stoc, livrare rapida

forum Frezarea canalelor de pana cu freze scurte HSS-E

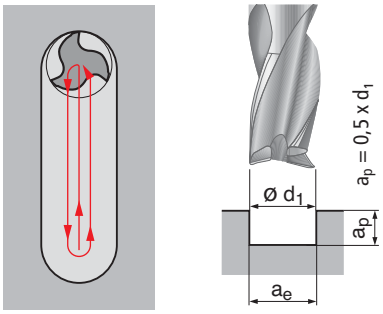
Valori de referinta pentru avans per dinte f_z in mm

Frezare dimensiune completa
(intr-un pas)



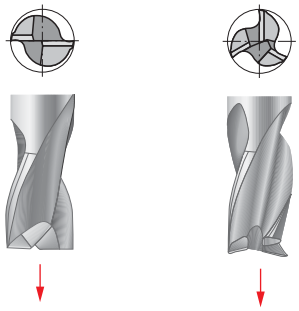
$a_e = d_1$

Frezare subdimensiune
(frezare in cadru)



$a_e = d_1$

Gaurire cu frezare



Ø d_1	nestratificat	stratificat	Taiere prin degrosare nestratificat	Taiere prin degrosare stratificat	Taiere prin rectificare nestratificat	Taiere prin rectificare stratificat	nestratificat	stratificat	nestratificat	stratificat
2	0,005	0,006	0,005	0,006	0,008	0,009	0,003	0,003	0,002	0,002
3	0,009	0,010	0,009	0,010	0,015	0,016	0,004	0,005	0,003	0,003
4	0,012	0,013	0,012	0,013	0,022	0,024	0,006	0,007	0,004	0,004
5	0,016	0,017	0,016	0,017	0,030	0,033	0,008	0,009	0,005	0,006
6	0,020	0,022	0,020	0,022	0,039	0,043	0,010	0,011	0,007	0,007
8	0,026	0,029	0,026	0,029	0,055	0,061	0,013	0,014	0,009	0,010
10	0,034	0,037	0,034	0,037	0,075	0,082	0,017	0,019	0,011	0,012
12	0,040	0,044	0,040	0,044	0,093	0,101	0,020	0,022	0,013	0,015
14	0,049	0,054	0,049	0,054	0,117	0,118	0,024	0,027	0,016	0,018
16	0,056	0,062	0,056	0,062	0,135	0,135	0,028	0,031	0,019	0,021
18	0,065	0,072	0,065	0,072	0,151	0,151	0,033	0,036	0,022	0,024
20	0,071	0,078	0,071	0,078	0,167	0,167	0,035	0,039	0,024	0,026
22	0,080	0,088	0,080	0,088	0,184	0,184	0,040	0,044	0,027	0,029
25	0,089	0,098	0,089	0,098	0,208	0,208	0,044	0,049	0,030	0,033
28	0,103		0,103		0,233		0,051		0,034	
32	0,118		0,118		0,265		0,059		0,039	
36	0,137		0,137		0,265		0,068		0,046	
40	0,133		0,133		0,265		0,067		0,044	
45	0,134		0,134		0,265		0,067		0,045	
50	0,131		0,131		0,265		0,065		0,044	

Retineti ca valoarea fz din tabelele de mai sus trebuiesc inmultite cu factorul corespunzator de corectie.
Factorii de corectie ii gasiti in tabelul de pe paginile 2/8–2/9.

General este valabil:

$$f_{z\ Freze} = \left[f_{z\ Tabel}\right] \times [\text{factor de corectie}]$$

$$f_{z\ gaurire} = \frac{f_{z\ frezare}}{\text{numar dinti}}$$

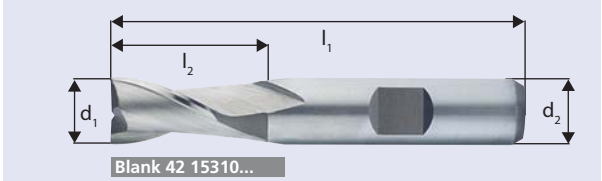
forum Freza cilindro - frontala (pentru canale de pana), foarte scurta

HSS Co8 | Tip N | D 2 | DIN 327-D | DIN 1835-B | 30° | i Pagina 2/17 | P Pagina 2/15

- HSS Co8
- Tip N
- DIN 327-D
- Pentru frezarea canalelor de pana Ø e8 pentru ajustaj P9

Blank 42 15310...

TiAlN 42 15311... ▪ Prelucrare uscata posibila



Blank 42 15310...

TiAlN 42 15311...

Suprafata	Cod comanda	Otel <850 N	Otel <1000 N	Otel <1400 N	Otel <42 HRC	Otel <52 HRC	Otel <56 HRC	Otel <62 HRC	Otel >62 HRC	INOX	Ti, aliaje Ti, oteluri speciale	Fonta	Al, nemetale, aliaje nemetale	Cupru, alama, bronz	Emulsii	Ulei	Aer	fara racire
Blank	42 15310...	35	23	18								25	175	40	■			
TiAlN	42 15311...	60	50	33								40	275	110	■	◧	◧	□

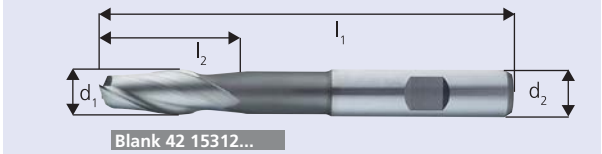
Ø d_1 = e8 mm	forum Cod comanda Blank 42 15310...	forum Cod comanda TiAlN 42 15311...	Lungime totala l_1 mm	Lungime parte activa l_2 mm	Ø coada d_2 = h6 mm
1,0*°	...010	–	47	2,5	6
1,5*°	...013	–	47	3	6
2,0	...016	...016	48	4	6
2,5	...019	–	49	5	6
3,0	...025	...025	49	5	6
3,5*	...028	–	50	6	6
4,0	...034	...034	51	7	6
4,5*	...037	–	51	7	6
5,0	...043	...043	52	8	6
5,5*	...046	–	52	8	6
6,0	...052	...052	52	8	6
6,5*	...055	–	60	10	10
7,0	...061	–	60	10	10
7,5*	...064	–	60	10	10
8,0	...070	...070	61	11	10
8,5*	...073	–	61	11	10
9,0*	...079	–	61	11	10
9,5*	...082	–	61	11	10
10,0	...088	...088	63	13	10
11,0*	...094	–	70	13	12
12,0	...100	...100	73	16	12
14,0	...112	–	73	16	12
16,0	...124	–	79	19	16
18,0	...136	–	79	19	16
20,0	...145	–	88	22	20
22,0	...151	–	88	22	20

* Toleranta Ø taiere h10
° Norma de productie

forum Freza cilindro - frontala (pentru canale de pana), lunga

HSS Co8 | Tip N | D 2 | Norma de productie | DIN 1835-B | 30° | i Pagina 2/17 | P Pagina 2/15

- HSS Co8
- Tip N
- Norma de productie
- Pentru frezarea canalelor de pana Ø e8 pentru ajustaj P9
- Frezare frontala, laterala si diagonala



Blank 42 15312...

Suprafata	Cod comanda	Otel <850 N	Otel <1000 N	Otel <1400 N	Otel <42 HRC	Otel <52 HRC	Otel <56 HRC	Otel <62 HRC	Otel >62 HRC	INOX	Ti, aliaje Ti, oteluri speciale	Fonta	Al, nemetale, aliaje nemetale	Cupru, alama, bronz	Emulsii	Ulei	Aer	fara racire
Blank	42 15312...	35	23	18									125	60	■			

Ø d_1 = e8 mm	forum Cod comanda Blank 42 15312...	Lungime totala l_1 mm	Lungime parte activa l_2 mm	Ø coada d_2 = h6 mm
2,0	...010	54	6	6
3,0*	...016	56	8	6
4,0	...022	63	11	6
4,5*	...025	63	11	6

Ø d_1 = e8 mm	forum Cod comanda Blank 42 15312...	Lungime totala l_1 mm	Lungime parte activa l_2 mm	Ø coada d_2 = h6 mm
5,0	...028	68	13	6
6,0	...034	68	13	6
8,0	...046	88	19	10
10,0	...058	95	22	10

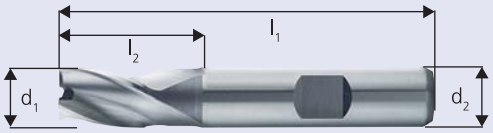
*Toleranta Ø taiere h10

Codurile marcate cu • nu se regasesc in stoc, livrare rapida

forum Freza cilindro - frontala (pentru canale de pana), extra scurta

HSS Co8 | Tip N | D 3 | DIN 327 | DIN 1835-B | 30° | i Pagina 2/17 | P Pagina 2/15

- HSS Co8
- Tip N
- Pentru frezarea canalelor de pana Ø e8 pentru ajustaj P9 sau ca freza de circumferinta
- Frezare frontala, laterala si diagonala



Blank 42 15314...

TiAlN 42 15315...

Blank 42 15314...

TiAlN 42 15315... ▪ Prelucrare uscata posibila

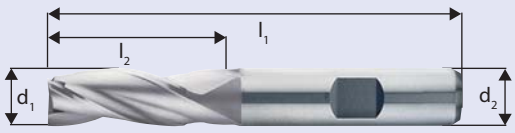
Suprafata	Cod comanda	Otel <850 N	Otel <1000 N	Otel <1400 N	Otel <42 HRC	Otel <52 HRC	Otel <56 HRC	Otel <62 HRC	Otel >62 HRC	INOX	Ti, aliaje Ti, oteluri speciale	Fonta	Al, nemetale, aliaje nemetale	Cupru, alama, bronz	Emulsii	Ulei	Aer	fara racire
Blank	42 15314...	35	23	18								25		60	■			
TiAlN	42 15315...	60	50	33						22		40	275	11	■	◧	◧	□

Ø d_1 = e8 mm	forum Cod comanda Blank 42 15314...	forum Cod comanda TiAlN 42 15315...	Lungime totala l_1 mm	Lungime parte activa l_2 mm	Ø coada d_2 = h6 mm
2,0	–	...013	48	4	6
3,0	...019	...019	49	5	6
4,0	...025	...025	51	7	6
5,0	...031	–	52	8	6
6,0	...037	...037	52	8	6
8,0	...049	...049	61	11	10
10,0	...061	...061	63	13	10
12,0	...067	...067	73	16	12
14,0	–	...073	73	16	12

forum Freza cilindro - frontala (pentru canale de pana), scurta

HSS Co8 | Tip N | D 3 | DIN 844-K | DIN 1835-B | 30° | i Pagina 2/17 | P Pagina 2/15

- HSS Co8
- Tip N
- DIN 844-K
- Pentru frezarea canalelor de pana Ø e8 pentru ajustaj P9 sau ca freza de circumferinta
- Frezare frontala, laterala si diagonala



Blank 42 15316...

Suprafata	Cod comanda	Otel <850 N	Otel <1000 N	Otel <1400 N	Otel <42 HRC	Otel <52 HRC	Otel <56 HRC	Otel <62 HRC	Otel >62 HRC	INOX	Ti, aliaje Ti, oteluri speciale	Fonta	Al, nemetale, aliaje nemetale	Cupru, alama, bronz	Emulsii	Ulei	Aer	fara racire
Blank	42 15316...	35	23	18								25	125	60	■			

Ø d_1 = e8 mm	forum Cod comanda Blank 42 15316...	Lungime totala l_1 mm	Lungime parte activa l_2 mm	Ø coada d_2 = h6 mm
3,0	...010	52	8	6
4,0	...016	55	11	6
5,0	...022	57	13	6
6,0	...028	57	13	6

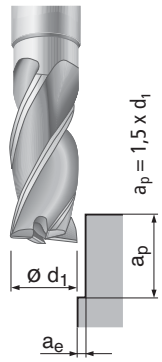
Accesorii optionale

Solutii de racire gasiti la pagina 9/60

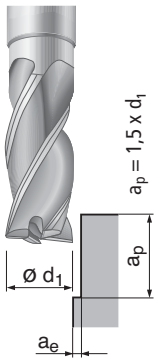
Cifre ingrosate recomandat | Cifre normale adecvat | ■ recomandat | ◧ adecvat | □ ocazional

forum Freza HSS-E pentru canal, executie scurta si extra scurta

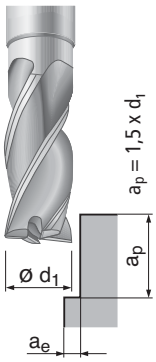
Valori de referinta pentru avans per dinte f_z in mm



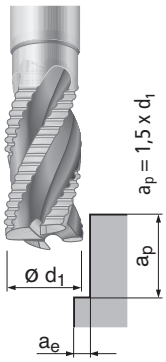
a_e = 0,2–0,3 mm



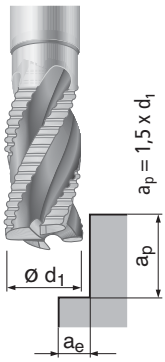
a_e = 0,1 x d_1



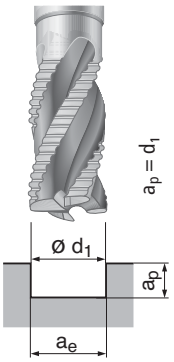
a_e = 0,25 x d_1



a_e = 0,25 x d_1



a_e = 0,5 x d_1



a_e = d_1

Ø d_1	nestratificat	stratificat	nestratificat	stratificat	nestratificat	stratificat	nestratificat	stratificat	nestratificat	stratificat	nestratificat	stratificat
2	0,008	0,009	0,008	0,009	0,008	0,009						
3	0,011	0,012	0,011	0,012	0,009	0,010						
4	0,017	0,018	0,014	0,015	0,013	0,014	0,015	0,016	0,013	0,014	0,011	0,012
5	0,024	0,026	0,018	0,020	0,014	0,015	0,019	0,021	0,016	0,018	0,014	0,016
6	0,032	0,035	0,022	0,024	0,015	0,017	0,024	0,027	0,020	0,022	0,018	0,019
8	0,047	0,051	0,029	0,032	0,020	0,022	0,032	0,036	0,027	0,030	0,024	0,026
10	0,065	0,072	0,037	0,041	0,026	0,028	0,042	0,047	0,035	0,039	0,031	0,034
12	0,084	0,091	0,044	0,049	0,031	0,034	0,051	0,057	0,043	0,047	0,037	0,041
14	0,10	0,106	0,054	0,059	0,037	0,041	0,063	0,069	0,053	0,058	0,045	0,050
16	0,111	0,121	0,061	0,067	0,042	0,046	0,072	0,079	0,060	0,066	0,052	0,057
18	0,126	0,136	0,070	0,077	0,048	0,053	0,084	0,093	0,071	0,078	0,061	0,067
20	0,141	0,151	0,076	0,083	0,052	0,057	0,092	0,10	0,077	0,084	0,066	0,073
22	0,16	0,166	0,085	0,094	0,059	0,065	0,117	0,114	0,087	0,096	0,075	0,082
25	0,17	0,188	0,095	0,104	0,065	0,072	0,136	0,129	0,10	0,108	0,084	0,093
28	0,196	0,21	0,109	0,12	0,075	0,083	0,157	0,15	0,114	0,125	0,098	0,108
32	0,212	0,24	0,124	0,137	0,086	0,094	0,184	0,173	0,131	0,145	0,113	0,125
36	0,224	0,24	0,144	0,159	0,099	0,109	0,17	0,187	0,142	0,162	0,126	0,14
40	0,24	0,24	0,157	0,173	0,108	0,12	0,20	0,194	0,154	0,17	0,132	0,146
45	0,24	0,24	0,157	0,173	0,108	0,12	0,20	0,22	0,17	0,18	0,14	0,16
50	0,24	0,24	0,157	0,173	0,108	0,12	0,20	0,22	0,17	0,18	0,14	0,16
56	0,24	0,24	0,157	0,173	0,108	0,12	0,20	0,22	0,17	0,18	0,14	0,16
63	0,24	0,24	0,157	0,173	0,108	0,12	0,20	0,22	0,17	0,18	0,14	0,16

Retineti ca valoarea fz din tabelele de mai sus trebuiesc inmultite cu factorul corespunzator de corectie.
Factorii de corectie ii gasiti in tabelul de pe paginile 2/8–2/9.

General este valabil:

$$f_{z\ Freze} = \left[f_{z\ Tabel}\right] \times [\text{factor de corectie}]$$

$$f_{z\ gaurire} = \frac{f_{z\ frezare}}{\text{numar dinti}}$$

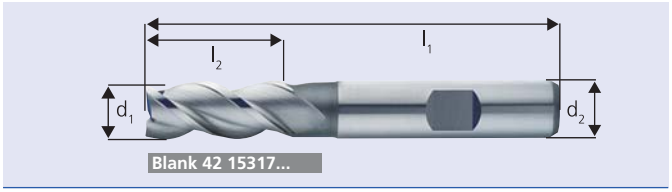
Codurile marcate cu • nu se regasesc in stoc, livrare rapida

forum Freza cilindro - frontala pentru aluminiu, scurta

- HSS Co8
- Tip W
- DIN 844-K
- Pentru frezare circumferinte si gauri

HSS Co8 | Tip W | D 3 | DIN 844-K

i Pagina 2/20
P Pagina 2/15



Blank 42 15317...

Suprafata	Cod comanda	Otel <850 N	Otel <1000 N	Otel <1400 N	Otel <42 HRC	Otel <52 HRC	Otel <56 HRC	Otel <62 HRC	Otel >62 HRC	INOX	Ti, aliaje Ti, oteluri speciale	Fonta	Al, nemetale, aliaje nemetale	Cupru, alama, bronz	Emulsii	Ulei	Aer	fara racire
Blank	42 15317...												175	90	■		□	

Ø d_1 = k10 mm	forum Cod comanda Blank 42 15317...		Lungime totala l_1 mm	Lungime parte activa l_2 mm	Ø coada d_2 = h6 mm
3	...010		52	8	6
4	...013		55	11	6
5	...016		57	13	6
6	...019		57	13	6

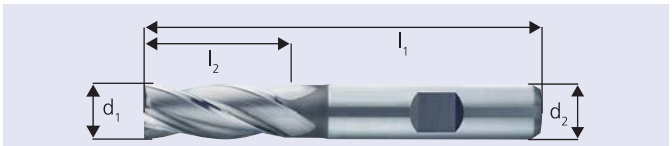
Ø d_1 = k10 mm	forum Cod comanda Blank 42 15317...		Lungime totala l_1 mm	Lungime parte activa l_2 mm	Ø coada d_2 = h6 mm
8	...025		69	19	10
10	...031		72	22	10
12	...034		83	26	12
16	...040		92	32	16

forum Freza cilindro - frontala, scurta

- HSS Co8
- Tip N
- DIN 844-K
- Pentru frezare circumferinta si frontala
- Pana la 28 mm cu taiere centrata

HSS Co8 | Tip N | D 4–6 | DIN 844-K

i Pagina 2/20
P Pagina 2/15



Blank 42 15319...

TiAlN 42 15320... ■ Prelucrare uscata posibila

TiAlN 42 15320...

Suprafata	Cod comanda	Otel <850 N	Otel <1000 N	Otel <1400 N	Otel <42 HRC	Otel <52 HRC	Otel <56 HRC	Otel <62 HRC	Otel >62 HRC	INOX	Ti, aliaje Ti, oteluri speciale	Fonta	Al, nemetale, aliaje nemetale	Cupru, alama, bronz	Emulsii	Ulei	Aer	fara racire
Blank	42 15319...	35	23	18								26	125	60	■			
TiAlN	42 15320...	60	50	30						23		40	275	100	■	◧	◧	□

Ø d_1 = k10 mm	forum Cod comanda Blank 42 15319...		forum Cod comanda TiAlN 42 15320...		Lungime totala l_1 mm	Lungime parte activa l_2 mm	Ø coada d_2 = h6 mm	Numar dinti
2,0	...011		...011		51	7	6	4
3,0	...013		...013		52	8	6	4
3,5	...016		–		54	10	6	4
4,0	...019		...019		55	11	6	4
4,5	...022		–		55	11	6	4
5,0	...025		...025		57	13	6	4
5,5	...028		–		57	13	6	4
6,0	...031		...031		57	13	6	4
6,5	...034		–		66	16	10	4
7,0	...037		–		66	16	10	4
7,5	...040		–		66	16	10	4
8,0	...043		...043		69	19	10	4
8,5	...046		–		69	19	10	4
9,0	...049		...049		69	19	10	4
9,5	...052		–		69	19	10	4
10,0	...055		...055		72	22	10	4
10,5	...058		–		79	22	12	4
11,0	...061		–		79	22	12	4
11,5	...064		–		79	22	12	4

Continuarea pe pagina 2/22

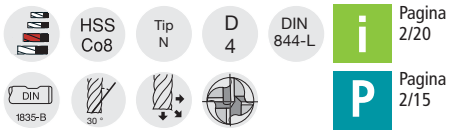
Cifre ingrosate recomandat | Cifre normale adecvat | ■ recomandat | ◧ adecvat | □ ocazional

Continuarea de la pagina 2/21

Ø d_1 = k10 mm	forum Cod comanda Blank 42 15319...		forum Cod comanda TiAlN 42 15320...		Lungime totala l_1 mm	Lungime parte activa l_2 mm	Ø coada d_2 = h6 mm	Numar dinti
12,0	...067		...067		83	26	12	4
13,0	...070		–		83	26	12	4
14,0	...073		...073		83	26	12	4
15,0	...076		–		83	26	12	4
16,0	...079		...079		92	32	16	4
18,0	...085		...085		92	32	16	4
20,0	...091		...091		104	38	20	4
22,0	...094		–		104	38	20	5
24,0	...097		–		121	45	25	5
25,0	...100		–		121	45	25	5
26,0	...103		–		121	45	25	5
28,0	...106		–		121	45	25	5
30,0	...109		–		121	45	25	5
32,0	...112		–		133	53	32	6

forum Freza cilindro - frontala, lunga

- HSS Co8
- Tip N
- DIN 844-L
- Pentru frezare circumferinta sau frontala



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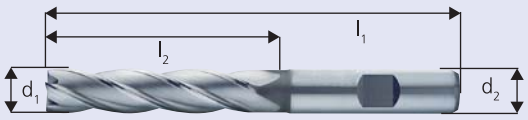
P Pagina 2/15



Blank 42 15321...

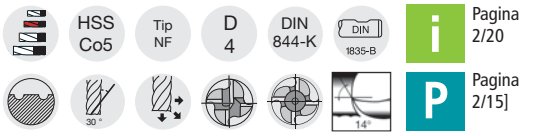
Suprafata	Cod comanda	Otel <850 N	Otel <1000 N	Otel <1400 N	Otel <42 HRC	Otel <52 HRC	Otel <56 HRC	Otel <62 HRC	Otel >62 HRC	INOX	Ti, aliaje Ti, oteluri speciale	Fonta	Al, nemetale, aliaje nemetale	Cupru, alama, bronz	Emulsii	Ulei	Aer	fara racire
Blank	42 15321...	35	23	18								23			■			

Ø d_1 = k10 mm	forum Cod comanda Blank 42 15321...		Lungime totala l_1 mm	Lungime parte activa l_2 mm	Ø coada d_2 = h6 mm
5,0	...010		68	24	6
6,0	...013		68	24	6
8,0	...019		88	38	10
10,0	...025		95	45	10

Ø d_1 = k10 mm	forum Cod comanda Blank 42 15321...		Lungime totala l_1 mm	Lungime parte activa l_2 mm	Ø coada d_2 = h6 mm
12,0	...031		110	53	12
14,0	...034		110	53	12
16,0	...037		123	63	16
20,0	...043		141	75	20

forum Freza pentru degrosare fina, scurta

- HSS Co5
- Tip NF
- DIN 844
- Pentru frezare circumferinte si gauri



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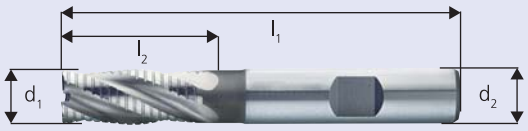
P Pagina 2/15]



Blank 42 15322...

Suprafata	Cod comanda	Otel <850 N	Otel <1000 N	Otel <1400 N	Otel <42 HRC	Otel <52 HRC	Otel <56 HRC	Otel <62 HRC	Otel >62 HRC	INOX	Ti, aliaje Ti, oteluri speciale	Fonta	Al, nemetale, aliaje nemetale	Cupru, alama, bronz	Emulsii	Ulei	Aer	fara racire
Blank	42 15322...	35	23	18						13		23			■			

Ø d_1 = k12 mm	forum Cod comanda Blank 42 15322...		Lungime totala l_1 mm	Lungime parte activa l_2 mm	Ø coada d_2 = h6 mm
6,0	...010		57	13	6
7,0	...013		66	16	10
8,0	...016		69	19	10
9,0	...019		69	19	10
10,0	...022		72	22	10
11,0	...025		79	22	12

Ø d_1 = k12 mm	forum Cod comanda Blank 42 15322...		Lungime totala l_1 mm	Lungime parte activa l_2 mm	Ø coada d_2 = h6 mm
12,0	...028		83	26	12
14,0	...031		83	26	12
16,0	...034		92	32	16
18,0	...037		92	32	16
20,0	...040		104	38	20
25,0	...046		121	45	25

Codurile marcate cu • nu se regasesc in stoc, livrare rapida

forum Freza degrosare, scurta

- HSS Co8
- Tip NR
- DIN 844-K
- Pentru frezare circumferinte si gauri
- Frezare frontala, laterala si diagonala

HSS Co8 | Tip NR | D 3 | DIN 844-K | DIN 1835-B

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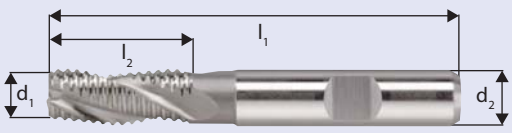
Blank 42 15324...

TiAlN 42 15325... ▪ Prelucrare uscata posibila



Blank 42 15324...

TiAlN 42 15325...

Suprafata	Cod comanda	Otel <850 N	Otel <1000 N	Otel <1400 N	Otel <42 HRC	Otel <52 HRC	Otel <56 HRC	Otel <62 HRC	Otel >62 HRC	INOX	Ti, aliaje Ti, oteluri speciale	Fonta	Al, nemetale, aliaje nemetale	Cupru, alama, bronz	Emulsii	Ulei	Aer	fara racire
Blank	42 15324...	35	23	18											■			
TiAlN	42 15325...	60	50	30						15	15		105	50	■	◧	◧	□

Ø d_1 = k12 mm	forum Cod comanda Blank 42 15324...	forum Cod comanda TiAlN 42 15325...	Lungime totala l_1 mm	Lungime parte activa l_2 mm	Ø coada d_2 = h6 mm
6,0	...010	...010	57	13	6
8,0	...016	...016	69	19	10
10,0	...022	...022	72	22	10
12,0	...028	...028	83	26	12
16,0	...040	...040	92	32	16
20,0	...052	–	104	38	20

forum Freza degrosare, scurta

- HSS Co8
- Tip NR
- DIN 844-K
- Pentru frezarea circumferintelor si gaurilor

HSS Co8 | Tip NR | D 4 | DIN 844-K | DIN 1835-B

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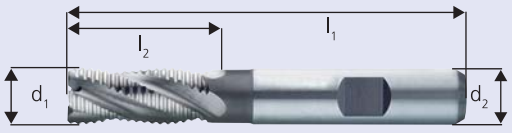
Blank 42 15324...

TiAlN 42 15325... ▪ Prelucrare uscata posibila



Blank 42 15324...

TiAlN 42 15325...

Suprafata	Cod comanda	Otel <850 N	Otel <1000 N	Otel <1400 N	Otel <42 HRC	Otel <52 HRC	Otel <56 HRC	Otel <62 HRC	Otel >62 HRC	INOX	Ti, aliaje Ti, oteluri speciale	Fonta	Al, nemetale, aliaje nemetale	Cupru, alama, bronz	Emulsii	Ulei	Aer	fara racire
Blank	42 15324...	35	23	18						13	10				■			
TiAlN	42 15325...	60	50	30	25					14	14		105	50	■	◧	◧	□

Ø d_1 = k12 mm	forum Cod comanda Blank 42 15324...	forum Cod comanda TiAlN 42 15325...	Lungime totala l_1 mm	Lungime parte activa l_2 mm	Ø coada d_2 = h6 mm
6,0	...100	...100	57	13	6
8,0	...106	...106	69	19	10
10,0	...112	...112	72	22	10
12,0	...118	...118	83	26	12
16,0	...130	...130	92	32	16
20,0	...142	...142	104	38	20

forum Freza degrosare, scurta

- HSS Co10
- Tip HR
- DIN 844-K
- Pentru frezare circumferinte si gauri

HSS Co10 | Tip HR | D 3–4 | DIN 844-K | DIN 1835-B

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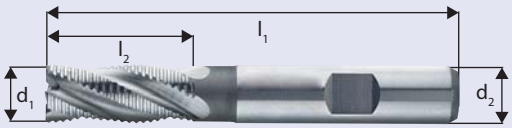
Pagina 2/16

Blank 42 15327...

TiAlN 42 15328... ▪ Prelucrare uscata posibila



Blank 42 15327...

TiAlN 42 15328...

Suprafata	Cod comanda	Otel <850 N	Otel <1000 N	Otel <1400 N	Otel <42 HRC	Otel <52 HRC	Otel <56 HRC	Otel <62 HRC	Otel >62 HRC	INOX	Ti, aliaje Ti, oteluri speciale	Fonta	Al, nemetale, aliaje nemetale	Cupru, alama, bronz	Emulsii	Ulei	Aer	fara racire
Blank	42 15327...	35	23	18						12	15	35			■			
TiAlN	42 15328...	60	50	30	25					25	20	50			■	◧	◧	□

Ø d_1 = k12 mm	forum Cod comanda Blank 42 15327...	forum Cod comanda TiAlN 42 15328...	Lungime totala l_1 mm	Lungime parte activa l_2 mm	Ø coada d_2 = h6 mm	Numar dinti
4,0	–	...010	55	11	6	3
5,0	–	...013	57	13	6	3
6,0	...016	...016	57	13	6	4
8,0	...019	...019	69	19	10	4
10,0	...022	...022	72	22	10	4
12,0	...025	...025	83	26	12	4
14,0	–	...028	83	26	12	4
16,0	...031	...031	92	32	16	4
20,0	...037	...037	104	38	20	4

forum Freza cu cap sferic, extra scurta

- HSS Co8
- Tip N
- Norma de productie (similar DIN 327 D)
- Utilizare ca freza de copiat si freza profilata pentru caneluri semirotunde

HSS Co8 | Tip N | D 2 | Norma de productie | DIN 1835-B

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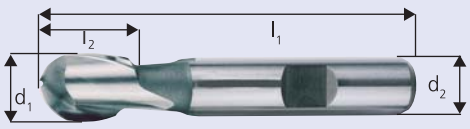

Blank 42 15330...

Suprafata	Cod comanda	Otel <850 N	Otel <1000 N	Otel <1400 N	Otel <42 HRC	Otel <52 HRC	Otel <56 HRC	Otel <62 HRC	Otel >62 HRC	INOX	Ti, aliaje Ti, oteluri speciale	Fonta	Al, nemetale, aliaje nemetale	Cupru, alama, bronz	Emulsii	Ulei	Aer	fara racire
Blank	42 15330...	30	18	13											■			

Ø d_1 = h10 mm	forum Cod comanda Blank 42 15330...	Lungime totala l_1 mm	Lungime parte activa l_2 mm	Ø coada d_2 = h6 mm
2,0	...010	48	4	6
3,0	...013	49	5	6
4,0	...016	51	7	6
5,0	...019	52	8	6
6,0	...022	52	8	6
7,0	...025	60	10	10
8,0	...028	61	11	10
9,0	...031	61	11	10
10,0	...034	63	13	10
11,0	...037	70	13	12
12,0	...040	73	16	12
13,0	...043	73	16	12

Ø d_1 = h10 mm	forum Cod comanda Blank 42 15330...	Lungime totala l_1 mm	Lungime parte activa l_2 mm	Ø coada d_2 = h6 mm
14,0	...046	73	16	12
15,0	...049	73	16	12
16,0	...052	79	19	16
17,0	...055	79	19	16
18,0	...058	79	19	16
19,0	...061	79	19	16
20,0	...064	88	22	20
22,0	...067	88	22	20
24,0	...070	102	26	25
25,0	...073	102	26	25
30,0	...076	102	26	25

Codurile marcate cu • nu se regasesc in stoc, livrare rapida

forum Freza cu cap sferic, lunga

- HSS Co8
- Tip N
- Norma de productie (similar DIN 844 B)
- Utilizare ca freza de copiat si ca freza profilata pentru caneluri semirotunde

HSS Co8 | Tip N | D 2 | DIN ≈844-B

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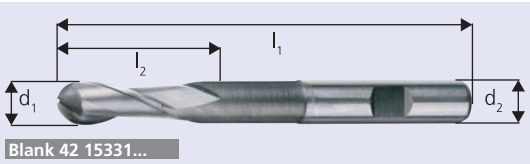
Accesorii optionale

Solutii de racire gasiti la pagina 9/60



Blank 42 15331...

Suprafata	Cod comanda	Otel <850 N	Otel <1000 N	Otel <1400 N	Otel <42 HRC	Otel <52 HRC	Otel <56 HRC	Otel <62 HRC	Otel >62 HRC	INOX	Ti, aliaje Ti, oteluri speciale	Fonta	Al, nemetale, aliaje nemetale	Cupru, alama, bronz	Emulsii	Ulei	Aer	fara racire
Blank	42 15331...	30	18	13									95		■			

Ø d_1 = h10 mm	forum Cod comanda Blank 42 15331...	Lungime totala l_1 mm	Lungime parte activa l_2 mm	Ø coada d_2 = h6 mm
3,0	...010	56	8	6
4,0	...013	63	11	6
5,0	...016	68	13	6
6,0	...019	68	13	6
7,0	...022	80	16	10
8,0	...025	88	19	10
9,0	...028	88	19	10
10,0	...031	95	22	10
11,0	...034	102	22	12

Ø d_1 = h10 mm	forum Cod comanda Blank 42 15331...	Lungime totala l_1 mm	Lungime parte activa l_2 mm	Ø coada d_2 = h6 mm
12,0	...037	110	26	12
13,0	...040	110	26	12
14,0	...043	110	26	12
15,0	...046	110	26	12
16,0	...049	123	32	16
17,0	...052	123	32	16
18,0	...055	123	32	16
19,0	...058	123	32	16
20,0	...061	141	38	20

Nr. comanda	Descriere	Numar dinti	DIN	Tip	Material	Pagina	Suprafata	Otel <850 N	Otel <1000 N	Otel <1400 N	Otel <42 HRC	Otel <52 HRC	INOX	Ti, aliaje Ti, oteluri speciale	Fonta	Al, nemetale, aliaje nemetale	Cupru, alama, bronz
42 15332	Freza de canelat	8–12	850-D	N	HSS Co5	2/26	Blank	19	16	10						95	
42 15333	Freze caneluri T	6–8	851-AB	N	HSS Co5	2/26	Blank	18	13							95	
42 15334	Freza unghiulara	6–14	1833C	N	HSS Co5	2/27	Blank	16	11	8						90	
42 15336	Freza unghiulara	6–16	1833D	N	HSS Co5	2/27	Blank	16	11	8						90	
42 15335	Freza unghiulara	6–16	1833C	N	HSS Co5	2/27	Blank	16	11	8						90	
42 15337	Freza unghiulara	6–16	1833D	N	HSS Co5	2/27	Blank	16	11	8						90	
42 15338	Freza sferica	4–6	6518-B	N	HSS Co5	2/27	Blank	14	12	12						85	

forum Freza de canelat

HSS Co5 | Tip N | Z 8–12 | DIN 850-D | DIN 1835-B

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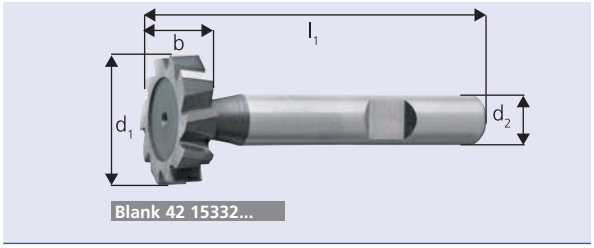
- HSS Co5
- Tip N
- DIN 850-D
- Taiere pe circumferinta, suprafete laterale rectificate
- Pentru frezarea canelurilor de pana Woodruff DIN 6888, pentru frezarea canelurilor mici



Blank 42 15332...

Suprafata	Cod comanda	Otel <850 N	Otel <1000 N	Otel <1400 N	Otel <42 HRC	Otel <52 HRC	Otel <56 HRC	Otel <62 HRC	Otel >62 HRC	INOX	Ti, aliaje Ti, oteluri speciale	Fonta	Al, nemetale, aliaje nemetale	Cupru, alama, bronz	Emulsii	Ulei	Aer	fara racire
Blank	42 15332...	19	16	10									95		■			

Ø x latime d_1h11 x b e8 mm	forum Cod comanda Blank 42 15332...	Lungime totala l_1 mm	Pentru canale de pana mm	Ø coada d_2 = h6 mm	Numar dinti
13,5 x 2,0	...010	56	2,0 x 5	10	8
13,5 x 2,5	...013	56	2,5 x 5	10	8
13,5 x 3,0	...016	56	3,0 x 5	10	8
13,5 x 4,0	...019	56	4,0 x 5	10	8
16,5 x 2,5	...022	56	2,5 x 6,5	10	8
16,5 x 3,0	...025	56	3,0 x 6,5	10	8
16,5 x 4,0	...028	56	4,0 x 6,5	10	8
16,5 x 5,0	...031	56	5,0 x 6,5	10	8
19,5 x 3,0	...034	63	3,0 x 7,5	10	10
19,5 x 4,0	...037	63	4,0 x 7,5	10	10
19,5 x 5,0	...040	63	5,0 x 7,5	10	10
22,5 x 4,0	...043	63	4,0 x 9	10	10
22,5 x 5,0	...046	63	5,0 x 9	10	10
22,5 x 6,0	...049	63	6,0 x 9	10	10
25,5 x 5,0	...052	63	5,0 x 10	10	10
25,5 x 6,0	...055	63	6,0 x 10	10	10
25,5 x 8,0	...061	63	8,0 x 10	10	10
28,5 x 5,0	...064	63	5,0 x 11	10	10
28,5 x 6,0	...067	63	6,0 x 11	10	10
28,5 x 8,0	...073	63	8,0 x 11	10	10
32,5 x 5,0	...076	71	5,0 x 13	12	12
32,5 x 6,0	...079	71	6,0 x 13	12	12
32,5 x 8,0	...082	71	8,0 x 13	12	12

forum Freze caneluri T

HSS Co5 | Tip N | D 6–8 | DIN 851-AB | DIN 1835-B

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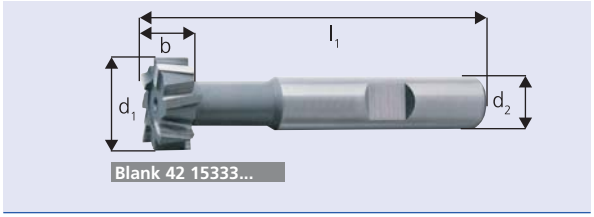
- HSS Co5
- Tip N
- DIN 851-AB
- Taiere pe circumferinta si pe ambele parti
- Pentru frezarea canelurilor T conform DIN 650



Blank 42 15333...

Suprafata	Cod comanda	Otel <850 N	Otel <1000 N	Otel <1400 N	Otel <42 HRC	Otel <52 HRC	Otel <56 HRC	Otel <62 HRC	Otel >62 HRC	INOX	Ti, aliaje Ti, oteluri speciale	Fonta	Al, nemetale, aliaje nemetale	Cupru, alama, bronz	Emulsii	Ulei	Aer	fara racire
Blank	42 15333...	18	13										95		■			

Ø x latime d_1 = d11 x b = d11 mm	forum Cod comanda Blank 42 15333...	Lungime totala l_1 mm	Pentru caneluri T DIN 650	Ø coada retrasa cca. mm	Ø coada d_2 = h6 mm	Numar dinti
12,5 x 6	...010	57	6	5,0	10	6
16,0 x 8	...013	62	8	7,0	10	6
18,0 x 8	...016	70	10	7,2	12	6
21,0 x 9	...019	74	12	10,0	12	8
25,0 x 11	...022	82	14	12,0	16	8
28,0 x 12	...025	85	16	13,0	16	8
32,0 x 14	...028	90	18	14,8	16	8
36,0 x 16	...031	103	20	17,0	25	8
40,0 x 18	...034	108	22	18,8	25	8

Codurile marcate cu • nu se regasesc in stoc, livrare rapida

forum Freza unghiulara

HSS Co5 | Tip N | Z 6–16 | DIN 1835-B | P Pagina 2/25

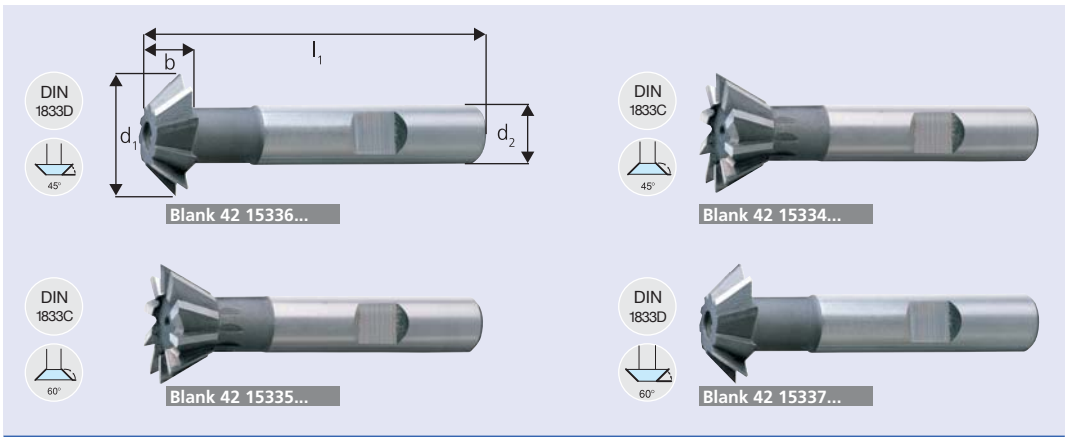
- HSS Co5
- Tip N
- DIN 1833
- Toleranta unghi 0° ± 15°
- Taiere pe circumferinta
- Pentru frezarea ghidajelor

Blank 42 15336... ▪ Forma D

Blank 42 15334... ▪ Forma C

Blank 42 15335... ▪ Forma C

Blank 42 15337... ▪ Forma D



Suprafata	Cod comanda	Otel <850 N	Otel <1000 N	Otel <1400 N	Otel <42 HRC	Otel <52 HRC	Otel <56 HRC	Otel <62 HRC	Otel >62 HRC	INOX	Ti, aliaje Ti, oteluri speciale	Fonta	Al, nemetale, aliaje nemetale	Cupru, alama, bronz	Emulsii	Ulei	Aer	fara racire
Blank	42 15334...–42 15337...	16	11	8									90		■			

Ø d_1 = js16 mm	forum Cod comanda 42 15334...	Blank	forum Cod comanda 42 15336...	Blank	forum Cod comanda 42 15335...	Blank	forum Cod comanda 42 15337...	Blank	Lungime totala l_1 mm	Inaltime parte activa b = js14 FORUM 42 15334/36 mm	Inaltime parte activa b = js14 FORUM 42 15335/37 mm	Ø coada d_2 = h6 mm	Numar dinti
16,0	...010		...010		...010		...010		60	4,0	6,3	12	6
20,0	...013		...013		...013		...013		63	5,0	8,0	12	8
22,0	...016		...016		...016		...016		67	6,0	9,0	12	8
25,0	...019		...019		...019		...019		67	6,3	10,0	12	10
28,0	...022		...022		...022		...022		80	7,5	11,0	16	10
32,0	...025		...025		...025		...025		80	8,0	12,5	16	12
38,0	...028		...028		...028		...028		80	10,0	16,0	16	14
50,0*	–		–		...031		...031		100	12,5	22,0	25	16
50,0	–		...031		–		–		100	12,5	22,0	25	16

* Norma de productie

forum Freza (freza concava)

HSS Co5 | Tip N | D 4–6 | DIN 6518-B | DIN 1835-B | P Pagina 2/25

- HSS Co5
- Tip N
- DIN 6518-B
- Pentru rotunjirea canturilor exterioare

Accesorii optionale
Solutii de racire gasiti la pagina 9/60

Suprafata	Cod comanda	Otel <850 N	Otel <1000 N	Otel <1400 N	Otel <42 HRC	Otel <52 HRC	Otel <56 HRC	Otel <62 HRC	Otel >62 HRC	INOX	Ti, aliaje Ti, oteluri speciale	Fonta	Al, nemetale, aliaje nemetale	Cupru, alama, bronz	Emulsii	Ulei	Aer	fara racire
Blank	42 15338...	14	12	12									85		■		□	

Raza H11 mm	forum Cod comanda 42 15338...	Blank	Lungime totala mm	Ø maxim mm	Ø minim % = js14 mm	Ø coada = h6 mm	Numar dinti
1,0	...010		60	8	6	10	4
1,5	...013		60	9	6	10	4
2,0	...016		60	10	6	10	4
2,5	...019		60	11	6	10	4
3,0	...022		60	12	6	12	4
4,0	...025		60	14	6	12	4
5,0	...028		67	16	6	16	4
6,0	...031		67	20	8	16	4
8,0	...034		71	24	8	16	4
10,0	...037		85	28	8	25	4
12,0	...040		90	34	10	25	4
16,0	...043		100	48	16	25	6

Nr. comanda	Descriere	Numar dinti	DIN	Tip	Material	Executie coada	Pagina	Suprafata	Otel <850 N	Otel <1000 N	Otel <1400 N	Otel <42 HRC	Otel <52 HRC	INOX	Ti, aliaje Ti, oteluri speciale	Fonta	Al, nemetale, aliaje nemetale	Cupru, alama, bronz
42 15341...	Freza cilindro - frontala	2	6527	N	VHM K10/20	HA	2/55	TiAlN	110	100	80	60		50		120	150	100
42 15343...	Freza cilindro - frontala	2	6527	N	VHM K10/20	HB	2/55	TiAlN	110	100	80	60		50		120	150	110
42 15343...	Freza cilindro - frontala	2	6527	N	VHM UF	HA	2/55	Blank	70	60	50			40		80	150	100
42 15345...	Freza cilindro - frontala	2	6527	N	VHM UF	HB	2/55	TiAlN	110	110	80	60		50		120	150	110
42 15346...	Freza cilindro - frontala	2	WN	N	VHM UF	HA	2/56	TiAlN	85	85	55	55		45	45			
42 15346...	Freza cilindro - frontala	2	WN	N	VHM UF	HB	2/56	TiAlN	85	85	55	55		45	45			
42 15347...	Freza cilindro - frontala	2	WN	N	VHM K10/20	HA	2/56	TiAlN	110	100	80	60		50		120	150	100
42 15349...	Freza cilindro - frontala	2	6527	W	VHM UF	HB	2/57	Blank									350	150
42 15350...	Freza cilindro - frontala	2	6527	W	VHM UF	HB	2/57	Blank									350	150
42 15339...	Freza cilindro - frontala	3	WN	N	VHM K10/20	HB	2/57	TiAlN	42	42	35	35	27	60		48	125	94
42 15341...	Mini-freza	3	WN	N	VHM UF	HB	2/58	Fire	110	100	80			50	40	120	150	100
42 15351...	Freza cilindro - frontala	3	6527	N	VHM K10/20	HB	2/58	Blank	70	60	50			40		80	150	100
42 15352...	Freza cilindro - frontala	3	6527	N	VHM K10/20	HB	2/58	TiAlN	110	100	80	60		50		120	150	100
42 15352...	Freza cilindro - frontala	3	6527L	N	VHM K10/20	HA	2/59	Blank	70	60	50			40		80	150	100
42 15354...	Freza cilindro - frontala	3	6527L	N	VHM K10/20	HB	2/59	TiAlN	110	100	80	60		50		120	150	100
42 15356...	Freza cilindro - frontala	3	6527	N	VHM UF	HB	2/59	Fire	150	110	100	80	60	50	60	130	250	120
42 15357...	Freza cilindro - frontala	3	WN	N	VHM K10/20	HA	2/60	Blank	70	60	50			40		80	150	100
42 15358...	Freza cilindro - frontala	3	6527L	N	VHM K10/20	HB	2/60	Blank	70	60	50			40		80	150	100

Codurile marcate cu • nu se regasesc in stoc, livrare rapida

Nr. comanda	Descriere	Numar dinti	DIN	Tip	Material	Executie coada	Pagina	Suprafata	Otel <850 N	Otel <1000 N	Otel <1400 N	Otel <42 HRC	Otel <52 HRC	INOX	Ti, aliaje Ti, oteluri speciale	Fonta	Al, nemetale, aliaje nemetale	Cupru, alama, bronz
42 15359...	Freza cilindro - frontala	3	6527L	N	VHM K10/20	HB	2/60	TiAlN	150	110	100	80	60	50	60	130	250	120
42 15359...	Freza cilindro - frontala	3–4	WN	H	VHM UF	HA	2/61	TiAlN	105	105	65	65		52	52	57	100	75
42 15359...	Freza cilindro - frontala	3–4	WN	H	VHM UF	HB	2/61	TiAlN	105	105	65	65		52	52	57	100	75
42 15361...	Freza cilindro - frontala	4	6527	N	VHM K10/20	HB	2/61	TiAlN	180	140	120	80	60	60	50	130	250	150
42 15363...	Freza cilindro - frontala	4	6527	N	VHM K10/20	HB	2/62	Blank	35	35	30	30		50		65	100	75
42 15366...	Freza cilindro - frontala	4	6527	N	VHM UF	HB	2/62	Fire	180	140	120	80	60	60	50	130	250	150
42 15366...	Freza cilindro - frontala	4	WN	N	VHM UF	HA	2/62	Fire	130	100	90	60	60	45	35	100	200	130
42 15336...	Freza cilindro - frontala	4	6527	N	VHM UF	HB	2/63	Fire	200	160		100		60	70	180	350	200
42 15366...	Freza cilindro - frontala	4	6527	NH	VHM UF	HB	2/63	Fire	200	160		100		60	70	180	350	200
42 15366...	Freza cilindro - frontala	6	6527	NH	VHM UF	HA	2/63	Fire	250	220	180	140	100	100	120	180	450	280
42 15365...	Freza cilindro - frontala	4	6527	N	VHM UF	HB	2/64	Fire	200	160	140	100	80	70	70	180	350	200
42 15367...	Freza cilindro - frontala	4	WN	N	VHM UF	HA	2/64	Fire	140	120	100	80	60	60	70	180	350	200
42 15367...	Freza cilindro - frontala	6–8	WN	H	VHM UF	HB	2/65	TiAlN	110	110	80	80	32					
42 15367...	Freza cilindro - frontala	6–8	WN	N	VHM UF	HB	2/65	TiAlN	110	110	80	80		65	65			
42 15367...	Freza cilindro - frontala	6	WN	H	VHM UF	HA	2/66	TiAlN	42	42	42	32	32					
42 17701...	Freza cilindro - frontala	6–8	6527	H	VHM UF	HA	2/66	Fire					100			150		
42 17702...	Freza cilindro - frontala	6–8	WN	H	VHM UF	HA	2/66	Fire					100			150		
42 15366...	Freza cilindro - frontala	6–10	6527	NH	VHM UF	HA	2/64	Fire	170	170			55		105	200	900	220

forum Dispozitive de frezat - recomandari de utilizare

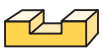
Sculele cu codurile de avans **tiparite ingrosat**
(VR-Code) sunt recomandat a fi utilizate.

Ø freza mm	Cod avans A f_z mm/Z		
	1	2	3
2,00	0,008	0,008	0,007
3,00	0,012	0,013	0,013
4,00	0,020	0,019	0,019
5,00	0,025	0,025	0,025
6,00	0,031	0,033	0,032
8,00	0,045	0,040	0,043
10,00	0,051	0,040	0,048
12,00	0,051	0,039	0,048
16,00	0,050	0,040	0,052
20,00	0,051	0,038	0,048
25,00	0,048	0,042	0,044

Ø freza mm	Cod avans B f_z mm/Z															
	37	38	39	40	41	42	43	44	45	46	47	48	49	50	51	52
2,00	0,001	0,001	0,001	0,002	0,002	0,004	0,005	0,006	0,007	0,008	0,010	0,012	0,014	0,016	0,018	0,020
3,00	0,002	0,002	0,003	0,003	0,004	0,007	0,010	0,010	0,010	0,015	0,016	0,013	0,019	0,022	0,024	0,030
5,00	0,005	0,006	0,007	0,009	0,010	0,014	0,020	0,020	0,022	0,025	0,026	0,026	0,028	0,030	0,032	0,038
6,00	0,006	0,008	0,009	0,011	0,013	0,017	0,024	0,025	0,027	0,031	0,029	0,033	0,039	0,036	0,041	0,047
8,00	0,010	0,012	0,014	0,016	0,019	0,024	0,032	0,032	0,035	0,042	0,042	0,047	0,053	0,052	0,058	0,064
10,00	0,013	0,015	0,018	0,021	0,025	0,030	0,038	0,039	0,044	0,050	0,053	0,059	0,065	0,066	0,073	0,080
12,50	0,016	0,018	0,022	0,026	0,030	0,036	0,046	0,048	0,052	0,059	0,063	0,072	0,079	0,085	0,090	0,10
16,00	0,020	0,023	0,027	0,032	0,038	0,045	0,054	0,058	0,063	0,071	0,079	0,088	0,095	0,10	0,11	0,12
20,00	0,023	0,028	0,033	0,038	0,045	0,057	0,066	0,073	0,080	0,090	0,097	0,10	0,11	0,12	0,13	0,14

Grupe de materiale	Exemple de materiale Numere tiparite ingrosat = Nr. material conform DIN EN 10 027	Rezistenta la tractiune N/mm²	Duritate	Solutie de racire
Oteluri uzuale de constructii	**1.0035** S185, **1.0486** P275N, **1.0345** P235GH, **1.0425** P265GH	≤ 500		●
	1.0050 E295, **1.0070** E360, **1.8937** P500NH	> 500– 850		●
Oteluri automate	**1.0718** 11SMnPb30, **1.0736** 11SMn37	≤ 850		●
	1.0727 46 S20, **1.0728** 60 S20, **1.0757** 46SPb20	850–1000		●
Oteluri tratate nealiate	**1.0402** C22, **1.1178** C30E	≤ 700		●
	1.0503 C45, **1.1191** C45E	700– 850		●
	1.0601 C60, **1.1221** C60E	850–1000		●
Oteluri tratate aliate	**1.5131** 50MnSi4, **1.7003** 38Cr2, **1.7030** 28Cr4	850–1000		●
	1.5710 36NiCr6, **1.7035** 41Cr4, **1.7225** 42CrMo4	1000–1200		●
Oteluri calite nealiate	**1.0301** C10, **1.1121** C10E	≤ 750		●
Oteluri calite aliate	**1.7043** 38Cr4	850–1000		●
	1.5752 15NiCr13, **1.7131** 16MnCr5, **1.7264** 20CrMo5	1000–1200		●
Oteluri nitrurate	**1.8504** 34CrAl6	≥ 850–1000		●
	1.8519 31CrMoV9, **1.8550** 34CrAlNi7	1000–1200		●
Oteluri de scule	**1.1750** C75W, **1.2067** 102Cr6, **1.2307** 29CrMoV9	≤ 850		●
	1.2080 X210Cr12, **1.2083** X42Cr13, **1.2419** 105WCr6	850–1000		●
Oteluri rapide	**1.3243** S 6-5-2-5, **1.3343** S 6-5-2, **1.3344** S 6-5-3	≥ 650–1000		●
Otel de arc	**1.5026** 55Si7, **1.7176** 55Cr3, **1.8159** 51CrV4		≤ 330 HB	●
Oteluri inoxidabile, sulfurate	**1.4005** X12CrS13, **1.4104** X14CrMoS17, **1.4105** X6CrMoS17	≤ 850		●
austenitice	**1.4301** X5CrNi18-10, **1.4541** X6CrNiTi18-10	≤ 850		●
martensitice	**1.4057** X20CrNi17-2, **1.4122** X39CrMo17-1	≤ 850		●
Oteluri tratate	–		≤ 40–48 HRC	●
			> 48–60 HRC	●
Aliaje speciale	Nimonic®, Inconel®, Monel®, Hastelloy®	≤ 1200		●
Fonta	**0.6010** EN-GJL-100(GG10), **0.6020** EN-GJL-200(GG20)		≤ 240 HB	● ○
	0.6025 EN-GJL-250(GG25), **0.6035** EN-GJL-350(GG35)		< 300 HB	● ○
Fonta nodulara si maleabila	**0.7050** EN-GJS-500-7(GGG50), **0.8035** EN-GJMW-350-4(GTW35)		≤ 240 HB	●
	0.7070 EN-GJS-700-2(GGG70), **0.8170** EN-GJMB-700-2(GTS70)		<300 HB	●
Fonta dura	–		≤ 350 HB	●
Titan si aliaje titan	**3.7024** Ti99,5, **3.7114** TiAl5Sn2,5, **3.7124** TiCu2	≤ 850		●
	3.7154 TiAl6Zr5, **3.7164** TiAl6V4, **3.7184** TiAl4Mo4Sn2,5	850–1200		●
Aluminiu si aliaje aluminiu	**3.0255** Al99,5, **3.2315** AlMgSi1, **3.3515** AlMg1	≤ 400		●
Aliaje forjate aluminiu	**3.0615** AlMgSiPb, **3.1325** AlCuMg1, **3.3245** AlMg3Si	≤ 450		●
Aliaje alu-fonta ≤ 10 % Si	**3.2131** G-AlSi5Cu1, **3.2153** G-AlSi7Cu3, **3.2573** G-AlSi9	≤ 600		●
> 10 % Si	**3.2581** G-AlSi12, **3.2583** G-AlSi12Cu, – G-AlSi12CuNiMg	≤ 600		●
Aliaje magneziu	MgMn2, G-MgAl8Zn1, G-MgAl6Zn3	≤ 450		○
Cupru, aliaj scazut	**2.0070** SE-Cu, **2.1020** CuSn6, **2.1096** G-CuSn5ZnPb	≤ 400		●
Alama, span scurt	**2.0380** CuZn39Pb2, **2.0401** CuZn39Pb3, **2.0410** CuZn43Pb2	≤ 600		●
span lung	**2.0250** CuZn20, **2.0280** CuZn33, **2.0332** CuZn37Pb0,5	≤ 600		●
Bronz, span scurt	**2.1090** CuSn7ZnPb, **2.1170** CuPb5Sn5, **2.1176** CuPb10Sn	≤ 600		● ●
	2.0790 CuNi18Zn19Pb	> 600– 850		●
Bronz, span lung	**2.0916** CuAl5, **2.0960** CuAl9Mn, **2.1050** CuSn10	≤ 850		●
	2.0980 CuAl11Ni, **2.1247** CuBe2	850–1000		●
Material plastic, termorigid	Bachelit®, Resopal®, Pertinax®, Moltopren®		–	○
Materiale plastice, termoplastic	Plexi®, Hostalen®, Novodur®, Makralon®		–	● ○

a_e = latime taiere
a_p = adancime taiere



a_e = 1,0 x D

a_p cu f_z-corectie

Solutie racire: ● Emulsie ● Ulei ○ Aer

Codurile marcate cu • nu se regasesc in stoc, livrare rapida

Freza caneluri

Material	K10-20		VHM-UF		VHM-UF	VHM-UF		K10-20		K10-20	
Norma	6527		6527		WN	WN		WN		WN	
Tip	N		N		N			N		N	
Suprafata	TiAlN	TiAlN	TiAlN	TiAlN	TiAlN	TiAlN				TiAlN	
Nr. comanda	15 341 210–243 (HA) 15 343 010–043 (HB)		15 343 210–273 (HA) 15 345 010–052 (HB)		15 346 113–194 (HA) 15 346 310–382 (HB)			15 357 013–034 (HA)		15 347 110–140 (HA)	
Numar taisuri	2 taisuri	2 taisuri	2 taisuri	2 taisuri	2 taisuri	2 taisuri		3 taisuri		2 taisuri	
	Pagina 2/55		Pagina 2/55		Pagina 2/56			Pagina 2/60		Pagina 2/56	
Livrare/ Utilizare											
	a_p = 0,5 x D		a_p = 1 x D		a_p = 0,5 x D			a_p = 2 x D		a_p = 2 x D	
	v_c m/min	Cod VR B	v_c m/min	Cod VR B	v_c m/min	Cod VR A		v_c m/min	Cod VR B	v_c m/min	Cod VR B
	98–120	**43**	85–105	**42**	72–107	**1**		43–53	**39**	72– 88	**39**
	93–115	**42**	81– 99	**41**	72–107	**1**		40–50	**37**	67– 83	**38**
	98–120	**42**	85–105	**41**	72–107	**1**		43–53	**37**	72– 88	**38**
	72– 90	**43**	63– 77	**42**	72–107	**1**		32–40	**38**	54– 66	**39**
	98–120	**42**	85–105	**41**	72–107	**1**		43–53	**37**	72– 88	**38**
	88–108	**42**	76– 94	**41**	72–107	**1**		37–47	**37**	63– 77	**38**
	72– 90	**43**	63– 77	**42**	72–107	**1**		32–40	**38**	54– 66	**39**
	88–108	**43**	76– 94	**42**	72–107	**1**		37–47	**38**	63– 77	**39**
	72– 90	**43**	63– 77	**42**	47– 66	**2**		32–40	**38**	54– 66	**39**
	103–127	**42**	90–110	**41**	72–107	**1**		40–50	**37**	67– 83	**38**
	88–108	**42**	76– 94	**41**	72–107	**1**		37–47	**37**	63– 77	**38**
	62– 76	**43**	54– 66	**42**	47– 66	**2**		27–33	**38**	45– 55	**39**
	98–120	**42**	85–105	**41**	72–107	**1**		43–53	**37**	72– 88	**38**
	88–108	**41**	76– 94	**40**	47– 66	**2**		37–47	**36**	63– 77	**37**
	88–108	**42**	76– 94	**41**	72–107	**1**		37–47	**37**	63– 77	**38**
	72– 90	**41**	63– 77	**40**	72–107	**1**		32–40	**36**	54– 66	**37**
	52– 64	**43**	45– 55	**42**	72–107	**1**		24–30	**38**	40– 50	**39**
	52– 64	**41**	45– 55	**40**	47– 66	**2**					
	52– 64	**43**	45– 55	**42**	39– 54	**3**					
	46– 58	**41**	40– 50	**40**	39– 54	**3**					
	41– 51	**42**	36– 44	**41**	39– 54	**3**					
	52– 64	**41**	45– 55	**40**							
	31– 39	**41**	27– 33	**40**							
	124–152	**42**	108–132	**41**				56–70	**37**	94–115	**38**
	114–140	**41**	99–121	**40**				51–63	**36**	85–105	**37**
	103–127	**42**	90–110	**41**				48–60	**37**	81– 99	**38**
	93–115	**41**	81– 99	**40**				40–50	**36**	67– 83	**37**
	62– 76	**41**	54– 66	**40**							
	52– 64	**41**	45– 55	**40**	39– 54	**3**		35–43	**36**	58– 72	**37**
	41– 51	**41**	36– 44	**40**	39– 54	**3**		18–24	**36**	31– 39	**37**
	466–570	44	405–495	43							
	569–697	44	495–605	43							
	227–279	43	198–242	42							
	186–228	44	162–198	43							
	259–317	45	225–275	44							
	124–152	44	108–132	43							
	103–127	44	90–110	43							
	93–115	43	81– 99	42							
	103–127	43	90–110	42							
	82–102	42	72– 88	41							
	82–102	43	72– 88	42							
	72– 90	41	63– 77	40							
	124–152	41	108–132	40							
	114–140	41	99–121	40							
	1 x D = 75 %		1,5 x D = 75 % 2 x D = 50 %		1,5 x D = 75 % 2 x D = 50 %			3 x D = 50 %			

forum Dispozitive de frezat - recomandari de utilizare

Sculele cu codurile de avans **tiparite ingrosat**
(VR-Code) sunt recomandat a fi utilizate.

Ø freza mm	Cod avans A f_z mm/Z	
	4	5
3,00	0,035	0,035
4,00	0,046	0,045
5,00	0,050	0,050
6,00	0,058	0,060
8,00	0,090	0,088
10,00	0,11	0,106
12,00	0,135	0,131
14,00		0,15
16,00	0,156	0,158
18,00		0,175
20,00	0,20	0,20

Ø freza mm	Cod avans B f_z mm/Z															
	37	38	39	40	41	42	43	44	45	46	47	48	49	50	51	52
2,00	0,001	0,001	0,001	0,002	0,002	0,004	0,005	0,006	0,007	0,008	0,010	0,012	0,014	0,016	0,018	0,020
3,00	0,002	0,002	0,003	0,003	0,004	0,007	0,010	0,010	0,010	0,015	0,016	0,013	0,019	0,022	0,024	0,030
5,00	0,005	0,006	0,007	0,009	0,010	0,014	0,020	0,020	0,022	0,025	0,026	0,026	0,028	0,030	0,032	0,038
6,00	0,006	0,008	0,009	0,011	0,013	0,017	0,024	0,025	0,027	0,031	0,029	0,033	0,039	0,036	0,041	0,047
8,00	0,010	0,012	0,014	0,016	0,019	0,024	0,032	0,032	0,035	0,042	0,042	0,047	0,053	0,052	0,058	0,064
10,00	0,013	0,015	0,018	0,021	0,025	0,030	0,038	0,039	0,044	0,050	0,053	0,059	0,065	0,066	0,073	0,080
12,50	0,016	0,018	0,022	0,026	0,030	0,036	0,046	0,048	0,052	0,059	0,063	0,072	0,079	0,085	0,090	0,10
16,00	0,020	0,023	0,027	0,032	0,038	0,045	0,054	0,058	0,063	0,071	0,079	0,088	0,095	0,10	0,11	0,12
20,00	0,023	0,028	0,033	0,038	0,045	0,057	0,066	0,073	0,080	0,090	0,097	0,10	0,11	0,12	0,13	0,14

Grupe de materiale	Exemple de materiale Numere tiparite ingrosat = Nr. material conform DIN EN 10 027	Rezistenta la tractiune N/mm²	Duritate	Solutie de racire
Oteluri uzuale de constructii	**1.0035** S185, **1.0486** P275N, **1.0345** P235GH, **1.0425** P265GH	≤ 500		●
	1.0050 E295, **1.0070** E360, **1.8937** P500NH	> 500– 850		●
Oteluri automate	**1.0718** 11SMnPb30, **1.0736** 11SMn37	≤ 850		●
	1.0727 46 S20, **1.0728** 60 S20, **1.0757** 46SPb20	850–1000		●
Oteluri tratate nealiate	**1.0402** C22, **1.1178** C30E	≤ 700		●
	1.0503 C45, **1.1191** C45E	700– 850		●
	1.0601 C60, **1.1221** C60E	850–1000		●
Oteluri tratate aliate	**1.5131** 50MnSi4, **1.7003** 38Cr2, **1.7030** 28Cr4	850–1000		●
	1.5710 36NiCr6, **1.7035** 41Cr4, **1.7225** 42CrMo4	1000–1200		●
Oteluri calite nealiate	**1.0301** C10, **1.1121** C10E	≤ 750		●
Oteluri calite aliate	**1.7043** 38Cr4	850–1000		●
	1.5752 15NiCr13, **1.7131** 16MnCr5, **1.7264** 20CrMo5	1000–1200		●
Oteluri nitrurate	**1.8504** 34CrAl6	≥ 850–1000		●
	1.8519 31CrMoV9, **1.8550** 34CrAlNi7	1000–1200		●
Oteluri de scule	**1.1750** C75W, **1.2067** 102Cr6, **1.2307** 29CrMoV9	≤ 850		●
	1.2080 X210Cr12, **1.2083** X42Cr13, **1.2419** 105WCr6, **1.2767** X45NiCrMo4	850–1000		●
Oteluri rapide	**1.3243** S 6-5-2-5, **1.3343** S 6-5-2, **1.3344** S 6-5-3	≥ 650–1000		●
Otel de arc	**1.5026** 55Si7, **1.7176** 55Cr3, **1.8159** 51CrV4		≤ 330 HB	●
Oteluri inoxidabile, sulfurate	**1.4005** X12CrS13, **1.4104** X14CrMoS17, **1.4105** X6CrMoS17, **1.4305** X8CrNiS18 9	≤ 850		●
austenitice	**1.4301** X5CrNi18-10, **1.4541** X6CrNiTi18-10, **1.4571** X6CrNiMoTi 17 12 2	≤ 850		●
martensitice	**1.4057** X20CrNi17-2, **1.4122** X39CrMo17-1, **1.4521** X2CrMoTi18 2	≤ 850		●
Oteluri tratate	–		≤ 40–48 HRC	●
	–		> 48–60 HRC	●
Aliaje speciale	Nimonic®, Inconel®, Monel®, Hastelloy®	≤ 1200		●
Fonta	**0.6010** EN-GJL-100(GG10), **0.6020** EN-GJL-200(GG20)		≤ 240 HB	● ○
	0.6025 EN-GJL-250(GG25), **0.6035** EN-GJL-350(GG35)		< 300 HB	● ○
Fonta nodulara si maleabila	**0.7050** EN-GJS-500-7(GGG50), **0.8035** EN-GJMW-350-4(GTW35)		≤ 240 HB	●
	0.7070 EN-GJS-700-2(GGG70), **0.8170** EN-GJMB-700-2(GTS70)		< 300 HB	●
Fonta dura	–		≤ 350 HB	●
Titan si aliaje titan	**3.7024** Ti99,5, **3.7114** TiAl5Sn2,5, **3.7124** TiCu2	≤ 850		●
	3.7154 TiAl6Zr5, **3.7164** TiAl6V4, **3.7184** TiAl4Mo4Sn2,5, – TiAl8Mo1V1	850–1200		●
Aluminiu si aliaje aluminiu	**3.0255** Al99,5, **3.2315** AlMgSi1, **3.3515** AlMg1	≤ 400		●
Aliaje forjate aluminiu	**3.0615** AlMgSiPb, **3.1325** AlCuMg1, **3.3245** AlMg3Si, **3.4365** AlZnMgCu1,5	≤ 450		●
Aliaje alu-fonta ≤ 10 % Si	**3.2131** G-AlSi5Cu1, **3.2153** G-AlSi7Cu3, **3.2573** G-AlSi9	≤ 600		●
> 10 % Si	**3.2581** G-AlSi12, **3.2583** G-AlSi12Cu, – G-AlSi12CuNiMg	≤ 600		●
Aliaje magneziu	MgMn2, G-MgAl8Zn1, G-MgAl6Zn3	≤ 450		○
Cupru, aliaj scazut	**2.0070** SE-Cu, **2.1020** CuSn6, **2.1096** G-CuSn5ZnPb	≤ 400		●
Alama, span scurt	**2.0380** CuZn39Pb2, **2.0401** CuZn39Pb3, **2.0410** CuZn43Pb2	≤ 600		●
span lung	**2.0250** CuZn20, **2.0280** CuZn33, **2.0332** CuZn37Pb0,5	≤ 600		●
Bronz, span scurt	**2.1090** CuSn7ZnPb, **2.1170** CuPb5Sn5, **2.1176** CuPb10Sn	≤ 600		● ●
	2.0790 CuNi18Zn19Pb	> 600– 850		●
Bronz, span lung	**2.0916** CuAl5, **2.0960** CuAl9Mn, **2.1050** CuSn10	≤ 850		●
	2.0980 CuAl11Ni, **2.1247** CuBe2	850–1000		●
Material plastic, termorigid	Bachelit®, Resopal®, Pertinax®, Moltopren®		–	○
Materiale plastice, termoplastic	Plexi®, Hostalen®, Novodur®, Makralon®		–	● ○
Materale plastice, cu insertie fibra aramida			–	○
insertie sticla/ carbune.			–	○
		a_p cu f_z-corectie		

Solutie racire: ● Emulsie ● Ulei ○ Aer

Codurile marcate cu • nu se regasesc in stoc, livrare rapida

Freza caneluri

Material	**10-20**	**VHM-UF**	**K10-20**
Norma	6527	6527	6527
Tip	N	N	N
Suprafata	**TiAlN**		**TiAlN**
Nr. comanda	**15 352 010–043 (HB)**	**15 352 100–142 (HA)**	**15 354 013–052 (HB)**
Numar taisuri	3 taisuri	3 taisuri	3 taisuri
	Pagina 2/58	**Pagina 2/59**	**Pagina 2/59**
Livrare/ utilizare	a_p = 0,5 x D	a_p = 1 x D	a_p = 0,5 x D

v_c m/min	Cod VR	v_c m/min	Cod VR	v_c m/min	Cod VR
98–120	43	51–63	42	85–105	42
93–115	42	48–60	40	81– 99	41
98–120	42	51–63	40	85–105	41
72– 90	43	37–47	41	63– 77	42
98–120	42	51–63	40	85–105	41
88–108	42	45–57	40	76– 94	41
72– 90	43	37–47	41	63– 77	42
88–108	43	45–57	41	76– 94	42
72– 90	43	37–47	41	63– 77	42
103–127	42	54–66	40	90–110	41
88–108	42	45–57	40	76– 94	41
62– 76	43	32–40	41	54– 66	42
98–120	42	51–63	40	85–105	41
88–108	41	45–57	39	76– 94	40
88–108	42	45–57	40	76– 94	41
72– 90	41	37–47	39	63– 77	40
52– 64	43	27–33	41	45– 55	42
52– 64	41	27–33	39	45– 55	40
52– 64	43	27–33	41	45– 55	42
46– 58	41	24–30	39	40– 50	40
41– 51	42	21–27	40	36– 44	41
52– 64	41	27–33	39	45– 55	40
31– 39	41	16–20	39	27– 33	40
124–152	42	64–80	40	108–132	41
114–140	41	59–73	39	99–121	40
103–127	42	54–66	40	90–110	41
93–115	41	48–60	39	81– 99	40
62– 76	41	32–40	39	54– 66	40
52– 64	41	27–33	39	45– 55	40
41– 51	41	21–27	39	36– 44	40
1,5 x D = 75 %		1,5 x D = 75 % 2 x D = 50 %		1,5 x D = 75 % 2 x D = 50 %	

GÜHRING Recomandari de utilizare pentru dispozitive de frezare

Sculele cu codurile de avans **tiparite ingrosat** (VR-Code) sunt recomandat a fi utilizate

Ø freza mm	Cod avans f_z mm/Z															
	37	38	39	40	41	42	43	44	45	46	47	48	49	50	51	52
2,00	0,001	0,001	0,001	0,002	0,002	0,004	0,005	0,006	0,007	0,008	0,010	0,012	0,014	0,016	0,018	0,020
3,00	0,002	0,002	0,003	0,003	0,004	0,007	0,010	0,010	0,010	0,015	0,016	0,013	0,019	0,022	0,024	0,030
5,00	0,005	0,006	0,007	0,009	0,010	0,014	0,020	0,020	0,022	0,025	0,026	0,026	0,028	0,030	0,032	0,038
6,00	0,006	0,008	0,009	0,011	0,013	0,017	0,024	0,025	0,027	0,031	0,029	0,033	0,039	0,036	0,041	0,047
8,00	0,010	0,012	0,014	0,016	0,019	0,024	0,032	0,032	0,035	0,042	0,042	0,047	0,053	0,052	0,058	0,064
10,00	0,013	0,015	0,018	0,021	0,025	0,030	0,038	0,039	0,044	0,050	0,053	0,059	0,065	0,066	0,073	0,080
12,50	0,016	0,018	0,022	0,026	0,030	0,036	0,046	0,048	0,052	0,059	0,063	0,072	0,079	0,085	0,090	0,10
16,00	0,020	0,023	0,027	0,032	0,038	0,045	0,054	0,058	0,063	0,071	0,079	0,088	0,095	0,10	0,11	0,12
20,00	0,023	0,028	0,033	0,038	0,045	0,057	0,066	0,073	0,080	0,090	0,097	0,10	0,11	0,12	0,13	0,14

Grupe de materiale	Exemple de materiale Numere tiparite ingrosat = Nr. material conform DIN EN 10 027	Rezistenta la tractiune N/mm²	Duritate	Solutie de racire
Oteluri uzuale de constructii	**1.0035** S185, **1.0486** P275N, **1.0345** P235GH, **1.0425** P265GH	≤ 500		●
	1.0050 E295, **1.0070** E360, **1.8937** P500NH	> 500– 850		●
Oteluri automate	**1.0718** 11SMnPb30, **1.0736** 11SMn37	≤ 850		●
	1.0727 46 S20, **1.0728** 60 S20, **1.0757** 46SPb20	850–1000		●
Oteluri tratate nealiate	**1.0402** C22, **1.1178** C30E	≤ 700		●
	1.0503 C45, **1.1191** C45E	700– 850		●
	1.0601 C60, **1.1221** C60E	850–1000		●
Oteluri tratate aliate	**1.5131** 50MnSi4, **1.7003** 38Cr2, **1.7030** 28Cr4	850–1000		●
	1.5710 36NiCr6, **1.7035** 41Cr4, **1.7225** 42CrMo4	1000–1200		●
Oteluri calite nealiate	**1.0301** C10, **1.1121** C10E	≤ 750		●
Oteluri calite aliate	**1.7043** 38Cr4	850–1000		●
	1.5752 15NiCr13, **1.7131** 16MnCr5, **1.7264** 20CrMo5	1000–1200		●
Oteluri nitrurate	**1.8504** 34CrAl6	≥ 850–1000		●
	1.8519 31CrMoV9, **1.8550** 34CrAlNi7	1000–1200		●
Oteluri de scule	**1.1750** C75W, **1.2067** 102Cr6, **1.2307** 29CrMoV9	≤ 850		●
	1.2080 X210Cr12, **1.2083** X42Cr13, **1.2419** 105WCr6, **1.2767** X45NiCrMo4	850–1000		●
Oteluri rapide	**1.3243** S 6-5-2-5, **1.3343** S 6-5-2, **1.3344** S 6-5-3	≥ 650–1000		●
Otel de arc	**1.5026** 55Si7, **1.7176** 55Cr3, **1.8159** 51CrV4		≤ 330 HB	●
Oteluri inoxidabile, sulfurate	**1.4005** X12CrS13, **1.4104** X14CrMoS17, **1.4105** X6CrMoS17, **1.4305** X8CrNiS18 9	≤ 850		●
austenitice	**1.4301** X5CrNi18-10, **1.4541** X6CrNiTi18-10, **1.4571** X6CrNiMoTi 17 12 2	≤ 850		●
martensitice	**1.4057** X20CrNi17-2, **1.4122** X39CrMo17-1, **1.4521** X2CrMoTi18 2	≤ 850		●
Oteluri tratate	–		≤ 40–48 HRC	●
	–		> 48–60 HRC	●
Aliaje speciale	Nimonic®, Inconel®, Monel®, Hastelloy®	≤ 1200		●
Fonta	**0.6010** EN-GJL-100(GG10), **0.6020** EN-GJL-200(GG20)		≤ 240 HB	●○
	0.6025 EN-GJL-250(GG25), **0.6035** EN-GJL-350(GG35)		< 300 HB	●○
Fonta nodulara si maleabila	**0.7050** EN-GJS-500-7(GGG50), **0.8035** EN-GJMW-350-4(GTW35)		≤ 240 HB	●
	0.7070 EN-GJS-700-2(GGG70), **0.8170** EN-GJMB-700-2(GTS70)		< 300 HB	●
Fonta dura	–		≤ 350 HB	●
Titan si aliaje titan	**3.7024** Ti99,5, **3.7114** TiAl5Sn2,5, **3.7124** TiCu2	≤ 850		●
	3.7154 TiAl6Zr5, **3.7164** TiAl6V4, **3.7184** TiAl4Mo4Sn2,5, – TiAl8Mo1V1	850–1200		●
Aluminiu si aliaje aluminiu	**3.0255** Al99,5, **3.2315** AlMgSi1, **3.3515** AlMg1	≤ 400		●
Aliaje forjate aluminiu	**3.0615** AlMgSiPb, **3.1325** AlCuMg1, **3.3245** AlMg3Si, **3.4365** AlZnMgCu1,5	≤ 450		●
Aliaje alu-fonta ≤ 10 % Si	**3.2131** G-AlSi5Cu1, **3.2153** G-AlSi7Cu3, **3.2573** G-AlSi9	≤ 600		●
> 10 % Si	**3.2581** G-AlSi12, **3.2583** G-AlSi12Cu, – G-AlSi12CuNiMg	≤ 600		●
Aliaje magneziu	MgMn2, G-MgAl8Zn1, G-MgAl6Zn3	≤ 450		○
Cupru, aliaj scazut	**2.0070** SE-Cu, **2.1020** CuSn6, **2.1096** G-CuSn5ZnPb	≤ 400		●
Alama, span scurt	**2.0380** CuZn39Pb2, **2.0401** CuZn39Pb3, **2.0410** CuZn43Pb2	≤ 600		●
span lung	**2.0250** CuZn20, **2.0280** CuZn33, **2.0332** CuZn37Pb0,5	≤ 600		●
Bronz, span scurt	**2.1090** CuSn7ZnPb, **2.1170** CuPb5Sn5, **2.1176** CuPb10Sn	≤ 600		●●
	2.0790 CuNi18Zn19Pb	> 600– 850		●
Bronz, span lung	**2.0916** CuAl5, **2.0960** CuAl9Mn, **2.1050** CuSn10	≤ 850		●
	2.0980 CuAl11Ni, **2.1247** CuBe2	850–1000		●
Material plastic, termorigid	Bachelit®, Resopal®, Pertinax®, Moltopren®		–	○
Materiale plastice, termoplastic	Plexi®, Hostalen®, Novodur®, Makralon®		–	●○
materiale plastice, cu insertie fibra aramidat			–	○
insertie fibra sticla/ carbune			–	○

a_p cu f_z–corectie

Solutie racire: ● Emulsie ● Ulei ○ Aer

Codurile marcate cu • nu se regasesc in stoc, livrare rapida

Freza caneluri/freza gaura lunga

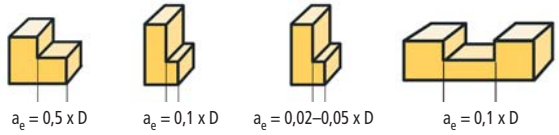
Material	HM-UF	HM-UF	HM-UF
Norma	6527	WN	6527
Tip	W	N	N
Suprafata		Fire	Fire
Nr. comanda	15 349 013–043 (HA) 15 350 013–043 (HA)	15 341 019–082 (HB)	15 356 013–049 (HB)
Numar taisuri	2 taisuri	3 taisuri	3 taisuri
	Pagina 2/57	**Pagina 2/58**	**Pagina 2/59**
Livrare/ Utilizare			
	a_e = 1 x D a_p = 0,5 x D	a_e = 1 x D a_p = 0,5 x D	a_e = 1 x D a_p = 0,5 x D

v_c m/min	Cod VR	v_c m/min	Cod VR	v_c m/min	Cod VR
		94–116	**43**	94–116	**43**
		89–109	**42**	89–109	**42**
		94–116	**42**	94–116	**42**
		69– 85	43	69– 85	**43**
		94–116	**42**	94–116	**42**
		84–104	**42**	84–104	**42**
		69– 85	43	69– 85	**43**
		84–104	43	84–104	**43**
				69– 85	**43**
		99–121	**42**	99–121	**42**
		84–104	42	84–104	**42**
				59– 73	**43**
		94–116	42	94–116	**42**
				84–104	**41**
		84–104	**42**	84–104	**42**
		69– 85	41	69– 85	**41**
		49– 61	43	49– 61	**43**
				49– 61	**41**
		49– 61	**43**	49– 61	**43**
		45– 55	**41**	45– 55	**41**
		39– 49	42	39– 49	**42**
				49– 61	**41**
		29– 37	**41**	29– 37	**41**
		118–146	**42**	118–146	**42**
		108–134	**41**	108–134	**41**
		99–121	**42**	99–121	**42**
		89–109	**41**	89–109	**41**
		59– 73	**41**	59– 73	**41**
		49– 61	**41**	49– 61	**41**
		39– 49	**41**	39– 49	**41**
297–363	**46**	297–363	**46**	445–545	44
360–440	**46**	360–440	**46**	544–666	44
144–176	**45**	217–267	43	217–267	43
117–143	**46**	178–218	44	178–218	44
171–209	**47**	171–209	**47**	247–303	45
81– 99	**46**	118–146	44	118–146	44
72– 88	**46**	99–121	44	99–121	44
67– 83	**45**	67– 83	**45**	89–109	43
72– 88	**45**	99–121	43	99–121	43
63– 77	**44**	79– 97	42	79– 97	42
63– 77	**45**	63– 77	**45**	79– 97	43
54– 66	**43**	54– 66	**43**	69– 85	41
81– 99	**43**	81– 99	**43**	118–146	41
72– 88	**43**	72– 88	**43**	108–134	41
1 x D = 75 % 1,5 x D = 50 %		0,5 x D = 75 %		1 x D = 75 % 1,5 x D = 50 %	

forum Dispozitive de frezat - recomandari de utilizare

Sculele cu codurile de avans **tiparite ingrosat**
(VR-Code) sunt recomandate a fi utilizate

a_e = latime de taiere
a_p = adancime de taiere



Ø freza mm	Cod avans A f_z mm/Z											
	48	49	50	51	52	53	54	55	56	57	58	59
1,00							0,008	0,007	0,005			
2,00							0,013	0,012	0,009			
3,00							0,020	0,018	0,014			
4,00				0,033	0,015	0,018	0,027	0,025	0,019			
5,00							0,032	0,030	0,023			
6,00	0,037	0,017	0,020	0,037	0,017	0,020	0,037	0,034	0,026	0,036	0,035	0,041
8,00	0,050	0,023	0,025	0,050	0,023	0,025	0,048	0,043	0,033	0,046	0,044	0,052
10,00	0,063	0,028	0,037	0,063	0,028	0,037	0,056	0,051	0,038	0,051	0,048	0,060
12,00	0,075	0,033	0,040	0,075	0,033	0,040	0,066	0,060	0,045	0,058	0,055	0,063
14,00				0,071	0,032	0,029						
16,00	0,080	0,032	0,028	0,080	0,032	0,028	0,077	0,071	0,053	0,067	0,064	0,077
20,00	0,075	0,026	0,025	0,075	0,026	0,025	0,083	0,078	0,059	0,070	0,073	0,088
25,00				0,083	0,032	0,031						

Grupe de materiale	Exemple de materiale	Rezistenta la tractiune N/mm²	Duritate	Solutie de racire
Oteluri uzuale de constructii	**1.0035** S185, **1.0486** P275N, **1.0345** P235GH, **1.0425** P265GH	≤ 500		●
	1.0050 E295, **1.0070** E360, **1.8937** P500NH	> 500– 850		●
Oteluri automate	**1.0718** 11SMnPb30, **1.0736** 11SMn37	≤ 850		●
	1.0727 46 S20, **1.0728** 60 S20, **1.0757** 46SPb20	850–1000		●
Oteluri tratate nealiate	**1.0402** C22, **1.1178** C30E	≤ 700		●
	1.0503 C45, **1.1191** C45E	700– 850		●
	1.0601 C60, **1.1221** C60E	850–1000		●
Oteluri tratate aliate	**1.5131** 50MnSi4, **1.7003** 38Cr2, **1.7030** 28Cr4	850–1000		●
	1.5710 36NiCr6, **1.7035** 41Cr4, **1.7225** 42CrMo4	1000–1200		●
Oteluri calite nealiate	**1.0301** C10, **1.1121** C10E	≤ 750		●
Oteluri calite aliate	**1.7043** 38Cr4	850–1000		●
	1.5752 15NiCr13, **1.7131** 16MnCr5, **1.7264** 20CrMo5	1000–1200		●
Oteluri nitrurate	**1.8504** 34CrAl6	≥ 850–1000		●
	1.8519 31CrMoV9, **1.8550** 34CrAlNi7	1000–1200		●
Oteluri de scule	**1.1750** C75W, **1.2067** 102Cr6, **1.2307** 29CrMoV9	≤ 850		●
	1.2080 X210Cr12, **1.2083** X42Cr13, **1.2419** 105WCr6	850–1000		●
Oteluri rapide	**1.3243** S 6-5-2-5, **1.3343** S 6-5-2, **1.3344** S 6-5-3	≥ 650–1000		●
Otel de arc	**1.5026** 55Si7, **1.7176** 55Cr3, **1.8159** 51CrV4		≤ 330 HB	●
Oteluri inoxidabile, sulfurate	**1.4005** X12CrS13, **1.4104** X14CrMoS17, **1.4105** X6CrMoS17	≤ 850		●
austenitice	**1.4301** X5CrNi18-10, **1.4541** X6CrNiTi18-10	≤ 850		●
martensitice	**1.4057** X20CrNi17-2, **1.4122** X39CrMo17-1	≤ 850		●
Oteluri tratate	–		≤ 40–48 HRC	●
			> 48–60 HRC	●
			> 60–70 HRC	●
Aliaje speciale	Nimonic®, Inconel®, Monel®, Hastelloy®	≤ 1200		●
Fonta	**0.6010** EN-GJL-100(GG10), **0.6020** EN-GJL-200(GG20)		≤ 240 HB	◉ ○
	0.6025 EN-GJL-250(GG25), **0.6035** EN-GJL-350(GG35)		< 300 HB	◉ ○
Fonta nodulara si maleabila	**0.7050** EN-GJS-500-7(GGG50), **0.8035** EN-GJMW-350-4(GTW35)		≤ 240 HB	◉
	0.7070 EN-GJS-700-2(GGG70), **0.8170** EN-GJMB-700-2(GTS70)		< 300 HB	◉
Fonta dura	–		≤ 350 HB	◉
Titan si aliaje titan	**3.7024** Ti99,5, **3.7114** TiAl5Sn2,5, **3.7124** TiCu2	≤ 850		●
	3.7154 TiAl6Zr5, **3.7164** TiAl6V4, **3.7184** TiAl4Mo4Sn2,5	850–1200		●
Aluminiu si aliaje aluminiu	**3.0255** Al99,5, **3.2315** AlMgSi1, **3.3515** AlMg1	≤ 400		◉
Aliaje forjate aluminiu	**3.0615** AlMgSiPb, **3.1325** AlCuMg1, **3.3245** AlMg3Si	≤ 450		◉
Aliaje alu- fonta ≤ 10 % Si	**3.2131** G-AlSi5Cu1, **3.2153** G-AlSi7Cu3, **3.2573** G-AlSi9	≤ 600		◉
> 10 % Si	**3.2581** G-AlSi12, **3.2583** G-AlSi12Cu, – G-AlSi12CuNiMg	≤ 600		◉
Aliaj magneziu	MgMn2, G-MgAl8Zn1, G-MgAl6Zn3	≤ 450		○
Cupru, aliaj scazut	**2.0070** SE-Cu, **2.1020** CuSn6, **2.1096** G-CuSn5ZnPb	≤ 400		◉
Alama, span scurt	**2.0380** CuZn39Pb2, **2.0401** CuZn39Pb3, **2.0410** CuZn43Pb2	≤ 600		◉
span lung	**2.0250** CuZn20, **2.0280** CuZn33, **2.0332** CuZn37Pb0,5	≤ 600		◉
Bronz, span scurt	**2.1090** CuSn7ZnPb, **2.1170** CuPb5Sn5, **2.1176** CuPb10Sn	≤ 600		◉ ●
	2.0790 CuNi18Zn19Pb	> 600– 850		●
Bronz, span lung	**2.0916** CuAl5, **2.0960** CuAl9Mn, **2.1050** CuSn10	≤ 850		●
	2.0980 CuAl11Ni, **2.1247** CuBe2	850–1000		●
Material plastic, termorigid	Bachelit®, Resopal®, Pertinax®, Moltopren®		–	○
Materiale plastice, termoplastic	Plexi®, Hostalen®, Novodur®, Makralon®		–	◉ ○

a_p cu f_z–corectie

Solutie racire: ◉ Emulsie ● Ulei ○ Aer

Codurile marcate cu • nu se regasesc in stoc, livrare rapida

	Freze de degrosat		Freze de finisare					
Material	VHM-UF		VHM-UF		VHM-UF		K10-20	
Norma	WN		WN		6527		6527	
Tip	HR		H		N		N	
Suprafata	TiAlN		TiAlN				TiAlN	
Nr. comanda	15 368 400–515 (HB)		15 359 110–131 (HA) 15 359 134–155 (HB)		15 363 013–052 (HB)		15 361 010–043 (HB)	
Numar taisuri	3-6 taisuri		3 taisuri		4 taisuri		4 taisuri	
	Pagina 2/71		Pagina 2/61		Pagina 2/62		Pagina 2/61	
Livrare/ Utilizare	a_e = 0,5 x D a_p = 1,0 x D		a_p = 1 x D a_e = 0,1 x D		a_p = 1 x D a_e = 0,1 x D		a_p = 1 x D a_e = 0,1 x D	
	v_c m/min	Cod VR A	v_c m/min	Cod VR A	v_c m/min	Cod VR B	v_c m/min	Cod VR A
	294–338	51	104–107	13	94–116	47	35– 40	17
	294–338	51	104–107	13	86–106	46	35– 40	17
	294–338	51	104–107	13	94–116	46	35– 40	17
	294–338	51	104–107	13	70– 86	45	30– 35	17
	294–338	51	104–107	13	94–116	46	35– 40	17
	284–338	51	104–107	13	86–106	46	35– 40	17
	294–338	51	104–107	13	70– 86	45	30– 35	17
	294–338	51	104–107	13	83–103	45	30– 35	17
	226–252	52	63– 66	14	70– 86	44	25– 30	18
	294–338	51	104–107	13	105–129	46	35– 40	17
	294–338	51	104–107	13	83–103	46	30– 35	17
	226–252	52	63– 66	14	62– 76	45	25– 30	18
	294–338	51	104–107	13	94–116	46	30– 35	17
	226–252	52	63– 66	14	86–106	44	25– 30	18
	294–338	51	104–107	13	83–103	46	35– 40	17
	294–338	51	104–107	13	70– 86	44	30– 35	17
	294–338	51	104–107	13	54– 66	45	30– 35	17
	226–252	52	63– 66	14	54– 66	44	25– 30	18
	158–170	52	50– 54	15	54– 66	45	48– 52	19
	158–170	52	50– 54	15	45– 57	44	48– 52	19
	158–170	52	50– 54	15	43– 53	45	48– 52	19
					31– 39	42		
	45– 47	53	20– 22	16	32– 40	44		
					113–139	46	38– 42	20
					113–139	45	38– 42	20
					102–126	46	38– 42	20
					86–106	45	38– 42	20
					59– 73	43	38– 42	20
	158–170	52	50– 54	15	54– 66	44		
	158–170	52	50– 54	15	43– 53	43		
					459–561	49	99–100	21
					432–528	48	99–100	21
					224–274	47	99–100	21
					183–225	48	99–100	21
					259–317	49	75– 76	21
					118–146	48	75– 76	21
					108–132	47	75– 76	21
					86–106	47	75– 76	21
					108–132	47	75– 76	21
					81– 99	46	75– 76	21
					81– 99	46	75– 76	21
					70– 86	45	75– 76	21
					118–146	45		
					108–132	45		
					2 x D = 50 %			

GÜHRING Dispozitive de frezat
Recomandari de utilizare

Sculele cu codurile de avans **tiparite ingrosat** (VR-Code) sunt recomandat de utilizat.

a_e = latime taiere
a_p = adancime taiere

a_e = 0,5 x D | a_e = 0,1 x D | a_e = 0,02–0,05 x D | a_e = 0,1 x D

Ø freza mm	Cod avans f_z mm/Z															
	37	38	39	40	41	42	43	44	45	46	47	48	49	50	51	52
2,00	0,001	0,001	0,001	0,002	0,002	0,004	0,005	0,006	0,007	0,008	0,010	0,012	0,014	0,016	0,018	0,020
3,00	0,002	0,002	0,003	0,003	0,004	0,007	0,010	0,010	0,010	0,015	0,016	0,013	0,019	0,022	0,024	0,030
5,00	0,005	0,006	0,007	0,009	0,010	0,014	0,020	0,020	0,022	0,025	0,026	0,026	0,028	0,030	0,032	0,038
6,00	0,006	0,008	0,009	0,011	0,013	0,017	0,024	0,025	0,027	0,031	0,029	0,033	0,039	0,036	0,041	0,047
8,00	0,010	0,012	0,014	0,016	0,019	0,024	0,032	0,032	0,035	0,042	0,042	0,047	0,053	0,052	0,058	0,064
10,00	0,013	0,015	0,018	0,021	0,025	0,030	0,038	0,039	0,044	0,050	0,053	0,059	0,065	0,066	0,073	0,080
12,50	0,016	0,018	0,022	0,026	0,030	0,036	0,046	0,048	0,052	0,059	0,063	0,072	0,079	0,085	0,090	0,10
16,00	0,020	0,023	0,027	0,032	0,038	0,045	0,054	0,058	0,063	0,071	0,079	0,088	0,095	0,10	0,11	0,12
20,00	0,023	0,028	0,033	0,038	0,045	0,057	0,066	0,073	0,080	0,090	0,097	0,10	0,11	0,12	0,13	0,14

Grupe de materiale	Exemple de materiale	Rezistenta la tractiune N/mm²	Duritate	Solutie de racire
Oteluri uzuale de constructii	**1.0035** S185, **1.0486** P275N, **1.0345** P235GH, **1.0425** P265GH	≤ 500		●
	1.0050 E295, **1.0070** E360, **1.8937** P500NH	> 500– 850		●
Oteluri automate	**1.0718** 11SMnPb30, **1.0736** 11SMn37	≤ 850		●
	1.0727 46 S20, **1.0728** 60 S20, **1.0757** 46SPb20	850–1000		●
Oteluri tratate nealiate	**1.0402** C22, **1.1178** C30E	≤ 700		●
	1.0503 C45, **1.1191** C45E	700– 850		●
	1.0601 C60, **1.1221** C60E	850–1000		●
Oteluri tratate aliate	**1.5131** 50MnSi4, **1.7003** 38Cr2, **1.7030** 28Cr4	850–1000		●
	1.5710 36NiCr6, **1.7035** 41Cr4, **1.7225** 42CrMo4	1000–1200		●
Oteluri calite nealiate	**1.0301** C10, **1.1121** C10E	≤ 750		●
Oteluri calite aliate	**1.7043** 38Cr4	850–1000		●
	1.5752 15NiCr13, **1.7131** 16MnCr5, **1.7264** 20CrMo5	1000–1200		●
Oteluri nitrurate	**1.8504** 34CrAl6	≥ 850–1000		●
	1.8519 31CrMoV9, **1.8550** 34CrAlNi7	1000–1200		●
Oteluri de scule	**1.1750** C75W, **1.2067** 102Cr6, **1.2307** 29CrMoV9	≤ 850		●
	1.2080 X210Cr12, **1.2083** X42Cr13, **1.2419** 105WCr6, **1.2767** X45NiCrMo4	850–1000		●
Oteluri rapide	**1.3243** S 6-5-2-5, **1.3343** S 6-5-2, **1.3344** S 6-5-3	≥ 650–1000		●
Otel de arc	**1.5026** 55Si7, **1.7176** 55Cr3, **1.8159** 51CrV4		≤ 330 HB	●
Oteluri inoxidabile, sulfurate	**1.4005** X12CrS13, **1.4104** X14CrMoS17, **1.4105** X6CrMoS17, **1.4305** X8CrNiS18 9	≤ 850		●
austenitice	**1.4301** X5CrNi18-10, **1.4541** X6CrNiTi18-10, **1.4571** X6CrNiMoTi 17 12 2	≤ 850		●
martensitice	**1.4057** X20CrNi17-2, **1.4122** X39CrMo17-1, **1.4521** X2CrMoTi18 2	≤ 850		●
Oteluri tratate	–		≤ 40–48 HRC	●
	–		> 48–60 HRC	●
Aliaje speciale	Nimonic®, Inconel®, Monel®, Hastelloy®	≤ 1200		●
Fonta	**0.6010** EN-GJL-100(GG10), **0.6020** EN-GJL-200(GG20)		≤ 240 HB	● ○
	0.6025 EN-GJL-250(GG25), **0.6035** EN-GJL-350(GG35)		< 300 HB	● ○
Fonta nodulara si maleabila	**0.7050** EN-GJS-500-7(GGG50), **0.8035** EN-GJMW-350-4(GTW35)		≤ 240 HB	●
	0.7070 EN-GJS-700-2(GGG70), **0.8170** EN-GJMB-700-2(GTS70)		< 300 HB	●
Fonta dura	–		≤ 350 HB	●
Titan si aliaje titan	**3.7024** Ti99,5, **3.7114** TiAl5Sn2,5, **3.7124** TiCu2	≤ 850		●
	3.7154 TiAl6Zr5, **3.7164** TiAl6V4, **3.7184** TiAl4Mo4Sn2,5, - TiAl8Mo1V1	850–1200		●
Aluminiu si aliaje aluminiu	**3.0255** Al99,5, **3.2315** AlMgSi1, **3.3515** AlMg1	≤ 400		●
Aliaje forjate aluminiu	**3.0615** AlMgSiPb, **3.1325** AlCuMg1, **3.3245** AlMg3Si, **3.4365** AlZnMgCu1,5	≤ 450		●
Aliaje alu-fonta ≤ 10 % Si	**3.2131** G-AlSi5Cu1, **3.2153** G-AlSi7Cu3, **3.2573** G-AlSi9	≤ 600		●
> 10 % Si	**3.2581** G-AlSi12, **3.2583** G-AlSi12Cu, - G-AlSi12CuNiMg	≤ 600		●
Aliaje magneziu	MgMn2, G-MgAl8Zn1, G-MgAl6Zn3	≤ 450		○
Cupru, aliaj scazut	**2.0070** SE-Cu, **2.1020** CuSn6, **2.1096** G-CuSn5ZnPb	≤ 400		●
Alama, span scurt	**2.0380** CuZn39Pb2, **2.0401** CuZn39Pb3, **2.0410** CuZn43Pb2	≤ 600		●
span lung	**2.0250** CuZn20, **2.0280** CuZn33, **2.0332** CuZn37Pb0,5	≤ 600		●
Bronz, span scurt	**2.1090** CuSn7ZnPb, **2.1170** CuPb5Sn5, **2.1176** CuPb10Sn	≤ 600		● ●
	2.0790 CuNi18Zn19Pb	> 600– 850		●
Bronz, span lung	**2.0916** CuAl5, **2.0960** CuAl9Mn, **2.1050** CuSn10	≤ 850		●
	2.0980 CuAl11Ni, **2.1247** CuBe2	850–1000		●
Material plastic, termorigid	Bachelit®, Resopal®, Pertinax®, Moltopren®		–	○
Materiale plastice, termoplastic	Plexi®, Hostalen®, Novodur®, Makralon®		–	● ○
Materale plastice, cu insertie fibra aramida			–	○
insertie sticla/ carbune.			–	○

a_p cu f_z–corectie

Solutie racire: ● Emulsie ● Ulei ○ Aer

Codurile marcate cu • nu se regasesc in stoc, livrare rapida

Frezare / finisare

Material	HM-UF	HM-UF	HM-UF	HM-UF	HM-UF	HM-UF	HM-UF
Norma	6527	WN	6527	6527	6527	6527	WN
Tip	N	N	N	N	NH	N	N
Suprafata	Fire	Fire	Fire	Fire	Fire	Fire	Fire
Nr. comanda	15 366 010–052 (HB)	15 366 110–122 (HA)	15 366 510–531 (HB)	15 366 610–625 (HA)	15 366 628–643 (HA)	15 365 022–052 (HB)	15 367 013–052 (HA)
Numar taisuri	4 taisuri	4 taisuri	4 taisuri	4 taisuri	6 taisuri	4 taisuri	4 taisuri
	Pagina 2/62	Pagina 2/62	Pagina 2/63	Pagina 2/63	Pagina 2/63	Pagina 2/64	Pagina 2/64
Livrare/ Utilizare							
	a_e = 0,1 x D a_p = 1,0 x D	a_e = 0,1 x D a_p = 2,0 x D	a_e = 0,1 x D a_p = 1,0 x D	a_e = 0,1 x D a_p = 1,0 x D	a_e = 0,1 x D a_p = 1,0 x D	a_e = 0,1 x D a_p = 2,0 x D	a_e = 0,1 x D a_p = 2,0 x D

v_c m/min	Cod VR	v_c m/min	Cod VR	v_c m/min	Cod VR	v_c m/min	Cod VR	v_c m/min	Cod VR	v_c m/min	Cod VR	v_c m/min	Cod VR
157–193	**48**	139–171	**44**	212–260	**49**	212–260	**49**	197– 241	**50**	212–260	**49**	103–127	**43**
144–176	**47**	127–157	**43**	194–238	**48**	194–238	**48**	182– 224	**49**	194–238	**48**	94–116	**42**
157–193	**47**	139–171	**43**	212–260	**48**	212–260	**48**	197– 241	**49**	212–260	**48**	103–127	**42**
117–143	**46**	109–135	**42**	158–194	47	158–194	47	145– 179	**48**	158–194	**47**	81– 99	**41**
157–193	**47**	139–171	**43**	212–260	**48**	212–260	**48**	197– 241	**49**	212–260	**48**	103–127	**42**
144–176	**47**	121–149	**43**	194–238	**48**	194–238	**48**	176– 216	**49**	194–238	**48**	90–110	**42**
117–143	**46**	103–127	**42**	158–194	48	158–194	48	145– 179	**48**	158–194	**47**	76– 94	**41**
139–171	**46**	121–149	**42**	188–230	47	188–230	47	176– 216	**48**	188–230	**47**	90–110	**41**
117–143	**45**	103–127	**41**	158–194	46	158–194	46	145– 179	**47**	158–194	**46**	76– 94	**40**
175–215	**47**	134–164	**43**	236–290	**48**	236–290	**48**	218– 268	**49**	236–290	**48**	99–121	**42**
139–171	**47**	121–149	**43**	188–230	48	188–230	48	176– 216	**49**	188–230	**48**	90–110	**42**
103–127	**46**	90–112	**42**	139–171	47	139–171	47	135– 165	**48**	139–171	**47**	67– 83	**41**
157–193	**47**	139–171	**43**	212–260	48	212–260	48	197– 241	**49**	212–260	**48**	103–127	**42**
144–176	**45**	121–149	41	194–238	**46**	194–238	**46**	176– 216	**47**	194–238	**46**	90–110	40
139–171	**47**	121–149	**43**	188–230	48	188–230	48	176– 216	**49**	188–230	**48**	90–110	**42**
117–143	**45**	103–127	41	158–194	46	158–194	46	145– 179	**47**	158–194	**46**	76– 94	40
90–110	**46**	79– 97	42	121–149	47	121–149	47	109– 135	**48**	121–149	**47**	58– 72	41
90–110	**45**			121–149	**46**	121–149	**46**	104– 128	47	121–149	**46**		
90–110	**46**	72– 90	44	121–149	**47**	121–149	**47**	109– 135	**48**	121–149	47		
76– 94	**45**	62– 75	43	103–127	**46**	103–127	**46**	93– 115	**47**	103–127	46		
72– 88	**46**	58– 72	**44**	97–119	47	97–119	47	89– 109	**48**	97–119	47		
45– 55	**23**			61– 75		61– 75		57– 71	**45**	61– 75	**24**		
54– 66	**45**			72– 90	46	72– 90	46	62– 76	**47**	72– 90	46		
189–231	**47**	182–224	43					255– 313	**49**	255–313	**48**	135–165	42
189–231	**46**	163–201	42					234– 286	**48**	255–313	**47**	121–149	41
171–209	**47**	152–186	43					207– 255	**49**	231–283	**48**	112–138	42
144–176	**46**	127–157	42					182– 224	**48**	194–238	**47**	94–116	41
99–121	**44**									134–164	**45**		
90–110	**45**	79– 97	41	72– 90	**46**	72– 90	**46**	104– 128	**47**	121–149	46	58– 72	40
72– 88	**44**	61– 75	40	58– 72	**45**	58– 72	**45**	84– 104	**46**	97–119	45	45– 55	39
765–935	50	220–280	46					891–1089	52			450–550	45
720–880	49	250–300	45					792– 968	52			540–660	44
373–457	48	220–250	44					445– 545	50			225–275	43
306–374	49	200–240	45					356– 436	51			180–220	44
432–528	50	210–260	46					495– 605	52			270–330	45
198–242	49	110–120	45	160–196	49	160–196	49	237– 291	51			135–165	44
180–220	48	100–120	44	145–179	48	145–179	48	217– 267	50			108–132	43
144–176	48	90–110	44	117–143	48	117–143	48	178– 218	50			90–110	43
180–220	48	100–120	44	145–179	48	145–179	48	217– 267	50			108–132	43
135–165	47			109–135	47	109–135	47	168– 206	49				
135–165	47			109–135	47	109–135	47	168– 206	49				
117–143	46			94–116	46	94–116	46	138– 170	48				
198–242	46							237– 291	48				
180–220	46							217– 267	48				
2 x D = 50 %		3 x D = 50 %						2 x D = 50 %					

forum Dispozitive de frezat - recomandari de utilizare

Dispozitivele cu marcare **ingrosata** a codului de avans (cod VR) sunt recomandate a fi utilizate.

a_e = latime de taiere
a_p = adancime de taiere

a_e = 0,5 x D | a_e = 0,1 x D | a_e = 0,02–0,05 x D | a_e = 0,1 x D

Freza Ø mm	Cod avans A f_z mm/Z																				
	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48	49	50
4,00															0,033	0,015	0,015	0,018			
6,00	0,060	0,059	0,022	0,060	0,059	0,054	0,035	0,035	0,030	0,050	0,023	0,023	0,025	0,026	0,050	0,023	0,023	0,026	0,037	0,017	0,020
8,00	0,079	0,078	0,030	0,079	0,078	0,074	0,045	0,044	0,038	0,067	0,030	0,030	0,033	0,033	0,067	0,030	0,030	0,033	0,050	0,023	0,025
10,00	0,099	0,098	0,035	0,099	0,098	0,095	0,055	0,050	0,046	0,063	0,028	0,028	0,036	0,037	0,063	0,028	0,028	0,037	0,063	0,028	0,037
12,00	0,099	0,097	0,036	0,099	0,097	0,104	0,060	0,054	0,051	0,075	0,033	0,034	0,039	0,040	0,075	0,033	0,034	0,040	0,075	0,033	0,040
14,00										0,088	0,040	0,040	0,036	0,036	0,088	0,040	0,040	0,036			
16,00	0,10	0,099	0,034	0,10	0,099	0,111	0,065	0,061	0,053	0,10	0,040	0,039	0,033	0,034	0,10	0,040	0,039	0,034	0,080	0,032	0,028
18,00										0,112	0,041	0,039	0,034	0,036	0,112	0,041	0,039	0,036			
20,00	0,075	0,074	0,028	0,075	0,074	0,086	0,070	0,067	0,060	0,113	0,039	0,038	0,038	0,038	0,113	0,039	0,038	0,037	0,075	0,026	0,025
25,00	0,075	0,068	0,026	0,075	0,068	0,079	0,074	0,071	0,064	0,10	0,039	0,038	0,036	0,033	0,10	0,039	0,038	0,037			

Freza Ø mm	Cod avans B f_z mm/Z																
	37	38	39	40	41	42	43	44	45	46	47	48	49	50	51	52
2,00	0,001	0,001	0,001	0,002	0,002	0,004	0,005	0,006	0,007	0,008	0,010	0,012	0,014	0,016	0,018	0,020
3,00	0,002	0,002	0,003	0,003	0,004	0,007	0,010	0,010	0,010	0,015	0,016	0,013	0,019	0,022	0,024	0,030
5,00	0,005	0,006	0,007	0,009	0,010	0,014	0,020	0,020	0,022	0,025	0,026	0,026	0,028	0,030	0,032	0,038
6,00	0,006	0,008	0,009	0,011	0,013	0,017	0,024	0,025	0,027	0,031	0,029	0,033	0,039	0,036	0,041	0,047
8,00	0,010	0,012	0,014	0,016	0,019	0,024	0,032	0,032	0,035	0,042	0,042	0,047	0,053	0,052	0,058	0,064
10,00	0,013	0,015	0,018	0,021	0,025	0,030	0,038	0,039	0,044	0,050	0,053	0,059	0,065	0,066	0,073	0,080
12,50	0,016	0,018	0,022	0,026	0,030	0,036	0,046	0,048	0,052	0,059	0,063	0,072	0,079	0,085	0,090	0,10
16,00	0,020	0,023	0,027	0,032	0,038	0,045	0,054	0,058	0,063	0,071	0,079	0,088	0,095	0,10	0,11	0,12
20,00	0,023	0,028	0,033	0,038	0,045	0,057	0,066	0,073	0,080	0,090	0,097	0,10	0,11	0,12	0,13	0,14

Grupe de materiale	Exemple de materiale	Rezistenta la tractiune N/mm²	Duritate	Solutie de racire
Oteluri uzuale de constructii	**1.0035** S185, **1.0486** P275N, **1.0345** P235GH, **1.0425** P265GH **1.0050** E295, **1.0070** E360, **1.8937** P500NH	≤ 500 > 500– 850		● ●
Oteluri automate	**1.0718** 11SMnPb30, **1.0736** 11SMn37 **1.0727** 46 S20, **1.0728** 60 S20, **1.0757** 46SPb20	≤ 850 850–1000		● ●
Oteluri tratate nealiate	**1.0402** C22, **1.1178** C30E **1.0503** C45, **1.1191** C45E **1.0601** C60, **1.1221** C60E	≤ 700 700– 850 850–1000		● ● ●
Oteluri tratate aliate	**1.5131** 50MnSi4, **1.7003** 38Cr2, **1.7030** 28Cr4 **1.5710** 36NiCr6, **1.7035** 41Cr4, **1.7225** 42CrMo4	850–1000 1000–1200		● ●
Oteluri calite nealiate	**1.0301** C10, **1.1121** C10E	≤ 750		●
Oteluri calite aliate	**1.7043** 38Cr4 **1.5752** 15NiCr13, **1.7131** 16MnCr5, **1.7264** 20CrMo5	850–1000 1000–1200		● ●
Oteluri nitrurate	**1.8504** 34CrAl6 **1.8519** 31CrMoV9, **1.8550** 34CrAlNi7	≥ 850–1000 1000–1200		● ●
Oteluri de scule	**1.1750** C75W, **1.2067** 102Cr6, **1.2307** 29CrMoV9 **1.2080** X210Cr12, **1.2083** X42Cr13, **1.2419** 105WCr6	≤ 850 850–1000		● ●
Oteluri rapide	**1.3243** S 6-5-2-5, **1.3343** S 6-5-2, **1.3344** S 6-5-3	≥ 650–1000		●
Otel de arc	**1.5026** 55Si7, **1.7176** 55Cr3, **1.8159** 51CrV4		≤ 330 HB	●
Oteluri inoxidabile, sulfurate austenitice martensitice	**1.4005** X12CrS13, **1.4104** X14CrMoS17, **1.4105** X6CrMoS17 **1.4301** X5CrNi18-10, **1.4541** X6CrNiTi18-10 **1.4057** X20CrNi17-2, **1.4122** X39CrMo17-1	≤ 850 ≤ 850 ≤ 850		● ● ●
Oteluri tratate	–		≤ 40–48 HRC > 48–60 HRC	● ●
Aliaje speciale	Nimonic®, Inconel®, Monel®, Hastelloy®	≤ 1200		●
Fonta	**0.6010** EN-GJL-100(GG10), **0.6020** EN-GJL-200(GG20) **0.6025** EN-GJL-250(GG25), **0.6035** EN-GJL-350(GG35)		≤ 240 HB < 300 HB	○ ○
Fonta nodulara si maleabila	**0.7050** EN-GJS-500-7(GGG50), **0.8035** EN-GJMW-350-4(GTW35) **0.7070** EN-GJS-700-2(GGG70), **0.8170** EN-GJMB-700-2(GTS70)		≤ 240 HB < 300 HB	● ●
Fonta dura	–		≤ 350 HB	●
Titan si aliaje titan	**3.7024** Ti99,5, **3.7114** TiAl5Sn2,5, **3.7124** TiCu2 **3.7154** TiAl6Zr5, **3.7164** TiAl6V4, **3.7184** TiAl4Mo4Sn2,5	≤ 850 850–1200		● ●
Aluminiu si aliaje aluminiu	**3.0255** Al99,5, **3.2315** AlMgSi1, **3.3515** AlMg1	≤ 400		●
Aliaje forjate aluminiu	**3.0615** AlMgSiPb, **3.1325** AlCuMg1, **3.3245** AlMg3Si	≤ 450		●
Aliaje alu- fonta	**3.2131** G-AlSi5Cu1, **3.2153** G-AlSi7Cu3, **3.2573** G-AlSi9 **3.2581** G-AlSi12, **3.2583** G-AlSi12Cu, - G-AlSi12CuNiMg	≤ 600 ≤ 600		● ●
Aliaj magneziu	MgMn2, G-MgAl8Zn1, G-MgAl6Zn3	≤ 450		○
Kupfer, niedriglegiert	**2.0070** SE-Cu, **2.1020** CuSn6, **2.1096** G-CuSn5ZnPb	≤ 400		●
Alama, span scurt **span lung**	**2.0380** CuZn39Pb2, **2.0401** CuZn39Pb3, **2.0410** CuZn43Pb2 **2.0250** CuZn20, **2.0280** CuZn33, **2.0332** CuZn37Pb0,5	≤ 600 ≤ 600		● ●
Bronz, span scurt	**2.1090** CuSn7ZnPb, **2.1170** CuPb5Sn5, **2.1176** CuPb10Sn **2.0790** CuNi18Zn19Pb	≤ 600 > 600– 850		●● ●
Bronz, span lung	**2.0916** CuAl5, **2.0960** CuAl9Mn, **2.1050** CuSn10 **2.0980** CuAl11Ni, **2.1247** CuBe2	≤ 850 850–1000		● ●
Material plastic, termorigid Materiale plastice, termoplastic	Bachelit®, Resopal®, Pertinax®, Moltopren® Plexi®, Hostalen®, Novodur®, Makralon®		– –	○ ●○
		a_p cu f_z-corectie		

Solutie racire: ● Emulsie ● Ulei ○ Aer

Codurile marcate cu • nu se regasesc in stoc, livrare rapida

	Rectificare fina				Freze de degrosat					
Material	VHM-UF		VHM-UF		VHM-UF		VHM-UF		VHM-UF	
Norma	WN		WN		WN		WN		WN	
Tip	H		N		H		HR		HR	
Suprafata	TiAlN		TiAlN		TiAlN		TiAlN		TiAlN	
Nr. comanda	15 367 310–340 (HB)		15 367 510–540 (HB)		15 367 610–628 (HA)		15 368 022–056 (HB)		15 368 100–124 (HB)		15 368 300–315 (HB) 15 368 400–515 (HB)	
Numar taisuri	6-8 taisuri		6-8 taisuri		6 taisuri		3-5 taisuri		3-5 taisuri		3-6 taisuri	
	Pagina 2/65		Pagina 2/65		Pagina 2/66		Pagina 2/70		Pagina 2/70		Pagina 2/71	
Livrare/ Utilizare					$a_p = 1 \times D$					
	V_c m/min.	Cod VR A	V_c m/min.	Cod VR B	V_c m/min.	Cod VR A	V_c m/min.	Cod VR A	V_c m/min.	Cod VR B	V_c m/min.	Cod VR A
	104–118	30	104–118	33	41–43	36	294–338	39	294–338	39	294–338	48
	104–118	30	104–118	33	41–43	36	294–338	39	294–338	39	294–338	48
	104–118	30	104–118	33	41–43	36	294–338	39	294–338	39	294–338	48
	104–118	30	104–118	33	41–43	36	294–338	39	294–338	39	294–338	48
	104–118	30	104–118	33	41–43	36	294–338	39	294–338	39	294–338	48
	104–118	30	104–118	33	41–43	36	294–338	39	294–338	39	294–338	48
	104–118	30	104–118	33	41–43	36	294–338	39	294–338	39	294–338	48
	73– 87	31	73– 87	34	41–43	36	226–252	40	226–252	40	226–252	49
	104–118	30	104–118	33	41–43	36	294–338	39	294–338	39	294–338	48
	104–118	30	104–118	33	41–43	36	294–338	39	294–338	39	294–338	48
	73– 87	31	73– 87	34	41–43	36	226–252	40	226–252	40	226–252	49
	104–118	30	104–118	33	41–43	36	294–338	39	294–338	39	294–338	48
	73– 87	31	73– 87	34	41–43	36	226–252	40	226–252	40	226–252	49
	104–118	30	104–118	33	41–43	36	294–338	39	294–338	39	294–338	48
	104–118	30	104–118	33	41–43	36	294–338	39	294–338	39	294–338	48
	104–118	30	104–118	33	41–43	36	294–338	39	294–338	39	294–338	48
	73– 87	31	73– 87	34	41–43	36	226–252	40	226–252	40	226–252	49
			63– 67	35			158–170	41	158–170	41	158–170	49
			63– 67	35			158–170	41	158–170	41	158–170	49
			63– 67	35			158–170	41	158–170	41	158–170	49
	73– 87	31			31–32	37	63– 70	42	63– 70	42		
	29– 34	32			26–27	38	45– 47	43	45– 47	43		
											45– 47	50
							294–338	39	294–338	39		
							294–338	39	294–338	39		
							294–338	39	294–338	39		
							294–338	39	294–338	39		
							294–338	39	294–338	39		
			63–67	35							158–170	49
			63–67	35							158–170	49
							0,5 x D = 120 %					

GÜHRING Dispozitive de frezat - recomandari de utilizare

Sculele cu codurile de avans **tiparite ingrosat**
(VR-Code) sunt recomandat a fi utilizare

Freza Ø mm	Cod avans f_z mm/Z															
	37	38	39	40	41	42	43	44	45	46	47	48	49	50	51	52
2,00	0,001	0,001	0,001	0,002	0,002	0,004	0,005	0,006	0,007	0,008	0,010	0,012	0,014	0,016	0,018	0,020
3,00	0,002	0,002	0,003	0,003	0,004	0,007	0,010	0,010	0,010	0,015	0,016	0,013	0,019	0,022	0,024	0,030
5,00	0,005	0,006	0,007	0,009	0,010	0,014	0,020	0,020	0,022	0,025	0,026	0,026	0,028	0,030	0,032	0,038
6,00	0,006	0,008	0,009	0,011	0,013	0,017	0,024	0,025	0,027	0,031	0,029	0,033	0,039	0,036	0,041	0,047
8,00	0,010	0,012	0,014	0,016	0,019	0,024	0,032	0,032	0,035	0,042	0,042	0,047	0,053	0,052	0,058	0,064
10,00	0,013	0,015	0,018	0,021	0,025	0,030	0,038	0,039	0,044	0,050	0,053	0,059	0,065	0,066	0,073	0,080
12,50	0,016	0,018	0,022	0,026	0,030	0,036	0,046	0,048	0,052	0,059	0,063	0,072	0,079	0,085	0,090	0,10
16,00	0,020	0,023	0,027	0,032	0,038	0,045	0,054	0,058	0,063	0,071	0,079	0,088	0,095	0,10	0,11	0,12
20,00	0,023	0,028	0,033	0,038	0,045	0,057	0,066	0,073	0,080	0,090	0,097	0,10	0,11	0,12	0,13	0,14

Grupe de materiale	Exemple de materiale	Rezistenta la tractiune N/mm²	Duritate	Solutie de racire
Oteluri uzuale de constructii	**1.0035** S185, **1.0486** P275N, **1.0345** P235GH, **1.0425** P265GH **1.0050** E295, **1.0070** E360, **1.8937** P500NH	≤ 500 > 500– 850		● ●
Oteluri automate	**1.0718** 11SMnPb30, **1.0736** 11SMn37 **1.0727** 46 S20, **1.0728** 60 S20, **1.0757** 46SPb20	≤ 850 850–1000		● ●
Oteluri tratate nealiate	**1.0402** C22, **1.1178** C30E **1.0503** C45, **1.1191** C45E **1.0601** C60, **1.1221** C60E	≤ 700 700– 850 850–1000		● ● ●
Oteluri tratate aliate	**1.5131** 50MnSi4, **1.7003** 38Cr2, **1.7030** 28Cr4 **1.5710** 36NiCr6, **1.7035** 41Cr4, **1.7225** 42CrMo4	850–1000 1000–1200		● ●
Oteluri calite nealiate	**1.0301** C10, **1.1121** C10E	≤ 750		●
Oteluri calite aliate	**1.7043** 38Cr4 **1.5752** 15NiCr13, **1.7131** 16MnCr5, **1.7264** 20CrMo5	850–1000 1000–1200		● ●
Oteluri nitrurate	**1.8504** 34CrAl6 **1.8519** 31CrMoV9, **1.8550** 34CrAlNi7	≥ 850–1000 1000–1200		● ●
Oteluri de scule	**1.1750** C75W, **1.2067** 102Cr6, **1.2307** 29CrMoV9 **1.2080** X210Cr12, **1.2083** X42Cr13, **1.2419** 105WCr6, **1.2767** X45NiCrMo4	≤ 850 850–1000		● ●
Oteluri rapide	**1.3243** S 6-5-2-5, **1.3343** S 6-5-2, **1.3344** S 6-5-3	≥ 650–1000		●
Otel de arc	**1.5026** 55Si7, **1.7176** 55Cr3, **1.8159** 51CrV4		≤ 330 HB	●
Oteluri inoxidabile, sulfurate austenitice martensitice	**1.4005** X12CrS13, **1.4104** X14CrMoS17, **1.4105** X6CrMoS17, **1.4305** X8CrNiS18 9 **1.4301** X5CrNi18-10, **1.4541** X6CrNiTi18-10, **1.4571** X6CrNiMoTi 17-12 2 **1.4057** X20CrNi17-2, **1.4122** X39CrMo17-1, **1.4521** X2CrMoTi18 2	≤ 850 ≤ 850 ≤ 850		● ● ●
Oteluri tratate	–		≤ 40–48 HRC > 48–60 HRC	● ●
Aliaje speciale	Nimonic®, Inconel®, Monel®, Hastelloy®	≤ 1200		●
Fonta	**0.6010** EN-GJL-100(GG10), **0.6020** EN-GJL-200(GG20) **0.6025** EN-GJL-250(GG25), **0.6035** EN-GJL-350(GG35)		≤ 240 HB < 300 HB	○ ○ ○ ○
Fonta nodulara si maleabila	**0.7050** EN-GJS-500-7(GGG50), **0.8035** EN-GJMW-350-4(GTW35) **0.7070** EN-GJS-700-2(GGG70), **0.8170** EN-GJMB-700-2(GTS70)		≤ 240 HB < 300 HB	● ●
Fonta dura	–		≤ 350 HB	●
Titan si aliaje titan	**3.7024** Ti99,5, **3.7114** TiAl5Sn2,5, **3.7124** TiCu2 **3.7154** TiAl6Zr5, **3.7164** TiAl6V4, **3.7184** TiAl4Mo4Sn2,5, -TiAl8Mo1V1	≤ 850 850–1200		● ●
Aluminiu si aliaje aluminiu	**3.0255** Al99,5, **3.2315** AlMgSi1, **3.3515** AlMg1	≤ 400		●
Aliaje forjate aluminiu	**3.0615** AlMgSiPb, **3.1325** AlCuMg1, **3.3245** AlMg3Si, **3.4365** AlZnMgCu1,5	≤ 450		●
Aliaje alu-fonta < 10 % Si > 10 % Si	**3.2131** G-AlSi5Cu1, **3.2153** G-AlSi7Cu3, **3.2573** G-AlSi9 **3.2581** G-AlSi12, **3.2583** G-AlSi12Cu, - G-AlSi12CuNiMg	≤ 600 ≤ 600		● ●
Aliaj magneziu	MgMn2, G-MgAl8Zn1, G-MgAl6Zn3	≤ 450		○
Kupfer, niedriglegiert	**2.0070** SE-Cu, **2.1020** CuSn6, **2.1096** G-CuSn5ZnPb	≤ 400		●
Alama, span scurt span lung	**2.0380** CuZn39Pb2, **2.0401** CuZn39Pb3, **2.0410** CuZn43Pb2 **2.0250** CuZn20, **2.0280** CuZn33, **2.0332** CuZn37Pb0,5	≤ 600 ≤ 600		● ●
Bronz, span scurt	**2.1090** CuSn7ZnPb, **2.1170** CuPb5Sn5, **2.1176** CuPb10Sn **2.0790** CuNi18Zn19Pb	≤ 600 > 600– 850		● ● ●
Bronz, span lung	**2.0916** CuAl5, **2.0960** CuAl9Mn, **2.1050** CuSn10 **2.0980** CuAl11Ni, **2.1247** CuBe2	≤ 850 850–1000		● ●
Material plastic, termorigid Materiale plastice, termoplastic	Bachelit®, Resopal®, Pertinax®, Moltopren® Plexi®, Hostalen®, Novodur®, Makralon®		– –	○ ○ ○
Materale plastice, cu insertie fibra aramida insertie sticla/ carbune.			– –	○ ○

a_p cu corectie f_z

Solutie racire: ● Emulsie ● Ulei ○ Aer

Codurile marcate cu • nu se regasesc in stoc, livrare rapida

Rectificare fina

Material	**HM-UF**	**HM-UF**	**HM-UF**
Norma	6527	WN	WN
Tip	H	H	H
Suprafata	**Fire**	**Fire**	**Fire**
Nr. comanda	**17 701 000–025 (HA)**	**17 702 010–025 (HA)**	**17 703 010–022 (HA)**
Numar taisuri	6-8 taisuri	6-8 taisuri	6 taisuri
	Pagina 2/66	**Pagina 2/66**	**Pagina 2/80**
Livrare/ utilizare	a_p = 0,5 x D a_p = 1,5 x D	a_p = 3 x D	a_p = 1,5 x D

V_c m/min.	Cod VR	V_c m/min.	Cod VR	Vc m/min.	Cod VR	V_c m/min.	Cod VR
126–154	46	126–154	45	126–154	42	126–154	44
94–116	47	94–116	46	94–116	43	94–116	45
94–116	**46**	94–116	**45**	94–116	**42**	94–116	**44**
49–61	44	49– 61	43	49– 61	40	49– 61	42
40–50	**41**	40– 50	**40**	40– 50	**37**	40– 50	**39**
220–270	48	220–270	47	220–270	44	220–270	46
202–248	47	202–248	46	202–248	43	202–248	45
180–220	48	180–220	47	180–220	44	180–220	46
157–193	47	157–193	46	157–193	43	157–193	45
99–121	**45**	99–121	**44**	99–121	**41**	99–121	**43**
		2 x D = 75 %		4 x D = 50 %		2 x D = 75 %	

GÜHRING Dispozitive de frezat - recomandari de utilizare

Sculele cu codurile de avans **tiparite ingrosat**
(VR-Code) sunt recomandat a fi utilizate

Freza Ø mm	Cod avans f_z mm/Z															
	37	38	39	40	41	42	43	44	45	46	47	48	49	50	51	52
2,00	0,001	0,001	0,001	0,002	0,002	0,004	0,005	0,006	0,007	0,008	0,010	0,012	0,014	0,016	0,018	0,020
3,00	0,002	0,002	0,003	0,003	0,004	0,007	0,010	0,010	0,010	0,015	0,016	0,013	0,019	0,022	0,024	0,030
5,00	0,005	0,006	0,007	0,009	0,010	0,014	0,020	0,020	0,022	0,025	0,026	0,026	0,028	0,030	0,032	0,038
6,00	0,006	0,008	0,009	0,011	0,013	0,017	0,024	0,025	0,027	0,031	0,029	0,033	0,039	0,036	0,041	0,047
8,00	0,010	0,012	0,014	0,016	0,019	0,024	0,032	0,032	0,035	0,042	0,042	0,047	0,053	0,052	0,058	0,064
10,00	0,013	0,015	0,018	0,021	0,025	0,030	0,038	0,039	0,044	0,050	0,053	0,059	0,065	0,066	0,073	0,080
12,50	0,016	0,018	0,022	0,026	0,030	0,036	0,046	0,048	0,052	0,059	0,063	0,072	0,079	0,085	0,090	0,10
16,00	0,020	0,023	0,027	0,032	0,038	0,045	0,054	0,058	0,063	0,071	0,079	0,088	0,095	0,10	0,11	0,12
20,00	0,023	0,028	0,033	0,038	0,045	0,057	0,066	0,073	0,080	0,090	0,097	0,10	0,11	0,12	0,13	0,14

Freze de degrosat

Material	HM-UF	HM-UF
Norma	6527	6527
Tip	WR	WR
Suprafata		
Nr. comanda	15 371 028–052 (HB)	15 371 100–112 (HB)
Numar taisuri	3 taisuri	3 taisuri
	Pagina 2/69	Pagina 2/69
Livrare/ utilizare	a_e = 0,5 x D a_p = 1,0 x D	a_e = 0,5 x D a_p = 1,0 x D

Grupe de materiale	Exemple de materiale	Rezistenta la tractiune N/mm²	Duritate	Solutie de racire	V_c m/min	Cod VR	V_c m/min	Cod VR
Oteluri uzuale de constructii	**1.0035** S185, **1.0486** P275N, **1.0345** P235GH, **1.0425** P265GH **1.0050** E295, **1.0070** E360, **1.8937** P500NH	≤ 500 > 500– 850		● ●				
Oteluri automate	**1.0718** 11SMnPb30, **1.0736** 11SMn37 **1.0727** 46 S20, **1.0728** 60 S20, **1.0757** 46SPb20	≤ 850 850–1000		● ●				
Oteluri tratate nealiate	**1.0402** C22, **1.1178** C30E **1.0503** C45, **1.1191** C45E **1.0601** C60, **1.1221** C60E	≤ 700 700– 850 850–1000		● ● ●				
Oteluri tratate aliate	**1.5131** 50MnSi4, **1.7003** 38Cr2, **1.7030** 28Cr4 **1.5710** 36NiCr6, **1.7035** 41Cr4, **1.7225** 42CrMo4	850–1000 1000–1200		● ●				
Oteluri calite nealiate	**1.0301** C10, **1.1121** C10E	≤ 750		●				
Oteluri calite aliate	**1.7043** 38Cr4 **1.5752** 15NiCr13, **1.7131** 16MnCr5, **1.7264** 20CrMo5	850–1000 1000–1200		● ●				
Oteluri nitrurate	**1.8504** 34CrAl6 **1.8519** 31CrMoV9, **1.8550** 34CrAlNi7	≥ 850–1000 1000–1200		● ●				
Oteluri de scule	**1.1750** C75W, **1.2067** 102Cr6, **1.2307** 29CrMoV9 **1.2080** X210Cr12, **1.2083** X42Cr13, **1.2419** 105WCr6, **1.2767** X45NiCrMo4	≤ 850 850–1000		● ●				
Oteluri rapide	**1.3243** S 6-5-2-5, **1.3343** S 6-5-2, **1.3344** S 6-5-3	≥ 650–1000		●				
Otel de arc	**1.5026** 55Si7, **1.7176** 55Cr3, **1.8159** 51CrV4		≤ 330 HB	●				
Oteluri inoxidabile, sulfurate austenitice martensitice	**1.4005** X12CrS13, **1.4104** X14CrMoS17, **1.4105** X6CrMoS17, **1.4305** X8CrNiS18 9 **1.4301** X5CrNi18-10, **1.4541** X6CrNiTi18-10, **1.4571** X6CrNiMoTi 17-12 2 **1.4057** X20CrNi17-2, **1.4122** X39CrMo17-1, **1.4521** X2CrMoTi18 2	≤ 850 ≤ 850 ≤ 850		● ● ●				
Oteluri tratate	–		≤ 40–48 HRC > 48–60 HRC	● ●				
Aliaje speciale	Nimonic®, Inconel®, Monel®, Hastelloy®	≤ 1200		●				
Fonta	**0.6010** EN-GJL-100(GG10), **0.6020** EN-GJL-200(GG20) **0.6025** EN-GJL-250(GG25), **0.6035** EN-GJL-350(GG35)		≤ 240 HB < 300 HB	○● ○●				
Fonta nodulara si maleabila	**0.7050** EN-GJS-500-7(GGG50), **0.8035** EN-GJMW-350-4(GTW35) **0.7070** EN-GJS-700-2(GGG70), **0.8170** EN-GJMB-700-2(GTS70)		≤ 240 HB < 300 HB	● ●				
Fonta dura	–		≤ 350 HB	●				
Titan si aliaje titan	**3.7024** Ti99,5, **3.7114** TiAl5Sn2,5, **3.7124** TiCu2 **3.7154** TiAl6Zr5, **3.7164** TiAl6V4, **3.7184** TiAl4Mo4Sn2,5, -TiAl8Mo1V1	≤ 850 850–1200		● ●				
Aluminiu si aliaje aluminiu	**3.0255** Al99,5, **3.2315** AlMgSi1, **3.3515** AlMg1	≤ 400		●	450–550	47	450–550	47
Aliaje forjate aluminiu	**3.0615** AlMgSiPb, **3.1325** AlCuMg1, **3.3245** AlMg3Si, **3.4365** AlZnMgCu1,5	≤ 450		●	522–638	47	522–638	47
Aliaje alu-fonta < 10 % Si > 10 % Si	**3.2131** G-AlSi5Cu1, **3.2153** G-AlSi7Cu3, **3.2573** G-AlSi9 **3.2581** G-AlSi12, **3.2583** G-AlSi12Cu, – G-AlSi12CuNiMg	≤ 600 ≤ 600		● ●	216–264 171–209	45 46	216–264 171–209	45 46
Aliaje magneziu	MgMn2, G-MgAl8Zn1, G-MgAl6Zn3	≤ 450		○	243–297	47	243–297	47
Kupfer, niedriglegiert	**2.0070** SE-Cu, **2.1020** CuSn6, **2.1096** G-CuSn5ZnPb	≤ 400		●	117–143	46	117–143	46
Alama, span scurt span lung	**2.0380** CuZn39Pb2, **2.0401** CuZn39Pb3, **2.0410** CuZn43Pb2 **2.0250** CuZn20, **2.0280** CuZn33, **2.0332** CuZn37Pb0,5	≤ 600 ≤ 600		● ●	108–132 99–121	45 45	108–132 99–121	45 45
Bronz, span scurt	**2.1090** CuSn7ZnPb, **2.1170** CuPb5Sn5, **2.1176** CuPb10Sn **2.0790** CuNi18Zn19Pb	≤ 600 > 600– 850		●● ●	103–127 90–110	45 44	103–127 90–110	45 44
Bronz, span lung	**2.0916** CuAl5, **2.0960** CuAl9Mn, **2.1050** CuSn10 **2.0980** CuAl11Ni, **2.1247** CuBe2	≤ 850 850–1000		● ●	90–110 81– 99	44 43	90–110 81– 99	44 43
Material plastic, termorigid Materiale plastice, termoplastic	Bachelit®, Resopal®, Pertinax®, Moltopren® Plexi®, Hostalen®, Novodur®, Makralon®		– –	○ ○●	112–138 103–127	43 43	112–138 103–127	43 43
Materale plastice, cu insertie fibra aramida insertie sticla/ carbune.			– –	○ ○				

a_p cu corectie f_z

0,5 x D = 120 %
2 x D = 50 %

Solutie racire: ● Emulsie ● Ulei ○ Aer

Codurile marcate cu • nu se regasesc in stoc, livrare rapida

forum Dispozitive de frezat - recomandari de utilizare

Sculele cu codurile de avans **tiparite ingrosat**
(VR-Code) sunt recomandate a fi utilizate.

Ø freza mm	Cod avans A f_z mm/Z																				
	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29
2,00	0,004	0,004	0,007	0,006					0,011	0,010	0,006	0,017	0,015	0,006	0,006	0,006					
3,00	0,007	0,007	0,011	0,009					0,018	0,017	0,009	0,027	0,022	0,009	0,009	0,009	0,005	0,005	0,004	0,005	0,005
4,00	0,010	0,009	0,014	0,012					0,024	0,023	0,013	0,035	0,030	0,019	0,019	0,019	0,008	0,008	0,004	0,008	0,007
5,00	0,012	0,011	0,018	0,015					0,031	0,028	0,016	0,045	0,038	0,024	0,024	0,024	0,011	0,013	0,009	0,013	0,012
6,00	0,015	0,014	0,025	0,019	0,019	0,020	0,019	0,011	0,038	0,035	0,019	0,064	0,048	0,030	0,031	0,029	0,016	0,018	0,013	0,018	0,018
8,00	0,019	0,018	0,035	0,026	0,027	0,024	0,025	0,016	0,048	0,045	0,025	0,089	0,064	0,042	0,038	0,042	0,027	0,028	0,022	0,035	0,031
10,00	0,024	0,023	0,046	0,032	0,031	0,023	0,028	0,020	0,061	0,056	0,031	0,115	0,080	0,047	0,038	0,145	0,039	0,048	0,034	0,048	0,048
12,00	0,030	0,028	0,063	0,038	0,030	0,024	0,029	0,018	0,075	0,068	0,038	0,158	0,098	0,047	0,137	0,144	0,047	0,056	0,040	0,056	0,056
14,00	0,033	0,032	0,074	0,043					0,084	0,079	0,045	0,183	0,111				0,049	0,060	0,043	0,060	0,060
16,00	0,043	0,043	0,083	0,050	0,030	0,025	0,032	0,020	0,107	0,11	0,056	0,213	0,128	0,047	0,137	0,047	0,053	0,063	0,045	0,063	0,064
18,00					0,030	0,023	0,030	0,018									0,059	0,070	0,050	0,070	0,069
20,00	0,055	0,054	0,112	0,063	0,022	0,017	0,021	0,016	0,136	0,136	0,075	0,281	0,159	0,048	0,038	0,045	0,065	0,077	0,055	0,077	0,077
25,00					0,021	0,018	0,022	0,014						0,046	0,039	0,044	0,063	0,078	0,065	0,078	0,086

Ø freza mm	Cod avans B f_z mm/Z															
	37	38	39	40	41	42	43	44	45	46	47	48	49	50	51	52
2,00	0,001	0,001	0,001	0,002	0,002	0,004	0,005	0,006	0,007	0,008	0,010	0,012	0,014	0,016	0,018	0,020
3,00	0,002	0,002	0,003	0,003	0,004	0,007	0,010	0,010	0,010	0,015	0,016	0,013	0,019	0,022	0,024	0,030
5,00	0,005	0,006	0,007	0,009	0,010	0,014	0,020	0,020	0,022	0,025	0,026	0,026	0,028	0,030	0,032	0,038
6,00	0,006	0,008	0,009	0,011	0,013	0,017	0,024	0,025	0,027	0,031	0,029	0,033	0,039	0,036	0,041	0,047
8,00	0,010	0,012	0,014	0,016	0,019	0,024	0,032	0,032	0,035	0,042	0,042	0,047	0,053	0,052	0,058	0,064
10,00	0,013	0,015	0,018	0,021	0,025	0,030	0,038	0,039	0,044	0,050	0,053	0,059	0,065	0,066	0,073	0,080
12,50	0,016	0,018	0,022	0,026	0,030	0,036	0,046	0,048	0,052	0,059	0,063	0,072	0,079	0,085	0,090	0,10
16,00	0,020	0,023	0,027	0,032	0,038	0,045	0,054	0,058	0,063	0,071	0,079	0,088	0,095	0,10	0,11	0,12
20,00	0,023	0,028	0,033	0,038	0,045	0,057	0,066	0,073	0,080	0,090	0,097	0,10	0,11	0,12	0,13	0,14

	Rectificare	
Material	K10-20	K10-20
Norma	6527	6527
Tip	N	N
Suprafata		TiAlN
Nr. comanda	15 358 013–049 (HB)	15 359 013–049 (HB)
Numar taisuri	3 taisuri	3 taisuri
	Pagina 2/60	Pagina 2/60
Livrare/ utilizare	a_p = 1 x D a_e = 0,1 x D	a_p = 1 x D a_e = 0,1 x D

Grupe de materiale	Exemple de materiale	Rezistenta la tractiune N/mm²	Duritate	Solutie de racire	v_c m/min	Cod VR A	v_c m/min	Cod VR A
Oteluri uzuale de constructii	**1.0035** S185, **1.0486** P275N, **1.0345** P235GH, **1.0425** P265GH	≤ 500		●	30–40	9	44–72	9
	1.0050 E295, **1.0070** E360, **1.8937** P500NH	> 500– 850		●	30–40	9	44–72	9
Oteluri automate	**1.0718** 11SMnPb30, **1.0736** 11SMn37	≤ 850		●	30–40	9	44–72	9
	1.0727 46 S20, **1.0728** 60 S20, **1.0757** 46SPb20	850–1000		●	30–40	9	44–72	9
Oteluri tratate nealiate	**1.0402** C22, **1.1178** C30E	≤ 700		●	30–40	9	44–72	9
	1.0503 C45, **1.1191** C45E	700– 850		●	30–40	9	44–72	9
	1.0601 C60, **1.1221** C60E	850–1000		●	30–40	9	44–72	9
Oteluri tratate aliate	**1.5131** 50MnSi4, **1.7003** 38Cr2, **1.7030** 28Cr4	850–1000		●	30–40	9	44–72	9
	1.5710 36NiCr6, **1.7035** 41Cr4, **1.7225** 42CrMo4	1000–1200		●	24–30	10	26–44	10
Oteluri calite nealiate	**1.0301** C10, **1.1121** C10E	≤ 750		●	30–40	9	44–72	9
Oteluri calite aliate	**1.7043** 38Cr4	850–1000		●	30–40	9	44–72	9
	1.5752 15NiCr13, **1.7131** 16MnCr5, **1.7264** 20CrMo5	1000–1200		●	24–30	10	26–44	10
Oteluri nitrurate	**1.8504** 34CrAl6	≥ 850–1000		●	30–40	9	44–72	9
	1.8519 31CrMoV9, **1.8550** 34CrAlNi7	1000–1200		●	24–30	10	26–44	10
Oteluri de scule	**1.1750** C75W, **1.2067** 102Cr6, **1.2307** 29CrMoV9	≤ 850		●	30–40	9	44–72	9
	1.2080 X210Cr12, **1.2083** X42Cr13, **1.2419** 105WCr6, **1.2767** X45NiCrMo4	850–1000		●	30–40	9	44–72	9
Oteluri rapide	**1.3243** S 6-5-2-5, **1.3343** S 6-5-2, **1.3344** S 6-5-3	≥ 650–1000		●	30–40	9	44–72	9
Otel de arc	**1.5026** 55Si7, **1.7176** 55Cr3, **1.8159** 51CrV4		≤ 330 HB	●	24–30	10	26–44	10
Oteluri inoxidabile, sulfurate	**1.4005** X12CrS13, **1.4104** X14CrMoS17, **1.4105** X6CrMoS17, **1.4305** X8CrNiS18 9	≤ 850		●				
austenitice	**1.4301** X5CrNi18-10, **1.4541** X6CrNiTi18-10, **1.4571** X6CrNiMoTi 17 12 2	≤ 850		●				
martensitice	**1.4057** X20CrNi17-2, **1.4122** X39CrMo17-1, **1.4521** X2CrMoTi18 2	≤ 850		●				
Oteluri tratate	–		≤ 40–48 HRC	●				
			> 48–60 HRC	●				
Aliaje speciale	Nimonic®, Inconel®, Monel®, Hastelloy®	≤ 1200		●				
Fonta	**0.6010** EN-GJL-100(GG10), **0.6020** EN-GJL-200(GG20)		≤ 240 HB	●○	39–40	11	55–60	11
	0.6025 EN-GJL-250(GG25), **0.6035** EN-GJL-350(GG35)		< 300 HB	●○	39–40	11	55–60	11
Fonta nodulara si maleabila	**0.7050** EN-GJS-500-7(GGG50), **0.8035** EN-GJMW-350-4(GTW35)		≤ 240 HB	●	39–40	11	55–60	11
	0.7070 EN-GJS-700-2(GGG70), **0.8170** EN-GJMB-700-2(GTS70)		< 300 HB	●	39–40	11	55–60	11
Fonta dura	–		≤ 350 HB	●	39–40	11	55–60	11
Titan si aliaje titan	**3.7024** Ti99,5, **3.7114** TiAl5Sn2,5, **3.7124** TiCu2	≤ 850		●				
	3.7154 TiAl6Zr5, **3.7164** TiAl6V4, **3.7184** TiAl4Mo4Sn2,5, – TiAl8Mo1V1	850–1200		●				
Aluminiu si aliaje aluminiu	**3.0255** Al99,5, **3.2315** AlMgSi1, **3.3515** AlMg1	≤ 400		●	99–100	12	138–145	12
Aliaje forjate aluminiu	**3.0615** AlMgSiPb, **3.1325** AlCuMg1, **3.3245** AlMg3Si, **3.4365** AlZnMgCu1,5	≤ 450		●	99–100	12	138–145	12
Aliaje alu-fonta ≤ 10 % Si	**3.2131** G-AlSi5Cu1, **3.2153** G-AlSi7Cu3, **3.2573** G-AlSi9	≤ 600		●	99–100	12	138–145	12
> 10 % Si	**3.2581** G-AlSi12, **3.2583** G-AlSi12Cu, – G-AlSi12CuNiMg	≤ 600		●	99–100	12	138–145	12
Aliaje magneziu	MgMn2, G-MgAl8Zn1, G-MgAl6Zn3	≤ 450		○	75– 76	12	77–106	12
Cupru, aliaj scazut	**2.0070** SE-Cu, **2.1020** CuSn6, **2.1096** G-CuSn5ZnPb	≤ 400		●	75– 76	12	77–106	12
Alama, span scurt	**2.0380** CuZn39Pb2, **2.0401** CuZn39Pb3, **2.0410** CuZn43Pb2	≤ 600		●	75– 76	12	77–106	12
span lung	**2.0250** CuZn20, **2.0280** CuZn33, **2.0332** CuZn37Pb0,5	≤ 600		●	75– 76	12	77–106	12
Bronz, span scurt	**2.1090** CuSn7ZnPb, **2.1170** CuPb5Sn5, **2.1176** CuPb10Sn	≤ 600		●●	75– 76	12	77–106	12
	2.0790 CuNi18Zn19Pb	> 600– 850		●	75– 76	12	77–106	12
Bronz, span lung	**2.0916** CuAl5, **2.0960** CuAl9Mn, **2.1050** CuSn10	≤ 850		●	75– 76	12	77–106	12
	2.0980 CuAl11Ni, **2.1247** CuBe2	850–1000		●	75– 76	12	77–106	12
Material plastic, termorigid	Bachelit®, Resopal®, Pertinax®, Moltopren®		–	○				
Materiale plastice, termoplastic	Plexi®, Hostalen®, Novodur®, Makralon®		–	●○				
			a_p cu corectie f_z		–		–	

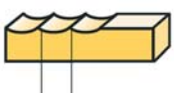
forum Dispozitive de frezat - recomandari de utilizare

Sculele cu codurile de avans **tiparite ingrosat**
(VR-Code) sunt recomandate a fi utilizate

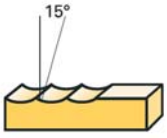
Ø freza mm	Cod avans A f_z mm/Z														
	60	61	62	63	64	65	66	67	68	69	70	93	94	95	96
1,00			0,008	0,008	0,008	0,008	0,012	0,010	0,006	0,006	0,006				
2,00			0,026	0,023	0,016	0,014	0,028	0,026	0,013	0,010	0,008	0,009	0,005	0,010	0,007
3,00			0,026	0,023	0,017	0,023	0,043	0,043	0,019	0,017	0,012	0,014	0,008	0,016	0,010
4,00			0,035	0,032	0,021	0,031	0,052	0,052	0,026	0,024	0,016	0,019	0,011	0,028	0,013
5,00			0,045	0,040	0,024	0,039	0,059	0,059	0,034	0,030	0,018	0,025	0,013	0,040	0,019
6,00	0,049	0,040	0,060	0,060	0,030	0,060	0,067	0,068	0,045	0,045	0,022	0,029	0,016	0,052	0,023
8,00	0,071	0,060	0,090	0,080	0,045	0,080	0,075	0,075	0,068	0,060	0,033	0,037	0,020	0,089	0,035
10,00	0,084	0,069	0,12	0,10	0,055	0,101	0,082	0,083	0,090	0,075	0,042	0,043	0,026	0,112	0,044
12,00	0,107	0,089	0,15	0,12	0,070	0,12	0,092	0,093	0,111	0,089	0,053	0,049	0,031	0,133	0,061
14,00												0,057	0,036	0,163	0,073
16,00	0,123	0,102	0,18	0,14	0,091				0,136	0,106	0,069	0,065	0,042	0,177	0,070
18,00												0,073	0,047	0,201	0,079
20,00	0,157	0,131	0,20	0,16	0,113				0,151	0,12	0,084	0,085	0,052	0,199	0,090

Grupe de materiale	Exemple de materiale	Rezistenta la tractiune N/mm²	Duritate	Solutie de racire
Oteluri uzuale de constructii	**1.0035** S185, **1.0486** P275N, **1.0345** P235GH, **1.0425** P265GH	≤ 500		●
	1.0050 E295, **1.0070** E360, **1.8937** P500NH	> 500– 850		●
Oteluri automate	**1.0718** 11SMnPb30, **1.0736** 11SMn37	≤ 850		●
	1.0727 46 S20, **1.0728** 60 S20, **1.0757** 46SPb20	850–1000		●
Oteluri tratate nealiate	**1.0402** C22, **1.1178** C30E	≤ 700		●
	1.0503 C45, **1.1191** C45E	700– 850		●
	1.0601 C60, **1.1221** C60E	850–1000		●
Oteluri tratate aliate	**1.5131** 50MnSi4, **1.7003** 38Cr2, **1.7030** 28Cr4	850–1000		●
	1.5710 36NiCr6, **1.7035** 41Cr4, **1.7225** 42CrMo4	1000–1200		●
Oteluri calite nealiate	**1.0301** C10, **1.1121** C10E	≤ 750		●
Oteluri calite aliate	**1.7043** 38Cr4	850–1000		●
	1.5752 15NiCr13, **1.7131** 16MnCr5, **1.7264** 20CrMo5	1000–1200		●
Oteluri nitrurate	**1.8504** 34CrAl6	≥ 850–1000		●
	1.8519 31CrMoV9, **1.8550** 34CrAlNi7	1000–1200		●
Oteluri de scule	**1.1750** C75W, **1.2067** 102Cr6, **1.2307** 29CrMoV9	≤ 850		●
	1.2080 X210Cr12, **1.2083** X42Cr13, **1.2419** 105WCr6	850–1000		●
Oteluri rapide	**1.3243** S 6-5-2-5, **1.3343** S 6-5-2, **1.3344** S 6-5-3	≥ 650–1000		●
Otel de arc	**1.5026** 55Si7, **1.7176** 55Cr3, **1.8159** 51CrV4		≤ 330 HB	●
Oteluri inoxidabile, sulfurate	**1.4005** X12CrS13, **1.4104** X14CrMoS17, **1.4105** X6CrMoS17	≤ 850		●
austenitice	**1.4301** X5CrNi18-10, **1.4541** X6CrNiTi18-10	≤ 850		●
martensitice	**1.4057** X20CrNi17-2, **1.4122** X39CrMo17-1	≤ 850		●
Oteluri tratate	–		≤ 40–48 HRC	●
			> 48–60 HRC	●
Aliaje speciale	Nimonic®, Inconel®, Monel®, Hastelloy®	≤ 1200		●
Fonta	**0.6010** EN-GJL-100(GG10), **0.6020** EN-GJL-200(GG20)		≤ 240 HB	○ ○
	0.6025 EN-GJL-250(GG25), **0.6035** EN-GJL-350(GG35)		< 300 HB	○ ○
Fonta nodulara si maleabila	**0.7050** EN-GJS-500-7(GGG50), **0.8035** EN-GJMW-350-4(GTW35)		≤ 240 HB	○
	0.7070 EN-GJS-700-2(GGG70), **0.8170** EN-GJMB-700-2(GTS70)		< 300 HB	○
Fonta dura	–		≤ 350 HB	○
Titan si aliaje titan	**3.7024** Ti99,5, **3.7114** TiAl5Sn2,5, **3.7124** TiCu2	≤ 850		●
	3.7154 TiAl6Zr5, **3.7164** TiAl6V4, **3.7184** TiAl4Mo4Sn2,5	850–1200		●
Aluminiu si aliaje aluminiu	**3.0255** Al99,5, **3.2315** AlMgSi1, **3.3515** AlMg1	≤ 400		○
Aliaje forjate aluminiu	**3.0615** AlMgSiPb, **3.1325** AlCuMg1, **3.3245** AlMg3S	≤ 450		○
Aliaje alu- fonta ≤ 10 % Si	**3.2131** G-AlSi5Cu1, **3.2153** G-AlSi7Cu3, **3.2573** G-AlSi9	≤ 600		○
> 10 % Si	**3.2581** G-AlSi12, **3.2583** G-AlSi12Cu – G-AlSi12CuNiMg	≤ 600		○
Aliaje magneziu	MgMn2, G-MgAl8Zn1, G-MgAl6Zn3	≤ 450		○
Cupru, aliaj scazut	**2.0070** SE-Cu, **2.1020** CuSn6, **2.1096** G-CuSn5ZnPb	≤ 400		○
Alama, span scurt	**2.0380** CuZn39Pb2, **2.0401** CuZn39Pb3, **2.0410** CuZn43Pb2	≤ 600		○
span lung	**2.0250** CuZn20, **2.0280** CuZn33, **2.0332** CuZn37Pb0,5	≤ 600		○
Bronz, span scurt	**2.1090** CuSn7ZnPb, **2.1170** CuPb5Sn5, **2.1176** CuPb10Sn	≤ 600		○ ●
	2.0790 CuNi18Zn19Pb	> 600– 850		●
Bronz, span lung	**2.0916** CuAl5, **2.0960** CuAl9Mn, **2.1050** CuSn10	≤ 850		●
	2.0980 CuAl11Ni, **2.1247** CuBe2	850–1000		●
Material plastic, termorigid	Bachelit®, Resopal®, Pertinax®, Moltopren®		–	○
Materiale plastice, termoplastic	Plexi®, Hostalen®, Novodur®, Makralon®		–	○ ○

a_e = latime taiere
a_p = adancime taiere



a_e = 0,02–0,05 x D



Pentru imbunatatirea calitatii suprafetei
unghiul de inclinare ar trebui sa fie de 10°–15°

a_p cu f_z-corectie

Solutie racire: ● Emulsie ● Ulei ○ Aer

Codurile marcate cu • nu se regasesc in stoc, livrare rapida

Copiere

Material	K10-20	VHM-UF	VHM-UF	
Norma	WN	WN	WN	
Tip	N	N	N	
Suprafata	TiAlN	TiAlN	TiAlN	TiAlN
Nr. comanda	15 373 010–049 (HB)	15 374 100–163 (HA)	15 375 024–053 (HA)	15 376 024–053 (HB)
Numar taisuri	2 taisuri	2 taisuri	4 taisuri	4 taisuri
	Pagina 2/73	Pagina 2/74	Pagina 2/74	Pagina 2/74
Livrare/ Utilizare		$a_p = 0,05 \times D$		

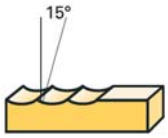
v_c m/min	Cod VR A	v_c m/min	Cod VR A	v_c m/min	Cod VR A
80–100	93	110–150	62	110–150	68
80–100	93	110–150	62	110–150	68
80–100	93	110–150	62	110–150	68
80–100	93	110–150	62	110–150	68
80–100	93	110–150	62	110–150	68
80–100	93	110–150	62	110–150	68
80–100	93	110–150	62	110–150	68
80–100	93	110–150	62	110–150	68
60– 80	94	74– 88	63	74– 88	69
80–100	93	110–150	62	110–150	68
80–100	93	110–150	62	110–150	68
60– 80	94	74– 88	63	74– 88	69
80–100	93	110–150	62	110–150	68
60– 80	94	74– 88	63	74– 88	69
80–100	93	110–150	62	110–150	68
80–100	93	110–150	62	110–150	68
80–100	93	110–150	62	110–150	68
60– 80	94	74– 88	63	74– 88	69
		54– 66	64	54– 66	70
		54– 66	64	54– 66	70
62– 66	95	110–150	62	110–150	68
62– 66	95	110–150	62	110–150	68
62– 66	95	110–150	62	110–150	68
62– 66	95	110–150	62	110–150	68
62– 66	95	110–150	62	110–150	68
185–193	96				
185–193	96				
185–193	96				
185–193	96				

GÜHRING Recomandari de utilizare pentru dispozitive de frezare

Sculele cu codurile de avans **tiparite ingrosat** (VR-Code) sunt recomandate a fi utilizate

a_e = latime taiere
a_p = adancime taiere

a_e = 0,02–0,05 x D



Pentru imbunatatirea calitatii suprafetei unghiul de inclinare ar trebui sa fie de 10°–15°

Ø freza mm	Cod avans f_z mm/Z															
	37	38	39	40	41	42	43	44	45	46	47	48	49	50	51	52
2,00	0,001	0,001	0,001	0,002	0,002	0,004	0,005	0,006	0,007	0,008	0,010	0,012	0,014	0,016	0,018	0,020
3,00	0,002	0,002	0,003	0,003	0,004	0,007	0,010	0,010	0,010	0,015	0,016	0,013	0,019	0,022	0,024	0,030
5,00	0,005	0,006	0,007	0,009	0,010	0,014	0,020	0,020	0,022	0,025	0,026	0,026	0,028	0,030	0,032	0,038
6,00	0,006	0,008	0,009	0,011	0,013	0,017	0,024	0,025	0,027	0,031	0,029	0,033	0,039	0,036	0,041	0,047
8,00	0,010	0,012	0,014	0,016	0,019	0,024	0,032	0,032	0,035	0,042	0,042	0,047	0,053	0,052	0,058	0,064
10,00	0,013	0,015	0,018	0,021	0,025	0,030	0,038	0,039	0,044	0,050	0,053	0,059	0,065	0,066	0,073	0,080
12,50	0,016	0,018	0,022	0,026	0,030	0,036	0,046	0,048	0,052	0,059	0,063	0,072	0,079	0,085	0,090	0,10
16,00	0,020	0,023	0,027	0,032	0,038	0,045	0,054	0,058	0,063	0,071	0,079	0,088	0,095	0,10	0,11	0,12
20,00	0,023	0,028	0,033	0,038	0,045	0,057	0,066	0,073	0,080	0,090	0,097	0,10	0,11	0,12	0,13	0,14

Copiere

Material	**HM-UF**
Norma	6527
Tip	N
Suprafata	**Fire**
Nr. comanda	**15 373 100–130 (HA)**
Numar taisuri	2 taisuri
	Pagina 2/73

Livrare/ utilizare

a_e = 0,05 x D
a_p = 0,05 x D

Grupe de materiale	Exemple de materiale	Rezistenta la tractiune N/mm²	Duritate	Solutie de racire	v_c m/min	Cod VR
Oteluri uzuale de constructii	**1.0035** S185, **1.0486** P275N, **1.0345** P235GH, **1.0425** P265GH	≤ 500		●	153– 187	**48**
	1.0050 E295, **1.0070** E360, **1.8937** P500NH	> 500– 850		●	144– 176	**47**
Oteluri automate	**1.0718** 11SMnPb30, **1.0736** 11SMn37	≤ 850		●	153– 187	**47**
	1.0727 46 S20, **1.0728** 60 S20, **1.0757** 46SPb20	850–1000		●	153– 187	**46**
Oteluri tratate nealiate	**1.0402** C22, **1.1178** C30E	≤ 700		●	135– 165	**47**
	1.0503 C45, **1.1191** C45E	700– 850		●	135– 165	**47**
	1.0601 C60, **1.1221** C60E	850–1000		●	117– 143	**46**
Oteluri tratate aliate	**1.5131** 50MnSi4, **1.7003** 38Cr2, **1.7030** 28Cr4	850–1000		●	126– 154	**46**
	1.5710 36NiCr6, **1.7035** 41Cr4, **1.7225** 42CrMo4	1000–1200		●	153– 187	**45**
Oteluri calite nealiate	**1.0301** C10, **1.1121** C10E	≤ 750		●	198– 242	**47**
Oteluri calite aliate	**1.7043** 38Cr4	850–1000		●	171– 209	**47**
	1.5752 15NiCr13, **1.7131** 16MnCr5, **1.7264** 20CrMo5	1000–1200		●	108– 132	**46**
Oteluri nitrurate	**1.8504** 34CrAl6	≥ 850–1000		●	144– 176	**47**
	1.8519 31CrMoV9, **1.8550** 34CrAlNi7	1000–1200		●	135– 165	**45**
Oteluri de scule	**1.1750** C75W, **1.2067** 102Cr6, **1.2307** 29CrMoV9	≤ 850		●	135– 165	**47**
	1.2080 X210Cr12, **1.2083** X42Cr13, **1.2419** 105WCr6	850–1000		●	117– 143	**45**
Oteluri rapide	**1.3243** S 6-5-2-5, **1.3343** S 6-5-2, **1.3344** S 6-5-3	≥ 650–1000		●	85– 105	**46**
Otel de arc	**1.5026** 55Si7, **1.7176** 55Cr3, **1.8159** 51CrV4		≤ 330 HB	●	85– 105	**45**
Oteluri inoxidabile, sulfurate	**1.4005** X12CrS13, **1.4104** X14CrMoS17, **1.4105** X6CrMoS17	≤ 850		●	85– 105	**46**
austenitice	**1.4301** X5CrNi18-10, **1.4541** X6CrNiTi18-10	≤ 850		●	76– 94	**45**
martensitice	**1.4057** X20CrNi17-2, **1.4122** X39CrMo17-1	≤ 850		●	67– 83	**46**
Oteluri tratate	–		≤ 40–48 HRC	●	49– 61	**44**
			> 48–60 HRC	●		
Aliaje speciale	Nimonic®, Inconel®, Monel®, Hastelloy®	≤ 1200		●	49– 61	45
Fonta	**0.6010** EN-GJL-100(GG10), **0.6020** EN-GJL-200(GG20)		≤ 240 HB	○ ●	198– 242	**47**
	0.6025 EN-GJL-250(GG25), **0.6035** EN-GJL-350(GG35)		< 300 HB	○ ●	189– 231	**46**
Fonta nodulara si maleabila	**0.7050** EN-GJS-500-7(GGG50), **0.8035** EN-GJMW-350-4(GTW35)		≤ 240 HB	●	171– 209	**47**
	0.7070 EN-GJS-700-2(GGG70), **0.8170** EN-GJMB-700-2(GTS70)		< 300 HB	●	144– 176	**46**
Fonta dura	–		≤ 350 HB	●	99– 121	44
Titan si aliaje titan	**3.7024** Ti99,5, **3.7114** TiAl5Sn2,5, **3.7124** TiCu2	≤ 850		●		
	3.7154 TiAl6Zr5, **3.7164** TiAl6V4, **3.7184** TiAl4Mo4Sn2,5	850–1200		●		
Aluminiu si aliaje aluminiu	**3.0255** Al99,5, **3.2315** AlMgSi1, **3.3515** AlMg1	≤ 400		●	720– 880	50
Aliaje forjate aluminiu	**3.0615** AlMgSiPb, **3.1325** AlCuMg1, **3.3245** AlMg3S	≤ 450		●	855–1045	50
Aliaje alu- fonta ≤ 10 % Si	**3.2131** G-AlSi5Cu1, **3.2153** G-AlSi7Cu3, **3.2573** G-AlSi9	≤ 600		●	342– 418	48
> 10 % Si	**3.2581** G-AlSi12, **3.2583** G-AlSi12Cu – G-AlSi12CuNiMg	≤ 600		●	288–352	49
Aliaje magneziu	MgMn2, G-MgAl8Zn1, G-MgAl6Zn3	≤ 450		○	405– 495	50
Cupru, aliaj scazut	**2.0070** SE-Cu, **2.1020** CuSn6, **2.1096** G-CuSn5ZnPb	≤ 400		●	180– 220	49
Alama, span scurt	**2.0380** CuZn39Pb2, **2.0401** CuZn39Pb3, **2.0410** CuZn43Pb2	≤ 600		●	171– 209	48
span lung	**2.0250** CuZn20, **2.0280** CuZn33, **2.0332** CuZn37Pb0,5	≤ 600		●	162– 198	48
Bronz, span scurt	**2.1090** CuSn7ZnPb, **2.1170** CuPb5Sn5, **2.1176** CuPb10Sn	≤ 600		○ ●	180– 220	48
	2.0790 CuNi18Zn19Pb	> 600– 850		●	171– 209	47
Bronz, span lung	**2.0916** CuAl5, **2.0960** CuAl9Mn, **2.1050** CuSn10	≤ 850		●	198– 242	47
	2.0980 CuAl11Ni, **2.1247** CuBe2	850–1000		●	189– 231	46
Material plastic, termorigid	Bachelit®, Resopal®, Pertinax®, Moltopren®		–	○		
Materiale plastice, termoplastic	Plexi®, Hostalen®, Novodur®, Makralon®		–	○ ●		

a_p cu corectie f_z

Solutie racire: ● Emulsie ● Ulei ○ Aer

Codurile marcate cu • nu se regasesc in stoc, livrare rapida

forum Dispozitive de frezat - recomandari de utilizare

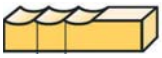
Sculele cu codurile de avans **tiparite ingrosat**
(VR-Code) sunt recomandate a fi utilizate

Ø freza mm	Cod avans A f_z mm/Z												
	71	72	73	76	77	78	79	80	81	82	83	84	92
0,20	0,012	0,011	0,010										
0,30	0,015	0,014	0,012										
0,40	0,019	0,017	0,015										
0,50	0,024	0,021	0,019										
0,60	0,029	0,025	0,023										
0,80	0,039	0,033	0,030										
1,00	0,048	0,042	0,038										
1,20	0,051	0,045	0,039										
1,50	0,054	0,047	0,042										
2,00	0,057	0,050	0,045							0,006	0,006		
3,00	0,091	0,083	0,067	0,011	0,008	0,005	0,006	0,008	0,004	0,009	0,009	0,008	
4,00	0,12	0,111	0,090	0,016	0,012	0,007	0,010	0,011	0,006	0,019	0,019	0,010	
5,00	0,156	0,138	0,113	0,023	0,017	0,010	0,012	0,016	0,008	0,024	0,024	0,012	
6,00	0,174	0,153	0,125	0,032	0,025	0,015	0,014	0,018	0,011	0,030	0,030	0,013	0,060
8,00	0,189	0,164	0,134	0,045	0,033	0,021	0,019	0,024	0,015	0,042	0,038	0,017	0,081
10,00	0,199	0,174	0,144	0,054	0,038	0,026	0,023	0,027	0,019	0,047	0,038	0,018	0,10
12,00	0,212	0,287	0,155	0,051	0,041	0,023	0,022	0,029	0,018	0,047	0,037	0,022	0,10
14,00													
16,00	0,238	0,206	0,169	0,055	0,042	0,023	0,023	0,029	0,020	0,046	0,037	0,017	0,10
18,00													
20,00	0,264	0,227	0,188	0,056	0,037	0,022	0,023	0,027	0,018				0,101
22,00													

Copiere

Material	**VHM-NANO**
Norma	WN
Tip	N
Suprafata	**TiAlN-S**
Nr. comanda	**15 376 200–260 (HA)** **15 376 300–348 (HA)**
Numar taisuri	2 taisuri
	Pagina 2/75

Livrare/ utilizare

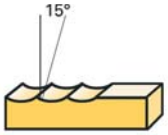


a_p = 0,05 x D

Grupe de materiale	Exemple de materiale	Rezistenta la tractiune N/mm²	Duritate	Solutie de racire	v_c m/min	Cod VR A
Oteluri uzuale de constructii	**1.0035** S185, **1.0486** P275N, **1.0345** P235GH, **1.0425** P265GH	≤ 500		●		
	1.0050 E295, **1.0070** E360, **1.8937** P500NH	> 500– 850		●		
Oteluri automate	**1.0718** 11SMnPb30, **1.0736** 11SMn37	≤ 850		●		
	1.0727 46 S20, **1.0728** 60 S20, **1.0757** 46SPb20	850–1000		●		
Oteluri tratate nealiate	**1.0402** C22, **1.1178** C30E	≤ 700		●		
	1.0503 C45, **1.1191** C45E	700– 850		●		
	1.0601 C60, **1.1221** C60E	850–1000		●		
Oteluri tratate aliate	**1.5131** 50MnSi4, **1.7003** 38Cr2, **1.7030** 28Cr4	850–1000		●		
	1.5710 36NiCr6, **1.7035** 41Cr4, **1.7225** 42CrMo4	1000–1200		●		
Oteluri calite nealiate	**1.0301** C10, **1.1121** C10E	≤ 750		●		
Oteluri calite aliate	**1.7043** 38Cr4	850–1000		●		
	1.5752 15NiCr13, **1.7131** 16MnCr5, **1.7264** 20CrMo5	1000–1200		●		
Oteluri nitrurate	**1.8504** 34CrAl6	≥ 850–1000		●		
	1.8519 31CrMoV9, **1.8550** 34CrAlNi7	1000–1200		●		
Oteluri de scule	**1.1750** C75W, **1.2067** 102Cr6, **1.2307** 29CrMoV9	≤ 850		●		
	1.2080 X210Cr12, **1.2083** X42Cr13, **1.2419** 105WCr6	850–1000		●		
Oteluri rapide	**1.3243** S 6-5-2-5, **1.3343** S 6-5-2, **1.3344** S 6-5-3	≥ 650–1000		●		
Otel de arc	**1.5026** 55Si7, **1.7176** 55Cr3, **1.8159** 51CrV4		≤ 330 HB	●	272–288	**71**
Oteluri inoxidabile, sulfurate	**1.4005** X12CrS13, **1.4104** X14CrMoS17, **1.4105** X6CrMoS17	≤ 850		●		
austenitice	**1.4301** X5CrNi18-10, **1.4541** X6CrNiTi18-10	≤ 850		●		
martensitice	**1.4057** X20CrNi17-2, **1.4122** X39CrMo17-1	≤ 850		●		
Oteluri tratate	–		≤ 40–48 HRC	●	211–229	**72**
	–		> 48–60 HRC	●	165–190	**73**
	–		> 60–70 HRC	●		
Aliaje speciale	Nimonic®, Inconel®, Monel®, Hastelloy®	≤ 1200	≤ 240 HB	●		
Fonta	**0.6010** EN-GJL-100(GG10), **0.6020** EN-GJL-200(GG20)		< 300 HB	● ○		
	0.6025 EN-GJL-250(GG25), **0.6035** EN-GJL-350(GG35)		≤ 240 HB	● ○		
Fonta nodulara si maleabila	**0.7050** EN-GJS-500-7(GGG50), **0.8035** EN-GJMW-350-4(GTW35)		< 300 HB	●		
	0.7070 EN-GJS-700-2(GGG70), **0.8170** EN-GJMB-700-2(GTS70)		≤ 350 HB	●		
Fonta dura	–			●		
Titan si aliaje titan	**3.7024** Ti99,5, **3.7114** TiAl5Sn2,5, **3.7124** TiCu2	≤ 850		●		
	3.7154 TiAl6Zr5, **3.7164** TiAl6V4, **3.7184** TiAl4Mo4Sn2,5	850–1200		●		
Aluminiu si aliaje aluminiu	**3.0255** Al99,5, **3.2315** AlMgSi1, **3.3515** AlMg1	≤ 400		●		
Aliaje forjate aluminiu	**3.0615** AlMgSiPb, **3.1325** AlCuMg1, **3.3245** AlMg3Si	≤ 450		●		
Aliaje alu-fonta ≤ 10 % Si	**3.2131** G-AlSi5Cu1, **3.2153** G-AlSi7Cu3, **3.2573** G-AlSi9	≤ 600		●		
> 10 % Si	**3.2581** G-AlSi12, **3.2583** G-AlSi12Cu – G-AlSi12CuNiMg	≤ 600		●		
Aliaje magneziu	MgMn2, G-MgAl8Zn1, G-MgAl6Zn3	≤ 450		○		
Cupru, aliaj scazut	**2.0070** SE-Cu, **2.1020** CuSn6, **2.1096** G-CuSn5ZnPb	≤ 400		●		
Alama, span scurt	**2.0380** CuZn39Pb2, **2.0401** CuZn39Pb3, **2.0410** CuZn43Pb2	≤ 600		●		
span lung	**2.0250** CuZn20, **2.0280** CuZn33, **2.0332** CuZn37Pb0,5	≤ 600		●		
Bronz, span scurt	**2.1090** CuSn7ZnPb, **2.1170** CuPb5Sn5, **2.1176** CuPb10Sn	≤ 600		● ●		
	2.0790 CuNi18Zn19Pb	> 600– 850		●		
Bronz, span lung	**2.0916** CuAl5, **2.0960** CuAl9Mn, **2.1050** CuSn10	≤ 850	–	●		
	2.0980 CuAl11Ni, **2.1247** CuBe2	850–1000		●		
Material plastic, termorigid	Bachelit®, Resopal®, Pertinax®, Moltopren®		–	○		
Materiale plastice, termoplastic	Plexi®, Hostalen®, Novodur®, Makralon®			● ○		

a_e = latime taiere
a_p = adancime taiere

a_e = 0,02–0,05 x D



Pentru imbunatatirea calitatii suprafetei unghiul de inclinare ar trebui sa fie de 10°–15°

a_p cu corectie f_z

La utilizarea acestor freze pentru frezare laterala trebuiesc utilizate valorile de taiere corespunzatoare din rubrica „frezare rectificare".

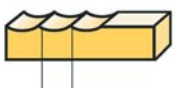
forum Dispozitive de frezat - recomandari de utilizare

Sculele cu codurile de avans **tiparite ingrosat**
(VR-Code) sunt recomandate a fi utilizate

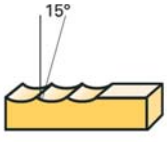
Ø freza mm	Cod avans A f_z mm/Z												
	71	72	73	76	77	78	79	80	81	82	83	84	92
0,20	0,012	0,011	0,010										
0,30	0,015	0,014	0,012										
0,40	0,019	0,017	0,015										
0,50	0,024	0,021	0,019										
0,60	0,029	0,025	0,023										
0,80	0,039	0,033	0,030										
1,00	0,048	0,042	0,038										
1,20	0,051	0,045	0,039										
1,50	0,054	0,047	0,042										
2,00	0,057	0,050	0,045							0,006	0,006		
3,00	0,091	0,083	0,067	0,011	0,008	0,005	0,006	0,008	0,004	0,009	0,009	0,008	
4,00	0,12	0,111	0,090	0,016	0,012	0,007	0,010	0,011	0,006	0,019	0,019	0,010	
5,00	0,156	0,138	0,113	0,023	0,017	0,010	0,012	0,016	0,008	0,024	0,024	0,012	
6,00	0,174	0,153	0,125	0,032	0,025	0,015	0,014	0,018	0,011	0,030	0,030	0,013	0,060
8,00	0,189	0,164	0,134	0,045	0,033	0,021	0,019	0,024	0,015	0,042	0,038	0,017	0,081
10,00	0,199	0,174	0,144	0,054	0,038	0,026	0,023	0,027	0,019	0,047	0,038	0,018	0,10
12,00	0,212	0,287	0,155	0,051	0,041	0,023	0,022	0,029	0,018	0,047	0,037	0,022	0,10
14,00													
16,00	0,238	0,206	0,169	0,055	0,042	0,023	0,023	0,029	0,020	0,046	0,037	0,017	0,10
18,00													
20,00	0,264	0,227	0,188	0,056	0,037	0,022	0,023	0,027	0,018				0,101
22,00													

Grupe de materiale	Exemple de materiale	Rezistenta la tractiune N/mm²	Duritate	Solutie de racire
Oteluri uzuale de constructii	**1.0035** S185, **1.0486** P275N, **1.0345** P235GH, **1.0425** P265GH	≤ 500		●
	1.0050 E295, **1.0070** E360, **1.8937** P500NH	> 500– 850		●
Oteluri automate	**1.0718** 11SMnPb30, **1.0736** 11SMn37	≤ 850		●
	1.0727 46 S20, **1.0728** 60 S20, **1.0757** 46SPb20	850–1000		●
Oteluri tratate nealiate	**1.0402** C22, **1.1178** C30E	≤ 700		●
	1.0503 C45, **1.1191** C45E	700– 850		●
	1.0601 C60, **1.1221** C60E	850–1000		●
Oteluri tratate aliate	**1.5131** 50MnSi4, **1.7003** 38Cr2, **1.7030** 28Cr4	850–1000		●
	1.5710 36NiCr6, **1.7035** 41Cr4, **1.7225** 42CrMo4	1000–1200		●
Oteluri calite nealiate	**1.0301** C10, **1.1121** C10E	≤ 750		●
Oteluri calite aliate	**1.7043** 38Cr4	850–1000		●
	1.5752 15NiCr13, **1.7131** 16MnCr5, **1.7264** 20CrMo5	1000–1200		●
Oteluri nitrurate	**1.8504** 34CrAl6	≥ 850–1000		●
	1.8519 31CrMoV9, **1.8550** 34CrAlNi7	1000–1200		●
Oteluri de scule	**1.1750** C75W, **1.2067** 102Cr6, **1.2307** 29CrMoV9	≤ 850		●
	1.2080 X210Cr12, **1.2083** X42Cr13, **1.2419** 105WCr6	850–1000		●
Oteluri rapide	**1.3243** S 6-5-2-5, **1.3343** S 6-5-2, **1.3344** S 6-5-3	≥ 650–1000		●
Otel de arc	**1.5026** 55Si7, **1.7176** 55Cr3, **1.8159** 51CrV4		≤ 330 HB	●
Oteluri inoxidabile, sulfurate	**1.4005** X12CrS13, **1.4104** X14CrMoS17, **1.4105** X6CrMoS17	≤ 850		●
austenitice	**1.4301** X5CrNi18-10, **1.4541** X6CrNiTi18-10	≤ 850		●
martensitice	**1.4057** X20CrNi17-2, **1.4122** X39CrMo17-1	≤ 850		●
Oteluri tratate	–		≤ 40–48 HRC	●
	–		> 48–60 HRC	●
	–		> 60–70 HRC	●
Aliaje speciale	Nimonic®, Inconel®, Monel®, Hastelloy®	≤ 1200	≤ 240 HB	●
Fonta	**0.6010** EN-GJL-100(GG10), **0.6020** EN-GJL-200(GG20)		< 300 HB	○
	0.6025 EN-GJL-250(GG25), **0.6035** EN-GJL-350(GG35)		≤ 240 HB	○
Fonta nodulara si maleabila	**0.7050** EN-GJS-500-7(GGG50), **0.8035** EN-GJMW-350-4(GTW35)		< 300 HB	●
	0.7070 EN-GJS-700-2(GGG70), **0.8170** EN-GJMB-700-2(GTS70)		≤ 350 HB	●
Fonta dura	–			●
Titan si aliaje titan	**3.7024** Ti99,5, **3.7114** TiAl5Sn2,5, **3.7124** TiCu2	≤ 850		●
	3.7154 TiAl6Zr5, **3.7164** TiAl6V4, **3.7184** TiAl4Mo4Sn2,5	850–1200		●
Aluminiu si aliaje aluminiu	**3.0255** Al99,5, **3.2315** AlMgSi1, **3.3515** AlMg1	≤ 400		●
Aliaje forjate aluminiu	**3.0615** AlMgSiPb, **3.1325** AlCuMg1, **3.3245** AlMg3Si	≤ 450		●
Aliaje alu-fonta ≤ 10 % Si	**3.2131** G-AlSi5Cu1, **3.2153** G-AlSi7Cu3, **3.2573** G-AlSi9	≤ 600		●
> 10 % Si	**3.2581** G-AlSi12, **3.2583** G-AlSi12Cu – G-AlSi12CuNiMg	≤ 600		●
Aliaje magneziu	MgMn2, G-MgAl8Zn1, G-MgAl6Zn3	≤ 450		○
Cupru, aliaj scazut	**2.0070** SE-Cu, **2.1020** CuSn6, **2.1096** G-CuSn5ZnPb	≤ 400		●
Alama, span scurt	**2.0380** CuZn39Pb2, **2.0401** CuZn39Pb3, **2.0410** CuZn43Pb2	≤ 600		●
span lung	**2.0250** CuZn20, **2.0280** CuZn33, **2.0332** CuZn37Pb0,5	≤ 600		●
Bronz, span scurt	**2.1090** CuSn7ZnPb, **2.1170** CuPb5Sn5, **2.1176** CuPb10Sn	≤ 600		● ●
	2.0790 CuNi18Zn19Pb	> 600– 850		●
Bronz, span lung	**2.0916** CuAl5, **2.0960** CuAl9Mn, **2.1050** CuSn10	≤ 850	–	●
	2.0980 CuAl11Ni, **2.1247** CuBe2	850–1000		●
Material plastic, termorigid	Bachelit®, Resopal®, Pertinax®, Moltopren®		–	○
Materiale plastice, termoplastic	Plexi®, Hostalen®, Novodur®, Makralon®			● ○

a_e = latime taiere
a_p = adancime taiere



a_e = 0,02–0,05 x D



Pentru imbunatatirea calitatii suprafetei
unghiul de inclinare ar trebui sa fie de 10°–15°

a_p cu corectie f_z

Solutie racire: ● Emulsie ● Ulei ○ Aer

Codurile marcate cu • nu se regasesc in stoc, livrare rapida

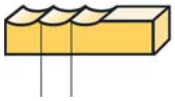
	Rectificare		Freza cilindro - frontala						Rectificare fina	
Material	VHM-NANO		HM-UF		HM-UF		HM-UF		VHM-NANO	
Norma	WN		WN		WN		WN		WN	
Tip	H		N		N		H		H	
Suprafata	TiAlN-S		TiAlN		TiAlN		TiAlN		TiAlN-S	
Nr. comanda	15 376 400–454 (HA)		15376 606–627 (HA)		15 376 700–787 (HA)		15 376 800–830 (HA)		17 706 100–160 (HA)	
Numar taisuri	4 taisuri		4 taisuri		4 taisuri		6 taisuri		6 taisuri	
	Pagina 2/76		Pagina 2/77		Pagina 2/79		Pagina 2/79		Pagina 2/80	
Livrare/ utilizare	a_p = 0,03 x D		a_p = 0,05 x D		a_p = 0,05 x D		a_p = 0,05 x D			
	v_c m/min	Cod VR A	v_c m/min	Cod VR A	v_c m/min	Cod VR A	v_c m/min	Cod VR A	v_c m/min	Cod VR A
			87–133 87–133	82 82	62–80 62–80	79 79				
			87–133 87–133	82 82	62–80 62–80	79 79				
			87–133 87–133 87–133	82 82 82	62–80 62–80 62–80	79 79 79				
			87–133 56– 82	82 83	62–80 40–52	79 80				
			87–133	82	62–80	79				
			87–133 56– 82	82 83	62–80 40–52	79 80				
			87–133 56– 82	82 83	62–80 40–52	79 80				
			87–133 87–133	82 82	62–80 62–80	79 79				
			87–133	82	62–80	79				
	150–246	54	56– 82	83	40–52	80			467–502	57
	119–195 65–130	55 56	56– 82 38– 55	83 84	40–52 24–32	80 81	313–316 158–159	92 92	442–490 248–301	58 59
			87–133 87–133	82 82	62–80 62–80	79 79				
			87–133 87–133	82 82	62–80 62–80	79 79				
			87–133	82	62–80	79				

La utilizarea acestor freze pentru frezare laterala trebuiesc utilizate valorile de taiere corespunzatoare din rubrica „frezare rectificare".

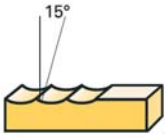
GÜHRING Dispozitive de frezat
Recomandari de utilizare

Sculele cu codurile de avans **tiparite ingrosat** (VR-Code) sunt recomandate a fi utilizate

a_e = latime taiere
a_p = adancime taiere



a_e = 0,02–0,05 x D



Pentru imbunatatirea calitatii suprafetei unghiul de inclinare ar trebui sa fie de 10°–15°

Ø freza mm	Cod avans f_z mm/Z															
	37	38	39	40	41	42	43	44	45	46	47	48	49	50	51	52
2,00	0,001	0,001	0,001	0,002	0,002	0,004	0,005	0,006	0,007	0,008	0,010	0,012	0,014	0,016	0,018	0,020
3,00	0,002	0,002	0,003	0,003	0,004	0,007	0,010	0,010	0,010	0,015	0,016	0,013	0,019	0,022	0,024	0,030
5,00	0,005	0,006	0,007	0,009	0,010	0,014	0,020	0,020	0,022	0,025	0,026	0,026	0,028	0,030	0,032	0,038
6,00	0,006	0,008	0,009	0,011	0,013	0,017	0,024	0,025	0,027	0,031	0,029	0,033	0,039	0,036	0,041	0,047
8,00	0,010	0,012	0,014	0,016	0,019	0,024	0,032	0,032	0,035	0,042	0,042	0,047	0,053	0,052	0,058	0,064
10,00	0,013	0,015	0,018	0,021	0,025	0,030	0,038	0,039	0,044	0,050	0,053	0,059	0,065	0,066	0,073	0,080
12,50	0,016	0,018	0,022	0,026	0,030	0,036	0,046	0,048	0,052	0,059	0,063	0,072	0,079	0,085	0,090	0,10
16,00	0,020	0,023	0,027	0,032	0,038	0,045	0,054	0,058	0,063	0,071	0,079	0,088	0,095	0,10	0,11	0,12
20,00	0,023	0,028	0,033	0,038	0,045	0,057	0,066	0,073	0,080	0,090	0,097	0,10	0,11	0,12	0,13	0,14

Grupe de materiale	Exemple de materiale	Rezistenta la tractiune N/mm²	Duritate	Solutie de racire
Oteluri uzuale de constructii	**1.0035** S185, **1.0486** P275N, **1.0345** P235GH, **1.0425** P265GH	≤ 500		●
	1.0050 E295, **1.0070** E360, **1.8937** P500NH	> 500– 850		●
Oteluri automate	**1.0718** 11SMnPb30, **1.0736** 11SMn37	≤ 850		●
	1.0727 46 S20, **1.0728** 60 S20, **1.0757** 46SPb20	850–1000		●
Oteluri tratate nealiate	**1.0402** C22, **1.1178** C30E	≤ 700		●
	1.0503 C45, **1.1191** C45E	700– 850		●
	1.0601 C60, **1.1221** C60E	850–1000		●
Oteluri tratate aliate	**1.5131** 50MnSi4, **1.7003** 38Cr2, **1.7030** 28Cr4	850–1000		●
	1.5710 36NiCr6, **1.7035** 41Cr4, **1.7225** 42CrMo4	1000–1200		●
Oteluri calite nealiate	**1.0301** C10, **1.1121** C10E	≤ 750		●
Oteluri calite aliate	**1.7043** 38Cr4	850–1000		●
	1.5752 15NiCr13, **1.7131** 16MnCr5, **1.7264** 20CrMo5	1000–1200		●
Oteluri nitrurate	**1.8504** 34CrAl6	≥ 850–1000		●
	1.8519 31CrMoV9, **1.8550** 34CrAlNi7	1000–1200		●
Oteluri de scule	**1.1750** C75W, **1.2067** 102Cr6, **1.2307** 29CrMoV9	≤ 850		●
	1.2080 X210Cr12, **1.2083** X42Cr13, **1.2419** 105WCr6	850–1000		●
Oteluri rapide	**1.3243** S 6-5-2-5, **1.3343** S 6-5-2, **1.3344** S 6-5-3	≥ 650–1000		●
Otel de arc	**1.5026** 55Si7, **1.7176** 55Cr3, **1.8159** 51CrV4		≤ 330 HB	●
Oteluri inoxidabile, sulfurate	**1.4005** X12CrS13, **1.4104** X14CrMoS17, **1.4105** X6CrMoS17	≤ 850		●
austenitice	**1.4301** X5CrNi18-10, **1.4541** X6CrNiTi18-10	≤ 850		●
martensitice	**1.4057** X20CrNi17-2, **1.4122** X39CrMo17-1	≤ 850		●
Oteluri tratate	–		≤ 40–48 HRC	●
			> 48–60 HRC	●
Aliaje speciale	Nimonic®, Inconel®, Monel®, Hastelloy®	≤ 1200		●
Fonta	**0.6010** EN-GJL-100(GG10), **0.6020** EN-GJL-200(GG20)		≤ 240 HB	○
	0.6025 EN-GJL-250(GG25), **0.6035** EN-GJL-350(GG35)		< 300 HB	○
Fonta nodulara si maleabila	**0.7050** EN-GJS-500-7(GGG50), **0.8035** EN-GJMW-350-4(GTW35)		≤ 240 HB	●
	0.7070 EN-GJS-700-2(GGG70), **0.8170** EN-GJMB-700-2(GTS70)		< 300 HB	●
Fonta dura	-		≤ 350 HB	●
Titan si aliaje titan	**3.7024** Ti99,5, **3.7114** TiAl5Sn2,5, **3.7124** TiCu2	≤ 850		●
	3.7154 TiAl6Zr5, **3.7164** TiAl6V4, **3.7184** TiAl4Mo4Sn2,5	850–1200		●
Aluminiu si aliaje aluminiu	**3.0255** Al99,5, **3.2315** AlMgSi1, **3.3515** AlMg1	≤ 400		●
Aliaje forjate aluminiu	**3.0615** AlMgSiPb, **3.1325** AlCuMg1, **3.3245** AlMg3Si	≤ 450		●
Aliaje alu-fonta ≤ 10 % Si	**3.2131** G-AlSi5Cu1, **3.2153** G-AlSi7Cu3, **3.2573** G-AlSi9	≤ 600		●
> 10 % Si	**3.2581** G-AlSi12, **3.2583** G-AlSi12Cu, – G-AlSi12CuNiMg	≤ 600		●
Aliaje magneziu	MgMn2, G-MgAl8Zn1, G-MgAl6Zn3	≤ 450		○
Cupru, aliaj scazut	**2.0070** SE-Cu, **2.1020** CuSn6, **2.1096** G-CuSn5ZnPb	≤ 400		●
Alama, span scurt	**2.0380** CuZn39Pb2, **2.0401** CuZn39Pb3, **2.0410** CuZn43Pb2	≤ 600		●
span lung	**2.0250** CuZn20, **2.0280** CuZn33, **2.0332** CuZn37Pb0,5	≤ 600		●
Bronz, span scurt	**2.1090** CuSn7ZnPb, **2.1170** CuPb5Sn5, **2.1176** CuPb10Sn	≤ 600		● ●
	2.0790 CuNi18Zn19Pb	> 600– 850		●
Bronz, span lung	**2.0916** CuAl5, **2.0960** CuAl9Mn, **2.1050** CuSn10	≤ 850		●
	2.0980 CuAl11Ni, **2.1247** CuBe2	850–1000		●
Material plastic, termorigid	Bachelit®, Resopal®, Pertinax®, Moltopren®		–	○
Materiale plastice, termoplastic	Plexi®, Hostalen®, Novodur®, Makralon®		–	○

a_p cu f_z–corectie

Solutie racire: ● Emulsie ● Ulei ○ Aer

Codurile marcate cu • nu se regasesc in stoc, livrare rapida

Freza toroidala

Material	K05/10	HM-UF	HM-UF
Norma	6527	WN	WN
Tip	N	H	H
Suprafata	TiAlN	Fire	Fire
Nr. comanda	15 376 900–918 (HA)	17 705 010–031 (HA)	17 706 019–031 (HA)
Numar taisuri	2 taisuri	4 taisuri	4 taisuri
	Pagina 2/76	Pagina 2/77	Pagina 2/77

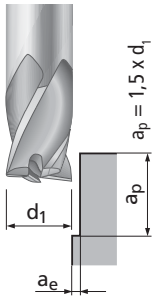
Livrare/ Utilizare

	Rectificare						Rectificare						Rectificare					
	Ø	4	6	8	10	12	Ø	6	8	10	12	16	Ø	6	8	10	12	16
	ef. Ø	–	–	–	–	–	ef. Ø	–	–	–	–	–	ef. Ø	–	–	–	–	–
	a_p mm	0,10	0,14	0,16	0,18	0,20	a_p mm	0,40	0,60	0,75	1,00	1,50	a_p mm	0,15	0,20	0,30	0,40	0,50
	a_e mm	0,07	0,10	0,15	0,20	0,25	a_e mm	3,50	5,50	6,50	8,50	11,50	a_e mm	0,20	0,30	0,40	0,60	1,00
	v_c m/min	f_z mm/dinte	f_z mm/dinte	f_z mm/dinte	f_z mm/dinte	f_z mm/dinte	v_c m/min	f_z mm/dinte	f_z mm/dinte	f_z mm/dinte	f_z mm/dinte	f_z mm/dinte	v_c m/min	f_z mm/dinte	f_z mm/dinte	f_z mm/dinte	f_z mm/dinte	f_z mm/dinte
	250–380	0,03	0,05	0,06	0,08	0,1												
	180–300	0,02	0,04	0,05	0,08	0,1												
	180–300	0,02	0,04	0,05	0,08	0,1												
	130–250	0,02	0,04	0,05	0,08	0,1												
	180–300	0,02	0,04	0,05	0,08	0,1												
	180–300	0,02	0,04	0,05	0,08	0,1												
	130–250	0,02	0,04	0,05	0,08	0,1												
	130–250	0,02	0,04	0,05	0,08	0,1												
	100–180	0,02	0,04	0,05	0,08	0,1	150–250	0,05	0,06	0,07	0,08	0,1	180–280	0,05	0,06	0,07	0,08	0,1
	250–380	0,03	0,05	0,06	0,08	0,1												
	130–250	0,02	0,04	0,05	0,08	0,1												
	100–180	0,02	0,04	0,05	0,08	0,1	150–250	0,05	0,06	0,07	0,08	0,1	180–280	0,05	0,06	0,07	0,08	0,1
	130–250	0,02	0,04	0,05	0,08	0,1												
	100–180	0,02	0,04	0,05	0,08	0,1	150–250	0,05	0,06	0,07	0,08	0,1	180–280	0,05	0,06	0,07	0,08	0,1
	130–250	0,02	0,04	0,05	0,08	0,1												
	100–180	0,02	0,04	0,05	0,08	0,1	150–250	0,05	0,06	0,07	0,08	0,1	180–280	0,05	0,06	0,07	0,08	0,1
							120–200	0,04	0,05	0,06	0,07	0,08	150–230	0,04	0,05	0,06	0,07	0,08
							80–130	0,02	0,03	0,04	0,05	0,06	100–150	0,02	0,03	0,04	0,05	0,06
	250–380	0,03	0,05	0,06	0,08	0,1												
	100–180	0,02	0,04	0,05	0,08	0,1												
	100–150	0,02	0,04	0,05	0,08	0,1												
	100–180	0,04	0,06	0,08	0,1	0,13	100–200	0,05	0,06	0,07	0,08	0,1	130–220	0,05	0,06	0,07	0,08	0,1
							80–130	0,04	0,05	0,06	0,07	0,08	100–150	0,04	0,05	0,06	0,07	0,08
	60–100	0,02	0,04	0,05	0,08	0,1												
	300–500	0,06	0,1	0,15	0,2	0,25	200–400	0,06	0,08	0,1	0,12	0,15	300–500	0,06	0,08	0,1	0,12	0,15
	300–500	0,05	0,08	0,1	0,15	0,2	200–400	0,06	0,08	0,1	0,12	0,15	300–500	0,06	0,08	0,1	0,12	0,15
	250–400	0,05	0,08	0,1	0,12	0,15	150–350	0,05	0,06	0,07	0,08	0,01	250–400	0,05	0,06	0,07	0,08	0,1
	200–350	0,04	0,06	0,08	0,1	0,12	150–300	0,04	0,05	0,06	0,07	0,08	200–350	0,04	0,05	0,06	0,07	0,08
							100–200	0,02	0,03	0,04	0,05	0,06	150–300	0,02	0,03	0,04	0,05	0,06
	100–150	0,02	0,04	0,05	0,08	0,1												
	80–120	0,02	0,04	0,05	0,08	0,1												
	400–600	0,04	0,06	0,8	0,1	0,15												
	750–1000	0,04	0,06	0,8	0,1	0,15												
	350–550	0,04	0,06	0,08	0,1	0,13												
	250–380	0,03	0,05	0,06	0,08	0,1	300–500	0,06	0,08	0,1	0,12	0,15	350–600	0,06	0,08	0,1	0,12	0,15
	250–380	0,03	0,05	0,06	0,08	0,1												
	200–500	0,05	0,08	0,12	0,15	0,2	200–400	0,06	0,08	0,1	0,12	0,15	200–500	0,06	0,08	0,1	0,12	0,15
	200–400	0,04	0,06	0,1	0,12	0,15	200–350	0,05	0,08	0,07	0,08	0,1	200–400	0,05	0,06	0,07	0,08	0,1
	250–400	0,05	0,08	0,1	0,12	0,15												
	200–350	0,04	0,06	0,08	0,1	0,12												
	200–350	0,04	0,06	0,08	0,1	0,12												
	150–300	0,03	0,05	0,08	0,1	0,12												

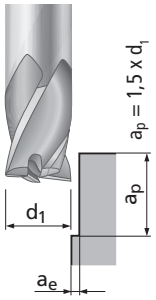
forum Freze canal/freze pentru gaura adanca executie scurta si lunga

Valori de referinta pentru avans per dinte f_z in mm

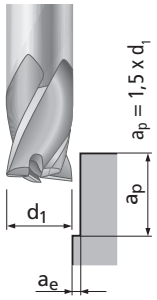
(Valorile nu sunt recomandate pentru frezare dura!)



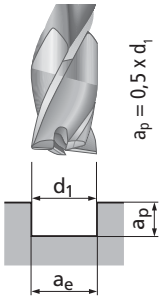
$a_e = 0,2–0,3$ mm



$a_e = 0,1 \times d_1$



$a_e = 0,25 \times d_1$



$a_e = d_1$

Ø d_1	nestratificat	stratificat	nestratificat	stratificat	nestratificat	stratificat	nestratificat	stratificat
2	0,006	0,008	0,006	0,008	0,004	0,005	0,003	0,004
3	0,010	0,012	0,010	0,012	0,007	0,008	0,005	0,007
4	0,013	0,016	0,011	0,014	0,009	0,010	0,007	0,009
5	0,017	0,020	0,013	0,017	0,011	0,013	0,008	0,011
6	0,020	0,024	0,015	0,020	0,013	0,015	0,010	0,013
8	0,027	0,032	0,020	0,027	0,018	0,020	0,013	0,018
10	0,033	0,040	0,025	0,033	0,022	0,025	0,017	0,022
12	0,040	0,048	0,030	0,040	0,027	0,030	0,020	0,027
14	0,047	0,056	0,035	0,047	0,031	0,035	0,023	0,031
16	0,053	0,064	0,040	0,053	0,036	0,040	0,027	0,036
18	0,060	0,072	0,045	0,060	0,040	0,045	0,030	0,040
20	0,067	0,080	0,050	0,067	0,044	0,050	0,033	0,044
25	0,083	0,10	0,083	0,083	0,056	0,063	0,042	0,056

Retineti ca valoarea f_z din tabelele de mai sus trebuiesc inmultite cu factorul corespunzator de corectie.
Factorii de corectie ii gasiti in tabelul de pe paginile 2/8–2/9.

General este valabil:

$$f_{z\ Freze} = \left[f_{z\ Tabel}\right] \times [\text{factor de corectie}]$$

$$f_{z\ gaurire} = \frac{f_{z\ frezare}}{\text{numar dinti}}$$

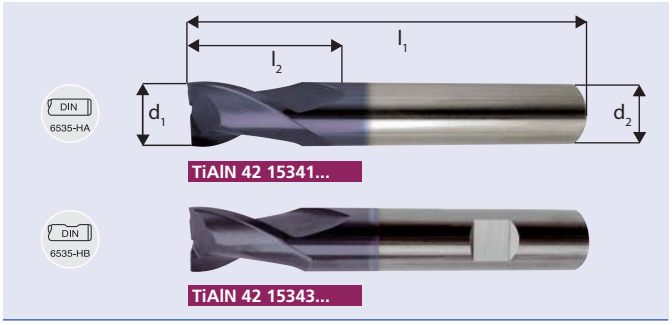
Codurile marcate cu • nu se regasesc in stoc, livrare rapida

forum Freza cilindro - frontala din carbura, scurta

- Din carbura monobloc K10/K20
- Tip N
- DIN 6527
- Pentru frezarea canalelor de pana, prelucrare universala
- Executie foarte stabila, adancime de frezare max. 1 x d
- Posibilitate prelucrare uscata

Carbura K10/K20 | Tip N | D 2 | DIN 6527

Pagina 2/31
Pagina 2/28



Suprafata	Cod comanda	Otel <850 N	Otel <1000 N	Otel <1400 N	Otel <42 HRC	Otel <52 HRC	Otel <56 HRC	Otel <62 HRC	Otel >62 HRC	INOX	Ti, aliaje Ti, oteluri speciale	Fonta	Al, nemetale, aliaje nemetale	Cupru, alama, bronz	Emulsii	Ulei	Aer	fara racire
TiAlN	42 15341...	110	100	80	60					50		120	150	100	■	◧	◧	□
TiAlN	42 15343...	110	100	180	60					50		120	150	100	■	◧	◧	□

Ø d_1 = h10 mm	forum Cod comanda TiAlN 42 15341...	forum Cod comanda TiAlN 42 15343...	Lungime totala l_1 mm	Lungime parte activa l_2 mm	Ø coada d_2 = h6 mm
2,0	...210	...010	50	3	6
3,0	...213	...013	50	4	6
4,0	...216	...016	54	5	6
5,0	...219	...019	54	6	6
6,0	...222	...022	54	7	6
8,0	...225	...025	58	9	8

Ø d_1 = h10 mm	forum Cod comanda TiAlN 42 15341...	forum Cod comanda TiAlN 42 15343...	Lungime totala l_1 mm	Lungime parte activa l_2 mm	Ø coada d_2 = h6 mm
10,0	...228	...028	66	11	10
12,0	...231	...031	73	12	12
14,0	...234	...034	75	14	14
16,0	...237	...037	82	16	16
18,0	...240	...040	84	18	18
20,0	...243	...043	92	20	20

forum Freza cilindro - frontala din carbura, lunga

- Din carbura monobloc UF
- Tip N
- DIN 6527
- Pentru frezarea canalelor de pana, prelucrare universala
- Adancime de frezare max. 1,5 x d
- Posibilitate prelucrare uscata

Carbura UF | Tip N | D 2 | DIN 6527

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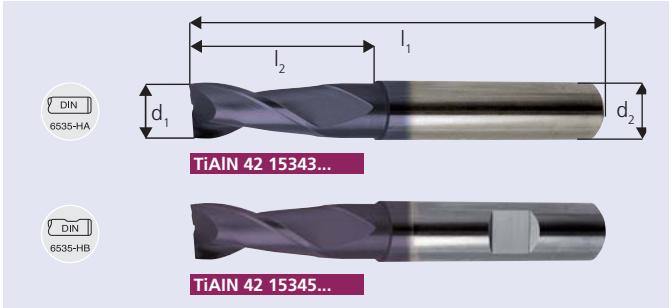
Accesorii optionale

Solutii de racire gasiti la pagina 9/60



Suprafata	Cod comanda	Otel <850 N	Otel <1000 N	Otel <1400 N	Otel <42 HRC	Otel <52 HRC	Otel <56 HRC	Otel <62 HRC	Otel >62 HRC	INOX	Ti, aliaje Ti, oteluri speciale	Fonta	Al, nemetale, aliaje nemetale	Cupru, alama, bronz	Emulsii	Ulei	Aer	fara racire
TiAlN	42 15343...	110	100	80	60					50		120	150	100	■	◧	◧	□
TiAlN	42 15345...	110	100	80	60					50		120	150	100	■	◧	◧	□

Ø d_1 = h10 mm	forum Cod comanda TiAlN 42 15343...	forum Cod comanda TiAlN 42 15345...	Lungime totala l_1 mm	Lungime parte activa l_2 mm	Ø coada d_2 = h6 mm
2,0	...210	...010	57	6	6
2,5	...213	–	57	7	6
2,8	...216	–	57	7	6
3,0	...219	...013	57	7	6
3,8	...222	–	57	8	6
4,0	...225	...016	57	8	6
4,8	...228	–	57	10	6
5,0	...231	...019	57	10	6
5,75	...234	–	57	10	6
6,0	...237	...022	57	10	6
7,0	...240	...025	63	13	8

Ø d_1 = h10 mm	forum Cod comanda TiAlN 42 15343...	forum Cod comanda TiAlN 42 15345...	Lungime totala l_1 mm	Lungime parte activa l_2 mm	Ø coada d_2 = h6 mm
7,75	...243	–	63	16	8
8,0	...246	...028	63	16	8
9,0	...249	...031	72	16	10
9,7	...252	–	72	19	10
10,0	...255	...034	72	19	10
11,7	...258	–	83	22	12
12,0	...261	...040	83	22	12
14,0	...264	...043	83	22	14
16,0	...267	...046	92	26	16
18,0	...270	...049	92	26	18
20,0	...273	...052	104	32	20

Cifre ingrosate recomandat | Cifre normale adecvat | ■ recomandat | ◧ adecvat | □ ocazional

forum Freza cilindro - frontala din carbura, scurta

- Carbura monobloc UF
- Tip N
- Norma de productie
- Pentru frezarea canalelor de pana, prelucrare universala
- Posibilitate prelucrare uscata

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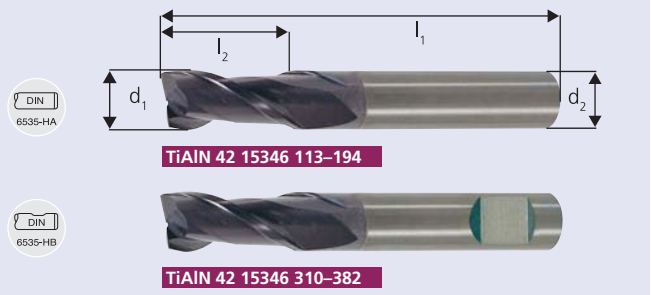
Pagina 2/28

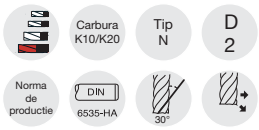


Suprafata	Cod comanda	Otel <850 N	Otel <1000 N	Otel <1400 N	Otel <42 HRC	Otel <52 HRC	Otel <56 HRC	Otel <62 HRC	Otel >62 HRC	INOX	Ti, aliaje Ti, oteluri speciale	Fonta	Al, nemetale, aliaje nemetale	Cupru, alama, bronz	Emulsii	Ulei	Aer	fara racire
TiAlN	42 15346...	85	85	55	55					45	45				■	◧		

Ø d_1 = e8 mm	forum Cod comanda TiAlN 42 15346...	forum Cod comanda TiAlN 42 15346...	Lungime totala l_1 mm	Lungime parte activa l_2 mm	Ø coada d_2 = h6 mm
1,0	...113	...310	40	2,5	6
2,0	...125	...316	40	6	6
3,0	...134	...322	45	8	6
4,0	...140	...328	45	11	6
5,0	...146	...334	50	13	6
6,0	...152	...340	50	13	6
8,0	...164	...352	60	19	8
10,0	...176	...364	70	22	10
12,0	...182	...370	75	26	12
14,0	...185	...373	85	26	16
16,0	...188	...376	100	32	16
18,0	...191	...379	100	32	16
20,0	...194	...382	105	38	20

forum Freza cilindro-frontala din carbura, extra lunga

- Din carbura monobloc K10/K20
- Tip N
- Norma de productie
- Pentru frezarea canalelor de pana, prelucrare universala
- Adancime de frezare max. 3 x d
- Posibilitate prelucrare uscata



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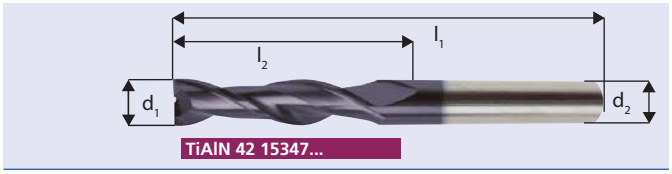

Suprafata	Cod comanda	Otel <850 N	Otel <1000 N	Otel <1400 N	Otel <42 HRC	Otel <52 HRC	Otel <56 HRC	Otel <62 HRC	Otel >62 HRC	INOX	Ti, aliaje Ti, oteluri speciale	Fonta	Al, nemetale, aliaje nemetale	Cupru, alama, bronz	Emulsii	Ulei	Aer	fara racire
TiAlN	42 15347...	110	100	80	60					50		120	150	100	■	◧	◧	□

Ø d_1 = h10 mm	forum Cod comanda TiAlN 42 15347...	Lungime totala l_1 mm	Lungime parte activa l_2 mm	Ø coada d_2 = h6 mm
3,0	...110	75	20	3
4,0	...113	75	25	4
5,0	...116	75	30	5
6,0	...119	75	30	6
8,0	...122	100	40	8
10,0	...125	100	40	10

Ø d_1 = h10 mm	forum Cod comanda TiAlN 42 15347...	Lungime totala l_1 mm	Lungime parte activa l_2 mm	Ø coada d_2 = h6 mm
12,0	...128	150	45	12
14,0	...131	150	45	14
16,0	...134	150	65	16
18,0	...137	150	65	18
20,0	...140	150	65	20

Accesorii optionale

Solutii de racire gasiti la pagina 9/60

Codurile marcate cu • nu se regasesc in stoc, livrare rapida

GUHRING Freza cilindro-frontala din carbura pentru aluminiu, scurta sau lunga

- Din carbura monobloc UF
- Tip W
- DIN 6527
- Pentru frezarea canalelor de pana, frezare finisaje, prelucrare universala

★ Datorita spiralei de 45° taierea se realizeaza fin, rezultand o calitate superioara a suprafetei. Se evita formarea bavurilor.

Carbura UF | Tip W | D 2 | DIN 6527 | DIN 6535-HB

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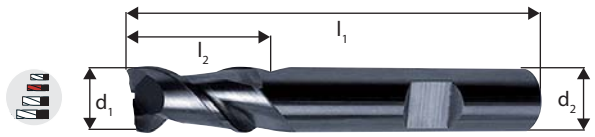

Blank 42 15349...

Blank 42 15350...

Suprafata	Cod comanda	Otel <850 N	Otel <1000 N	Otel <1400 N	Otel <42 HRC	Otel <52 HRC	Otel <56 HRC	Otel <62 HRC	Otel >62 HRC	INOX	Ti, aliaje Ti, oteluri speciale	Fonta	Al, nemetale, aliaje nemetale	Cupru, alama, bronz	Emulsii	Ulei	Aer	fara racire
Blank	42 15349...												350	150	■	◧	□	
Blank	42 15350...												350	150	■	◧	□	

Ø d_1 = h10 mm	GUHRING Cod comanda 42 15349...	Blank	GUHRING Cod comanda 42 15350...	Blank	Lungime totala l_1 mm	Lungime parte activa l_2 mm	Ø coada d_2 = h6 mm
3,0	...013				50	4	6
3,0			...013		57	7	6
4,0	...016				54	5	6
4,0			...016		57	8	6
5,0	...019				54	6	6
5,0			...019		57	10	6
6,0	...022				54	7	6
6,0			...022		57	10	6
8,0	...025				58	9	8
8,0			...025		63	16	8
10,0	...028				66	11	10

Ø d_1 = h10 mm	GUHRING Cod comanda 42 15349...	Blank	GUHRING Cod comanda 42 15350...	Blank	Lungime totala l_1 mm	Lungime parte activa l_2 mm	Ø coada d_2 = h6 mm
10,0			...028		72	19	10
12,0	...031				73	12	12
12,0			...031		83	22	12
14,0	...034				75	14	14
14,0			...034		83	22	14
16,0	...037				82	16	16
16,0			...037		92	16	16
18,0	...040				84	18	18
18,0			...040		92	26	18
20,0	...043				92	20	20
20,0			...043		104	32	20

forum Mini-freza din carbura, extra scurta

- Din carbura monobloc K10/K20
- Tip N
- Norma de productie
- Pentru frezarea canalelor de pana si prelucrare universala
- Posibilitate prelucrare uscata

Carbura K10/K20 | Tip N | D 3 | Norma de productie | DIN 6535-HB

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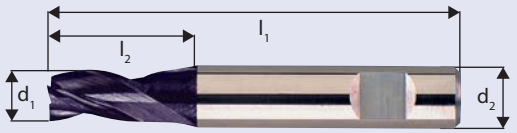

TiAlN 42 15339...

Suprafata	Cod comanda	Otel <850 N	Otel <1000 N	Otel <1400 N	Otel <42 HRC	Otel <52 HRC	Otel <56 HRC	Otel <62 HRC	Otel >62 HRC	INOX	Ti, aliaje Ti, oteluri speciale	Fonta	Al, nemetale, aliaje nemetale	Cupru, alama, bronz	Emulsii	Ulei	Aer	fara racire
TiAlN	42 15339...	42	42	35	35	27				60		48	125	94	■	■	◧	□

Ø d_1 = h10 mm	forum Cod comanda 42 15339...	TiAlN	Lungime totala l_1 mm	Lungime parte activa l_2 mm	Ø coada d_2 = h6 mm
0,50*	...010		38	1,5	3
0,60*	...013		38	1,5	3
0,80*	...016		38	2	3
1,00*	...019		38	2	3
1,20*	...022		38	2	3
1,50*	...025		38	2	3
1,80*	...028		38	2	3
2,00	...031		35	4	6
2,50	...034		36	5	6
3,00	...037		36	5	6
3,50	...040		37	6	6
4,00	...043		38	7	6
4,50	...046		38	8	6

Ø d_1 = h10 mm	forum Cod comanda 42 15339...	TiAlN	Lungime totala l_1 mm	Lungime parte activa l_2 mm	Ø coada d_2 = h6 mm
5,00	...049		39	8	6
5,50	...052		39	8	6
5,75	...055		39	8	6
6,00	...058		39	8	6
6,75	...061		42	10	8
7,00	...064		42	10	8
7,75	...067		42	10	8
8,00	...070		43	11	8
8,70	...073		48	11	10
9,00	...076		48	11	10
9,70	...079		48	11	10
10,00	...082		50	13	10
12,00	...085		55	15	12

* Coada cilindrica fara suprafata de prindere HA

Cifre ingrosate recomandat | Cifre normale adecvat | ■ recomandat | ◧ adecvat | □ ocazional

GUHRING Mini-freza din carbura, extra scurta

- Din carbura monobloc UF
- Tip N
- Norma de productie
- Pentru frezarea canalelor de pana, prelucrare universala
- Posibilitate prelucrare uscata

Nota: Nu este recomandat pentru reascutire.

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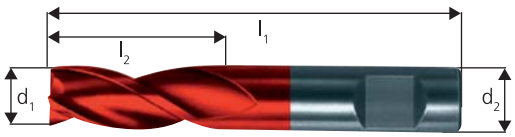


Fire 42 15341...

Suprafata	Cod comanda	Otel <850 N	Otel <1000 N	Otel <1400 N	Otel <42 HRC	Otel <52 HRC	Otel <56 HRC	Otel <62 HRC	Otel >62 HRC	INOX	Ti, aliaje Ti, oteluri speciale	Fonta	Al, nemetale, aliaje nemetale	Cupru, alama, bronz	Emulsii	Ulei	Aer	fara racire
Fire	42 15341...	110	100	80						50	40	120	150	100	■	◧	◧	□

Ø d_1 = h10 mm	GUHRING Cod comanda Fire 42 15341...	Lungime totala l_1 mm	Lungime parte activa l_2 mm	Ø coada d_2 = h6 mm
1,00*	...019	38	2	3
1,20*	...022	38	2	3
1,50*	...025	38	3	3
1,80*	...028	38	3	3
2,00	...031	45	4	6
2,50	...034	45	5	6
3,00	...037	45	6	6
3,50	...040	45	6	6
4,00	...043	45	7	6
4,50	...046	45	8	6
5,00	...049	45	8	6

Ø d_1 = h10 mm	GUHRING Cod comanda Fire 42 15341...	Lungime totala l_1 mm	Lungime parte activa l_2 mm	Ø coada d_2 = h6 mm
5,50	...052	45	8	6
5,75	...055	45	10	6
6,00	...058	45	10	6
6,75	...061	55	10	8
7,00	...064	55	12	8
7,75	...067	55	12	8
8,00	...070	55	13	8
8,70	...073	55	14	10
9,00	...076	55	14	10
9,70	...079	55	16	10
10,00	...082	55	16	10

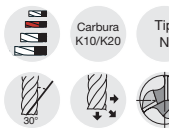
* Coada cilindrica fara suprafata de prindere, forma HA

forum Freza cilindro - frontala din carbura, scurta

- Din carbura monobloc K10/K20
- Tip N
- DIN 6527
- Pentru frezarea canalelor de pana, prelucrare universala
- Executie foarte stabila, adancime de frezare max. 1 x d

Blank 42 15351...

TiAlN 42 15352... ▪ Prelucrare uscata posibila



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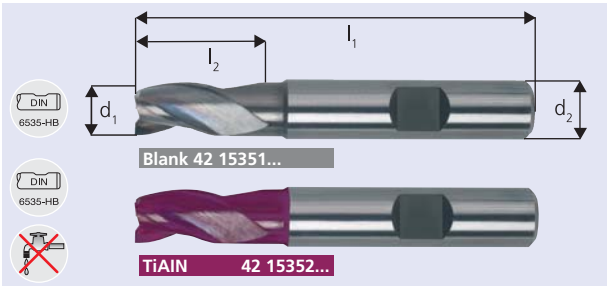

Suprafata	Cod comanda	Otel <850 N	Otel <1000 N	Otel <1400 N	Otel <42 HRC	Otel <52 HRC	Otel <56 HRC	Otel <62 HRC	Otel >62 HRC	INOX	Ti, aliaje Ti, oteluri speciale	Fonta	Al, nemetale, aliaje nemetale	Cupru, alama, bronz	Emulsii	Ulei	Aer	fara racire
Blank	42 15351...	70	60	50						40		80	150	100	■	◧		
TiAlN	42 15352...	110	100	80	60					50		120	150	100	■	◧	◧	□

Ø d_1 = h10 mm	forum Cod comanda Blank 42 15351...	forum Cod comanda TiAlN 42 15352...	Lungime totala l_1 mm	Lungime parte activa l_2 mm	Ø coada d_2 = h6 mm
2,0	...010	...010	50	3	6
2,5	...011	...011	50	3	6
3,0	...013	...013	50	4	6
3,5	...014	...014	50	4	6
4,0	...016	...016	54	5	6
5,0	...019	...019	54	6	6
6,0	...022	...022	54	7	6
7,0	–	...023	58	8	8
8,0	...025	...025	58	9	8
9,0	–	...026	66	10	10
10,0	...028	...028	66	11	10
12,0	...031	...031	73	12	12
14,0	...034	...034	75	14	14
16,0	...037	...037	82	16	16
18,0	...040	...040	84	18	18
20,0	...043	...043	92	20	20

Codurile marcate cu • nu se regasesc in stoc, livrare rapida

forum Freza cilindro - frontala din carbura, lunga

- Din carbura monobloc K10/K20
- Tip N
- DIN 6527
- Pentru frezarea canalelor de pana, prelucrare universala
- Executie foarte stabila, adancime de frezare max. 1 x d

Carbura K10/K20 | Tip N | D 3 | DIN 6527 L

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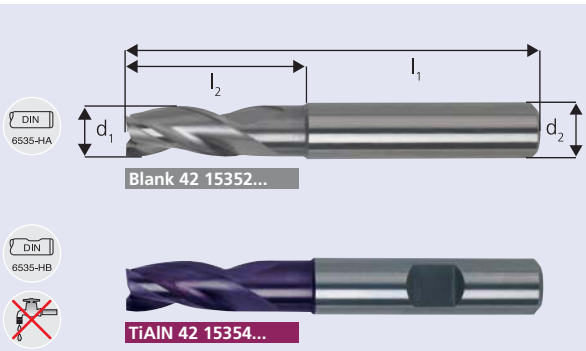
Blank 42 15352...

TiAlN 42 15354... ▪ Prelucrare uscata posibila



Suprafata	Cod comanda	Otel <850 N	Otel <1000 N	Otel <1400 N	Otel <42 HRC	Otel <52 HRC	Otel <56 HRC	Otel <62 HRC	Otel >62 HRC	INOX	Ti, aliaje Ti, oteluri speciale	Fonta	Al, nemetale, aliaje nemetale	Cupru, alama, bronz	Emulsii	Ulei	Aer	fara racire
Blank	42 15352...	70	60	50						40		80	150	100	■	◧		
TiAlN	42 15354...	110	100	80	60					50		120	150	100	■	◧	◧	□

Ø d_1 = h10 mm	forum Cod comanda Blank 42 15352...	forum Cod comanda TiAlN 42 15354...	Lungime totala l_1 mm	Lungime parte activa l_2 mm	Ø coada d_2 = h6 mm
2,0	...100	–	57	6	6
3,0	...103	...013	57	7	6
4,0	...106	...016	57	8	6
5,0	...109	...019	57	10	6
6,0	...112	...022	57	10	6
7,0	...115	–	63	13	8
8,0	...118	...028	63	16	8
9,0	...121	–	72	16	10
10,0	...124	...034	72	19	10
11,0	...127	–	83	22	12
12,0	...130	...040	83	22	12
14,0	...133	...043	83	22	14
16,0	...136	...046	92	26	16
18,0	...139	...049	92	26	18
20,0	...142	...052	104	32	20

GUHRING Freza cilindro-frontala din carbura, universala, lunga

- Din carbura monobloc UF
- Tip N
- DIN 6527
- Pentru prelucrarea canelurilor, degrosare, finisare, prelucrare universala
- Posibilitate prelucrare uscata

Carbura UF | Tip N | D 3 | DIN 6527 L

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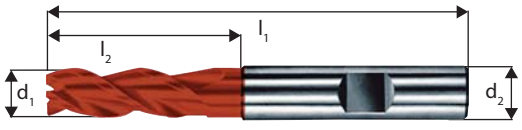


Fire 42 15356...

Suprafata	Cod comanda	Otel <850 N	Otel <1000 N	Otel <1400 N	Otel <42 HRC	Otel <52 HRC	Otel <56 HRC	Otel <62 HRC	Otel >62 HRC	INOX	Ti, aliaje Ti, oteluri speciale	Fonta	Al, nemetale, aliaje nemetale	Cupru, alama, bronz	Emulsii	Ulei	Aer	fara racire
Fire	42 15356...	150	110	100	80	60				50	60	130	250	120	■	◧	◧	□

Ø d_1 = h10 mm	GUHRING Cod comanda Fire 42 15356...	Lungime totala l_1 mm	Lungime parte activa l_2 mm	Ø coada d_2 = h6 mm
3,0	...013	57	7	6
4,0	...016	57	8	6
5,0	...019	57	10	6
6,0	...022	57	10	6
7,0	...025	63	13	8
8,0	...028	63	16	8
9,0	...031	72	16	10

Ø d_1 = h10 mm	GUHRING Cod comanda Fire 42 15356...	Lungime totala l_1 mm	Lungime parte activa l_2 mm	Ø coada d_2 = h6 mm
10,0	...034	72	19	10
12,0	...037	83	22	12
14,0	...040	83	22	14
16,0	...043	92	26	16
18,0	...046	92	26	18
20,0	...049	104	32	20

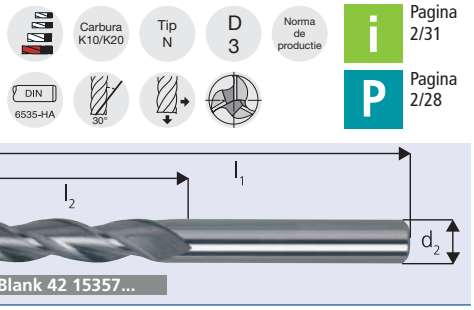
Accesorii optionale

Solutii de racire gasiti la pagina 9/60

Cifre ingrosate recomandat | Cifre normale adecvat | ■ recomandat | ◧ adecvat | □ ocazional

forum Freza cilindro-frontala din carbura, extra lunga

- Din carbura monobloc K10/K20
- Tip N
- Norma de productie
- Pentru frezarea canelurilor, prelucrare universala
- Adancime de frezare max. 3 x d



Suprafata	Cod comanda	Otel <850 N	Otel <1000 N	Otel <1400 N	Otel <42 HRC	Otel <52 HRC	Otel <56 HRC	Otel <62 HRC	Otel >62 HRC	INOX	Ti, aliaje Ti, oteluri speciale	Fonta	Al, nemetale, aliaje nemetale	Cupru, alama, bronz	Emulsii	Ulei	Aer	fara racire
Blank	42 15357...	70	60	50						40		80	150	100	■	◧		

Ø d_1 = h10 mm	forum Cod comanda Blank 42 15357...	Lungime totala l_1 mm	Lungime parte activa l_2 mm	Ø coada d_2 = h6 mm
3,0	...013	75	20	3
4,0	...016	75	25	4
5,0	...019	75	30	5
6,0	...022	75	30	6

Ø d_1 = h10 mm	forum Cod comanda Blank 42 15357...	Lungime totala l_1 mm	Lungime parte activa l_2 mm	Ø coada d_2 = h6 mm
8,0	...025	100	40	8
10,0	...028	100	40	10
12,0	...031	150	45	12
16,0	...034	150	65	16

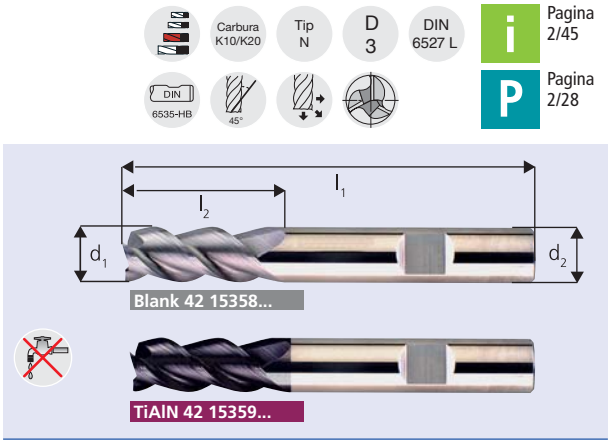
forum Freza cilindro - frontala din carbura, lunga

- Din carbura monobloc K10/K20
- Tip N
- DIN 6527
- Pentru frezarea canelurilor, degrosare, finisare, prelucrare universala

Blank 42 15358...

TiAlN 42 15359...

- Prelucrare uscata posibila



Suprafata	Cod comanda	Otel <850 N	Otel <1000 N	Otel <1400 N	Otel <42 HRC	Otel <52 HRC	Otel <56 HRC	Otel <62 HRC	Otel >62 HRC	INOX	Ti, aliaje Ti, oteluri speciale	Fonta	Al, nemetale, aliaje nemetale	Cupru, alama, bronz	Emulsii	Ulei	Aer	fara racire
Blank	42 15358...	70	60	50						40		80	150	100	■	◧		
TiAlN	42 15359...	150	110	100	80	60				50	60	130	250	120	■	◧	◧	□

Ø d_1 = h10 mm	forum Cod comanda Blank 42 15358...	forum Cod comanda TiAlN 42 15359...	Lungime totala l_1 mm	Lungime parte activa l_2 mm	Ø coada d_2 = h6 mm
3,0	...013	...013	57	7	6
4,0	...016	...016	57	8	6
5,0	...019	...019	57	10	6
6,0	...022	...022	57	10	6
7,0	...025	...025	63	13	8
8,0	...028	...028	63	16	8
9,0	...031	...031	72	16	10
10,0	...034	...034	72	19	10
12,0	...037	...037	83	22	12
14,0	...040	...040	83	22	14
16,0	...043	...043	92	26	16
18,0	...046	...046	92	26	18
20,0	...049	...049	104	32	20

Accesorii optionale

Solutii de racire gasiti la pagina 9/60

Codurile marcate cu • nu se regasesc in stoc, livrare rapida

forum Freza cilindro-frontala din carbura, pentru prelucrare INOX, lunga

- Din carbura monobloc UF
- Tip H
- Norma de productie
- Pentru frezarea canelurilor, finisare, prelucrare universala
- Posibilitate prelucrare uscata

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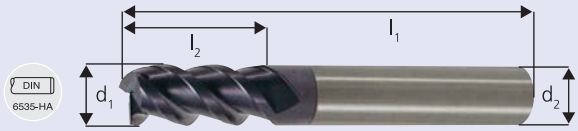


TiAlN 42 15359 110–131

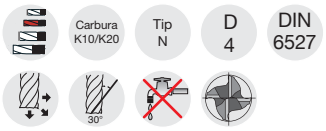
TiAlN 42 15359 134–155

Suprafata	Cod comanda	Otel <850 N	Otel <1000 N	Otel <1400 N	Otel <42 HRC	Otel <52 HRC	Otel <56 HRC	Otel <62 HRC	Otel >62 HRC	INOX	Ti, aliaje Ti, oteluri speciale	Fonta	Al, nemetale, aliaje nemetale	Cupru, alama, bronz	Emulsii	Ulei	Aer	fara racire
TiAlN	42 15359...	105	105	65	65					52	52	57	100	75				

Ø d_1 = h10 mm	forum Cod comanda 42 15359...	TiAlN	forum Cod comanda 42 15359...	TiAlN	Lungime totala l_1 mm	Lungime parte activa l_2 mm	Ø coada d_2 = h6 mm	Numar dinti
6,0	...110		...134		50	13	6	3
8,0	...113		...137		60	19	8	3
10,0	...116		...140		70	22	10	3
12,0	...119		...143		75	25	12	3
16,0	...122		...146		90	32	16	3
18,0	...125		...149		90	32	18	3
20,0	...128		...152		100	38	20	4
25,0	...131		...155		120	45	25	4

forum Freza cilindro - frontala din carbura, scurta

- Din carbura monobloc K10/K20
- Pentru frezarea circumferintelor, bordurilor, utilizare universala
- Executie foarte stabila, adancime de frezare max. 1 x d
- Posibilitate prelucrare uscata



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TiAlN 42 15361...

Suprafata	Cod comanda	Otel <850 N	Otel <1000 N	Otel <1400 N	Otel <42 HRC	Otel <52 HRC	Otel <56 HRC	Otel <62 HRC	Otel >62 HRC	INOX	Ti, aliaje Ti, oteluri speciale	Fonta	Al, nemetale, aliaje nemetale	Cupru, alama, bronz	Emulsii	Ulei	Aer	fara racire
TiAlN	42 15361...	180	140	120	80	60				60	50	130	250	150	■	◧	◧	□

Ø d_1 = h10 mm	forum Cod comanda 42 15361...	TiAlN	Lungime totala l_1 mm	Lungime parte activa l_2 mm	Ø coada d_2 = h6 mm
2,0	...010		50	4	6
3,0	...013		50	5	6
4,0	...016		54	8	6
5,0	...019		54	9	6
6,0	...022		54	10	6
8,0	...025		58	12	8

Ø d_1 = h10 mm	forum Cod comanda 42 15361...	TiAlN	Lungime totala l_1 mm	Lungime parte activa l_2 mm	Ø coada d_2 = h6 mm
10,0	...028		66	14	10
12,0	...031		73	16	12
14,0	...034		75	18	14
16,0	...037		82	22	16
18,0	...040		84	24	18
20,0	...043		92	26	20

Cifre ingrosate recomandat | Cifre normale adecvat | ■ recomandat | ◧ adecvat | □ ocazional

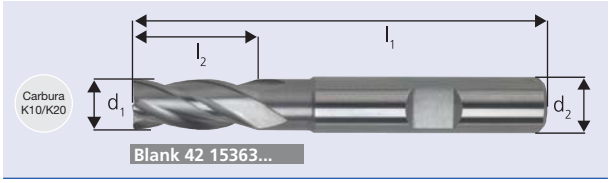
Freza cilindro - frontala din carbura, lunga

- Tip N
- DIN 6527
- Pentru frezarea circumferintelor, finisare, prelucrare universala
- Adancime de frezare max. 2 x d

Tip N | D 4 | DIN 6527 | DIN 6535-HB | 30° | Pagina 2/37/ 2/38 | Pagina 2/29

forum Blank 42 15363...

- Din carbura monobloc K10/K20



GUHRING Fire 42 15366...

- Din carbura monobloc UF
- Posibilitate prelucrare uscata

★ Viteza de taiere cu cca. 50 % mai mare decat la sculele netratate.

Suprafata	Cod comanda	Otel <850 N	Otel <1000 N	Otel <1400 N	Otel <42 HRC	Otel <52 HRC	Otel <56 HRC	Otel <62 HRC	Otel >62 HRC	INOX	Ti, aliaje Ti, oteluri speciale	Fonta	Al, nemetale, aliaje nemetale	Cupru, alama, bronz	Emulsii	Ulei	Aer	fara racire
Blank	42 15363...	35	35	30	30					50		65	100	75	■	◧		
Fire	42 15366...	180	140	120	80	60				60	50	130	250	150	■	◧	◧	□

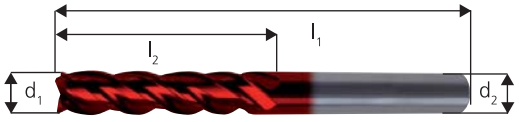
Ø d_1 = h10 mm	forum Cod comanda 42 15363...	Blank	GUHRING Cod comanda 42 15366...	Fire	Lungime totala l_1 mm	Lungime parte activa l_2 mm	Ø coada d_2 = h6 mm
2,0			...010		57	7	6
3,0	...013		...013		57	8	6
4,0	...016		...016		57	11	6
5,0	...019		...019		57	13	6
6,0	...022		...022		57	13	6
7,0	...023		...025		63	16	8
8,0	...028		...028		63	19	8
9,0	...029		...031		72	19	10
10,0	...034		...034		72	22	10
12,0	...040		...040		83	26	12
14,0	...043		...043		83	26	14
16,0	...046		...046		92	32	16
18,0	...049		...049		92	32	18
20,0	...052		...052		104	38	20

GUHRING Freza cilindro - frontala din carbura cu pas al toroanelor 35°/38°, lunga

- Din carbura monobloc UF
- Norma de productie
- Pentru frezarea circumferintelor, finisare, prelucrare universala
- Posibilitate prelucrare uscata

★ Viteza de taiere cu cca. 50 % mai mare decat la sculele netratate.

Carbura UF | Tip N | D 4 | Norma de productie | DIN 6535-HA | 35/38 | Pagina 2/39 | Pagina 2/29



Suprafata	Cod comanda	Otel <850 N	Otel <1000 N	Otel <1400 N	Otel <42 HRC	Otel <52 HRC	Otel <56 HRC	Otel <62 HRC	Otel >62 HRC	INOX	Ti, aliaje Ti, oteluri speciale	Fonta	Al, nemetale, aliaje nemetale	Cupru, alama, bronz	Emulsii	Ulei	Aer	fara racire
Fire	42 15366...	130	100	90	60	60				45	35	100	200	130				

Ø d_1 = h10 mm	GUHRING Cod comanda 42 15366...	Fire	Lungime totala l_1 mm	Lungime parte activa l_2 mm	Ø coada d_2 = h6 mm
10	...110		100	40	10
12	...113		150	45	12
16	...116		150	65	16

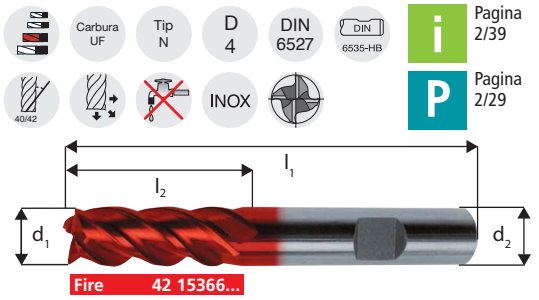
Ø d_1 = h10 mm	GUHRING Cod comanda 42 15366...	Fire	Lungime totala l_1 mm	Lungime parte activa l_2 mm	Ø coada d_2 = h6 mm
20	...119		150	65	20
25	...122		150	75	25

Codurile marcate cu • nu se regasesc in stoc, livrare rapida

GUHRING Freza cilindro - frontala din carbura cu pas al toroanelor 40°/42°, lunga

- Din carbura monobloc UF
- Tip N
- DIN 6527
- Pentru frezare circumferinte, finisare, prelucrare universala
- Posibilitate prelucrare uscata

★ Viteza de taiere cca. 50 % mai mare decat la sculele nestratificate.



Fire 42 15366...

Suprafata	Cod comanda	Otel <850 N	Otel <1000 N	Otel <1400 N	Otel <42 HRC	Otel <52 HRC	Otel <56 HRC	Otel <62 HRC	Otel >62 HRC	INOX	Ti, aliaje Ti, oteluri speciale	Fonta	Al, nemetale, aliaje nemetale	Cupru, alama, bronz	Emulsii	Ulei	Aer	fara racire
Fire	42 15366...	200	160		100					60	70	180	350	200	■	◧	□	

Ø d_1 = h10 mm	GUHRING Cod comanda Fire 42 15366...	Lungime totala l_1 mm	Lungime parte activa l_2 mm	Ø coada d_2 = h6 mm
4,0	...510	57	11	6
5,0	...513	57	13	6
6,0	...516	57	13	6
8,0	...519	63	19	8

Ø d_1 = h10 mm	GUHRING Cod comanda Fire 42 15366...	Lungime totala l_1 mm	Lungime parte activa l_2 mm	Ø coada d_2 = h6 mm
10,0	...522	72	22	10
12,0	...525	83	26	12
16,0	...528	92	32	16
20,0	...531	104	38	20

GUHRING Freza cilindro - frontala din carbura cu pas al toroanelor 40°/42° si racire interioara, lunga

- Din carbura monobloc UF
- Tip NH
- DIN 6527
- Pentru frezarea circumferintelor, finisare, prelucrare universala
- Posibilitate prelucrare uscata

★ Viteza de taiere cu cca. 50 % mai mare decat la sculele nestratificate. Cu racire interioara: cresterea duratei de utilizare cu pana la 50 %, datorita reducerii blocarii spanului.

Fire 42 15366...

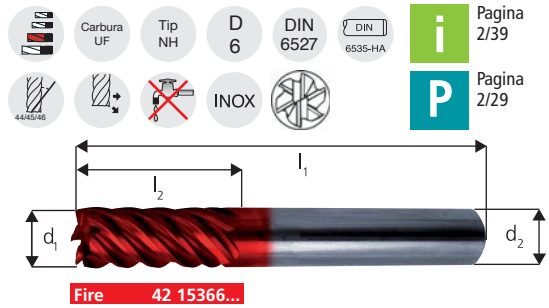
Suprafata	Cod comanda	Otel <850 N	Otel <1000 N	Otel <1400 N	Otel <42 HRC	Otel <52 HRC	Otel <56 HRC	Otel <62 HRC	Otel >62 HRC	INOX	Ti, aliaje Ti, oteluri speciale	Fonta	Al, nemetale, aliaje nemetale	Cupru, alama, bronz	Emulsii	Ulei	Aer	fara racire
Fire	42 15366...	200	160		100					60	70	180	350	200	■	◧		

Ø d_1 = h10 mm	GUHRING Cod comanda Fire 42 15366...	Lungime totala l_1 mm	Lungime parte activa l_2 mm	Ø coada d_2 = h6 mm
6,0	...610	57	13	6
8,0	...613	63	19	8
10,0	...616	72	22	10

Ø d_1 = h10 mm	GUHRING Cod comanda Fire 42 15366...	Lungime totala l_1 mm	Lungime parte activa l_2 mm	Ø coada d_2 = h6 mm
12,0	...619	83	26	12
16,0	...622	92	32	16
20,0	...625	104	38	20

GUHRING Freza cilindro - frontala din carbura cu pas al toroanelor 44°/45°/46°, lunga

- Din carbura monobloc UF
- Tip NH
- DIN 6527
- Pentru frezare circumferinte, finisare, prelucrare universala
- Posibilitate prelucrare uscata



Fire 42 15366...

Suprafata	Cod comanda	Otel <850 N	Otel <1000 N	Otel <1400 N	Otel <42 HRC	Otel <52 HRC	Otel <56 HRC	Otel <62 HRC	Otel >62 HRC	INOX	Ti, aliaje Ti, oteluri speciale	Fonta	Al, nemetale, aliaje nemetale	Cupru, alama, bronz	Emulsii	Ulei	Aer	fara racire
Fire	42 15366...	250	220	180	140	100				100	120	180	450	280	■	◧	◧	◧

Ø d_1 = h10 mm	GUHRING Cod comanda Fire 42 15366...	Lungime totala l_1 mm	Lungime parte activa l_2 mm	Ø coada d_2 = h6 mm
8,0	...628	63	19	8
10,0	...631	72	22	10
12,0	...634	83	26	12

Ø d_1 = h10 mm	GUHRING Cod comanda Fire 42 15366...	Lungime totala l_1 mm	Lungime parte activa l_2 mm	Ø coada d_2 = h6 mm
16,0	...637	92	32	16
20,0	...640	104	38	20
25,0	...643	121	45	25

GUHRING Freza cilindro - frontala din carbura cu pas al toroanelor 35°/38°, lunga

- Din carbura monobloc UF
- Tip N
- DIN 6527
- Pentru degrosare, frezare caneluri, finisare
- Posibilitate prelucrare uscata

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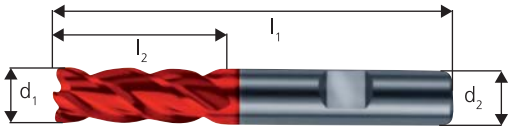

Fire 42 15365...

Suprafata	Cod comanda	Otel <850 N	Otel <1000 N	Otel <1400 N	Otel <42 HRC	Otel <52 HRC	Otel <56 HRC	Otel <62 HRC	Otel >62 HRC	INOX	Ti, aliaje Ti, oteluri speciale	Fonta	Al, nemetale, aliaje nemetale	Cupru, alama, bronz	Emulsii	Ulei	Aer	fara racire
Fire	42 15365...	200	160	140	100	80	60			70	70	180	350	200	■	◧	◧	□

Ø d_1 = h10 mm	GUHRING Cod comanda 42 15365...	Fire	Lungime totala l_1 mm	Lungime parte activa l_2 mm	Ø coada d_2 = h6 mm
6,0	...022		57	13	6
8,0	...028		63	19	8
10,0	...034		72	19	10
12,0	...040		83	26	12

Ø d_1 = h10 mm	GUHRING Cod comanda 42 15365...	Fire	Lungime totala l_1 mm	Lungime parte activa l_2 mm	Ø coada d_2 = h6 mm
14,0	...043		83	26	14
16,0	...046		92	32	16
18,0	...049		92	32	18
20,0	...052		104	38	20

GUHRING Freza cilindro-frontala din carbura, extra lunga

- Din carbura monobloc UF
- Tip N
- Norma de productie
- Pentru frezare circumferinte, finisare, prelucrare universala
- Adancime de frezare max. 3 x d
- Posibilitate prelucrare uscata

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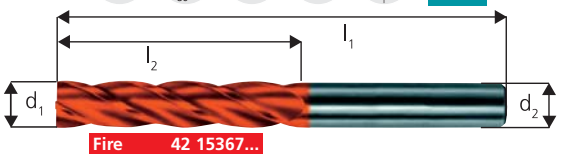
Pagina 2/29



Fire 42 15367...

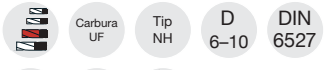
Suprafata	Cod comanda	Otel <850 N	Otel <1000 N	Otel <1400 N	Otel <42 HRC	Otel <52 HRC	Otel <56 HRC	Otel <62 HRC	Otel >62 HRC	INOX	Ti, aliaje Ti, oteluri speciale	Fonta	Al, nemetale, aliaje nemetale	Cupru, alama, bronz	Emulsii	Ulei	Aer	fara racire
Fire	42 15367...	140	120	100	80	60				60	70	180	350	200	■	◧	◧	□

Ø d_1 = h10 mm	GUHRING Cod comanda 42 15367...	Fire	Lungime totala l_1 mm	Lungime parte activa l_2 mm	Ø coada d_2 = h6 mm
3,0	...013		75	20	3
4,0	...016		75	25	4
5,0	...019		75	30	5
6,0	...022		75	30	6
8,0	...028		100	40	8
10,0	...034		100	40	10

Ø d_1 = h10 mm	GUHRING Cod comanda 42 15367...	Fire	Lungime totala l_1 mm	Lungime parte activa l_2 mm	Ø coada d_2 = h6 mm
12,0	...040		150	45	12
14,0	...043		150	45	14
16,0	...046		150	65	16
18,0	...049		150	65	18
20,0	...052		150	65	20

GUHRING Freza cilindro - frontala din carbura SL, lunga

- Din carbura monobloc UF
- Tip NH
- DIN 6527 L
- Cu taiere centrala
- Utilizare pentru frezare circumferinte si finisare
- Posibilitate utilizare uscata



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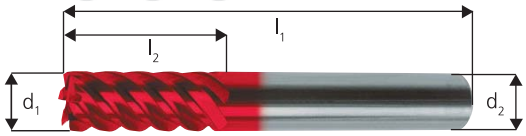


Fire 42 15366...

Suprafata	Cod comanda	Otel <850 N	Otel <1000 N	Otel <1400 N	Otel <42 HRC	Otel <52 HRC	Otel <56 HRC	Otel <62 HRC	Otel >62 HRC	INOX	Ti, aliaje Ti, oteluri speciale	Fonta	Al, nemetale, aliaje nemetale	Cupru, alama, bronz	Emulsii	Ulei	Aer	fara racire
Fire	42 15366...	170	170			55					105	200	900	220				

Ø d_1 = h10 mm	GUHRING Cod comanda 42 15366...	Fire	Lungime totala l_1 mm	Lungime par-te activa l_2 mm	Ø coada d_2 = h6 mm	Numar dinti
3,0	...646		57	8	6	6
4,0	...649		57	11	6	6
5,0	...652		57	13	6	6
6,0	...655		57	13	6	6
8,0	...658		63	19	8	6

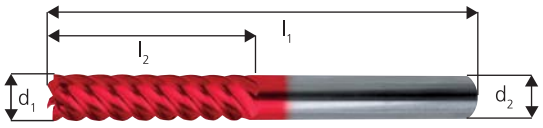
Ø d_1 = h10 mm	GUHRING Cod comanda 42 15366...	Fire	Lungime totala l_1 mm	Lungime par-te activa l_2 mm	Ø coada d_2 = h6 mm	Numar dinti
10,0	...661		72	22	10	6
12,0	...664		83	26	12	6
16,0	...667		92	32	16	6
20,0	...670		104	38	20	8
25,0	...673		121	45	25	10

Codurile marcate cu • nu se regasesc in stoc, livrare rapida

GUHRING Freza cilindro-frontala din carbura, extra lunga

Pagina 2/29

- Din carbura monobloc UF
- Tip NH
- Norma de productie
- Cu taiere centala
- Utilizare pentru circumferinte si finisare
- Posibilitate utilizare uscata



Fire 42 15366...

Suprafata	Cod comanda	Otel <850 N	Otel <1000 N	Otel <1400 N	Otel <42 HRC	Otel <52 HRC	Otel <56 HRC	Otel <62 HRC	Otel >62 HRC	INOX	Ti, aliaje Ti, oteluri speciale	Fonta	Al, nemetale, aliaje nemetale	Cupru, alama, bronz	Emulsii	Ulei	Aer	fara racire
Fire	42 15366...	170	170			55					105	200	900	220				

Ø d_1 = h10 mm	GUHRING Cod comanda 42 15366...	Fire	Lungime totala l_1 mm	Lungime parte activa l_2 mm	Ø coada d_2 = h6 mm	Numar dinti
6,0	...676		75	30	6	6
8,0	...679		100	40	8	6
10,0	...682		100	40	10	6
12,0	...685		150	45	12	6

Ø d_1 = h10 mm	GUHRING Cod comanda 42 15366...	Fire	Lungime totala l_1 mm	Lungime parte activa l_2 mm	Ø coada d_2 = h6 mm	Numar dinti
16,0	...688		150	65	16	6
20,0	...691		150	65	20	8
25,0	...694		150	75	25	10

forum Freza cilindro - frontala din carbura, lunga

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- Din carbura monobloc UF
- Tip H
- Norma de productie
- Pentru circumferinte si finisare
- Prelucrare HSC pana la 62 HRC
- Posibilitate utilizare uscata

Accesorii optionale

Solutii de racire gasiti la pagina 9/60

TiAlN 42 15367...

Suprafata	Cod comanda	Otel <850 N	Otel <1000 N	Otel <1400 N	Otel <42 HRC	Otel <52 HRC	Otel <56 HRC	Otel <62 HRC	Otel >62 HRC	INOX	Ti, aliaje Ti, oteluri speciale	Fonta	Al, nemetale, aliaje nemetale	Cupru, alama, bronz	Emulsii	Ulei	Aer	fara racire
TiAlN	42 15367...	110	110	80	80	32	32	32	32						■	■	◧	

Ø d_1 = e8 mm	forum Cod comanda 42 15367...	TiAlN	Lungime totala l_1 mm	Lungime parte activa l_2 mm	Ø coada d_2 = h6 mm	Numar dinti
6,0	...310		57	13	6	6
7,0	...313		63	16	8	6
8,0	...316		63	19	8	6
9,0	...319		72	19	10	6
10,0	...322		72	22	10	6
12,0	...325		83	26	12	6

Ø d_1 = e8 mm	forum Cod comanda 42 15367...	TiAlN	Lungime totala l_1 mm	Lungime parte activa l_2 mm	Ø coada d_2 = h6 mm	Numar dinti
14,0	...328		83	26	14	6
16,0	...331		92	32	16	6
18,0	...334		92	32	18	8
20,0	...337		104	38	20	8
25,0	...340		104	44	25	8

forum Freza cilindro-frontala din carbura, pentru prelucrare INOX, lunga

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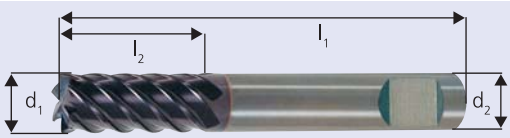
- Din carbura monobloc UF
- Tip N
- Norma de productie
- Pentru circumferinte, finisare
- Posibilitate utilizare uscata



TiAlN 42 15367...

Suprafata	Cod comanda	Otel <850 N	Otel <1000 N	Otel <1400 N	Otel <42 HRC	Otel <52 HRC	Otel <56 HRC	Otel <62 HRC	Otel >62 HRC	INOX	Ti, aliaje Ti, oteluri speciale	Fonta	Al, nemetale, aliaje nemetale	Cupru, alama, bronz	Emulsii	Ulei	Aer	fara racire
TiAlN	42 15367...	110	110	80	80					65	65				■	■	◧	

Ø d_1 = e8 mm	forum Cod comanda 42 15367...	TiAlN	Lungime totala l_1 mm	Lungime parte activa l_2 mm	Ø coada d_2 = h6 mm	Numar dinti
6,0	...510		57	13	6	6
7,0	...513		63	16	8	6
8,0	...516		63	19	8	6
9,0	...519		72	19	10	6
10,0	...522		72	22	10	6
12,0	...525		83	26	12	6

Ø d_1 = e8 mm	forum Cod comanda 42 15367...	TiAlN	Lungime totala l_1 mm	Lungime parte activa l_2 mm	Ø coada d_2 = h6 mm	Numar dinti
14,0	...528		83	26	14	6
16,0	...531		92	32	16	6
18,0	...534		92	32	18	8
20,0	...537		104	38	20	8
25,0	...540		104	44	25	8

Cifre ingrosate recomandat | Cifre normale adecvat | ■ recomandat | ◧ adecvat | □ ocazional

forum Freza cilindro - frontala din carbura pentru prelucrare dura, extra lunga

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Pagina 2/29

- Din carbura monobloc UF
- Tip H
- Norma de productie
- Pentru circumferinte si finisare
- Prelucrare HSC pana la 62 HRC
- Posibilitate utilizare uscata

Accesorii optionale
Solutii de racire gasiti la pagina 9/60

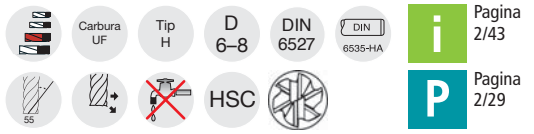
TiAlN 42 15367...

Suprafata	Cod comanda	Otel <850 N	Otel <1000 N	Otel <1400 N	Otel <42 HRC	Otel <52 HRC	Otel <56 HRC	Otel <62 HRC	Otel >62 HRC	INOX	Ti, aliaje Ti, oteluri speciale	Fonta	Al, nemetale, aliaje nemetale	Cupru, alama, bronz	Emulsii	Ulei	Aer	fara racire
TiAlN	42 15367...	42	42	42	32	32	27	27	27						■	■	◧	

Ø d_1 = e8 mm	forum Cod comanda 42 15367...	TiAlN	Lungime totala l_1 mm	Lungime par-te activa l_2 mm	Ø coada d_2 = h6 mm
6,0	...610		70	26	6
8,0	...613		90	36	8
10,0	...616		100	46	10
12,0	...619		110	56	12

Ø d_1 = e8 mm	forum Cod comanda 42 15367...	TiAlN	Lungime totala l_1 mm	Lungime par-te activa l_2 mm	Ø coada d_2 = h6 mm
16,0	...622		130	66	16
20,0	...625		140	76	20
25,0	...628		180	92	25

GUHRING Freza cilindro - frontala din carbura pentru prelucrare dura, lunga



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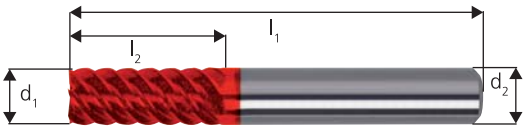
- Din carbura monobloc UF
- Tip H
- DIN 6527
- Pentru finisare, frezare circumferinte
- Prelucrare HSC pana la 62 HRC
- Posibilitate utilizare uscata

Nota: Concentricitate buna datorita interiorului special si a pasului toroanelor. Toleranta mica a formei si calitate foarte buna a suprafetei piesei.



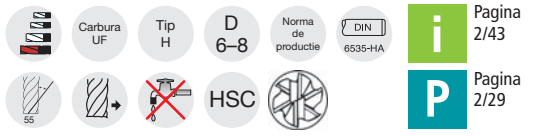
Fire 42 17701...

Suprafata	Cod comanda	Otel <850 N	Otel <1000 N	Otel <1400 N	Otel <42 HRC	Otel <52 HRC	Otel <56 HRC	Otel <62 HRC	Otel >62 HRC	INOX	Ti, aliaje Ti, oteluri speciale	Fonta	Al, nemetale, aliaje nemetale	Cupru, alama, bronz	Emulsii	Ulei	Aer	fara racire
Fire	42 17701...					100	80	50	50			150			◧	◧	■	■

Ø d_1 = h10 mm	GUHRING Cod comanda 42 17701...	Fire	Lungime totala l_1 mm	Lungime parte activa l_2 mm	Ø coada d_2 = h6 mm	Numar dinti
3,0	...000		57	8	6	6
4,0	...003		57	11	6	6
5,0	...006		57	13	6	6
6,0	...010		57	13	6	6
8,0	...013		63	19	8	6

Ø d_1 = h10 mm	GUHRING Cod comanda 42 17701...	Fire	Lungime totala l_1 mm	Lungime parte activa l_2 mm	Ø coada d_2 = h6 mm	Numar dinti
10,0	...016		72	22	10	6
12,0	...019		83	26	12	6
16,0	...022		92	32	16	6
20,0	...025		104	38	20	8

GUHRING Freza cilindro - frontala din carbura pentru prelucrare dura, extra lunga



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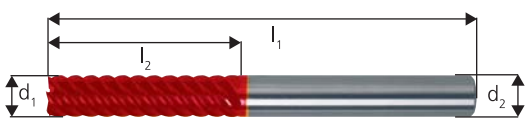
- Din carbura monobloc UF
- Tip H
- Norma de productie
- Pentru finisare, circumferinte
- Adancime de frezare max. 3 x d
- Prelucrare HSC pana la 62 HRC
- Posibilitate utilizare uscata

Nota: Concentricitate buna datorita interiorului special si a pasului toroanelor. Toleranta mica a formei si calitate foarte buna a suprafetei piesei.



Fire 42 17702...

Suprafata	Cod comanda	Otel <850 N	Otel <1000 N	Otel <1400 N	Otel <42 HRC	Otel <52 HRC	Otel <56 HRC	Otel <62 HRC	Otel >62 HRC	INOX	Ti, aliaje Ti, oteluri speciale	Fonta	Al, nemetale, aliaje nemetale	Cupru, alama, bronz	Emulsii	Ulei	Aer	fara racire
Fire	42 17702...					100	80	50	50			150			◧	◧	■	■

Ø d_1 = h10 mm	GUHRING Cod comanda 42 17702...	Fire	Lungime totala l_1 mm	Lungime parte activa l_2 mm	Ø coada d_2 = h6 mm	Numar dinti
6,0	...010		75	30	6	6
8,0	...013		100	40	8	6
10,0	...016		100	40	10	6

Ø d_1 = h10 mm	GUHRING Cod comanda 42 17702...	Fire	Lungime totala l_1 mm	Lungime parte activa l_2 mm	Ø coada d_2 = h6 mm	Numar dinti
12,0	...019		150	45	12	6
16,0	...022		150	65	16	6
20,0	...025		150	65	20	8

Codurile marcate cu • nu se regasesc in stoc, livrare rapida

Nr. comanda	Descriere	Numar dinti	DIN	Tip	Material	Executie coada	Pagina	Acoperire	Otel <850 N	Otel <1000 N	Otel <1400 N	Otel <42 HRC	Otel <52 HRC	INOX	Ti, aliaje Ti, oteluri speciale	Fonta	Al, nemetale, aliaje nemetale	Cupru, alama, bronz
42 15371...	Freza degrosare	3	6527	WR	VHM UF	HB	2/69	Blank	100								350	250
42 15371...	Freza degrosare	3	6527	WR	VHM UF	HB	2/69	Blank	100								350	250
42 15368...	Freza degrosare	4–6	WN	HR	VHM UF	HB	2/71	TiAlN	315	315	240			165	165			
42 15368...	Freza degrosare	3–6	WN	HR	VHM UF	HB	2/71	TiAlN	315	315	240			165	165			
42 15373...	Freza cu cap sferic	2	WN	N	VHM K10/K20	HB	2/73	TiAlN	40	40	32	32	32	77	77	56	170	133
42 15373...	Freza cu cap sferic	2	6527	N	VHM UF	HA	2/73	Fire	160	140	120	100		80	100	200	300	200
42 15374...	Freza cu cap sferic	4	WN	N	VHM UF	HA	2/74	TiAlN	130	130	80	60	60			130		
42 15376...	Freza cu cap sferic	4	WN	N	VHM UF	HB	2/74	TiAlN	130	130	80	60	60			130		
42 15376...	Freza cap sferic	2	WN	N	VHM NANO	HA	2/75	TiAlN-S				220	220			245		
42 15376...	Freza cap sferic	2	WN	N	VHM NANO	HA	2/75	TiAlN-S				220	220			245		
42 15376...	Freza toroidala	2	6527	N	VHM K05/K10	HA	2/76	TiAlN	300	220	200	180	150	100	120	250	500	300
42 15376...	Freza toroidala	4	WN	H	VHM NANO	HA	2/76	TiAlN-S			155	155	155			155		
42 15376...	Freza toroidala	4	WN	N	VHM UF	HA	2/77	TiAlN	110	110	70	70	70			110		
42 17705...	Freza toroidala	4	WN	H	VHM UF	HA	2/77	Fire				180	150			250		
42 17706...	Freza toroidala	4	WN	H	VHM UF	HA	2/77	Fire				180	150			250		

Nr. comanda	Descriere	Numar dinti	DIN	Tip	Material	Executie coada	Pagina	Acoperire	Otel <850 N	Otel <1000 N	Otel <1400 N	Otel <42 HRC	Otel <52 HRC	INOX	Ti, aliaje Ti, oteluri speciale	Fonta	Al, nemetale, aliaje nemetale	Cupru, alama, bronz
42 15376...	Freza toroidala	4	WN	N	VHM UF	HA	2/79	TiAlN	70	70	45	45	45			70		
42 15376...	Freza toroidala	6	WN	H	VHM UF	HA	2/79	TiAlN	410	410	315	315	315					
42 17706...	Freza toroidala	6	WN	H	VHM NANO	HA	2/80	TiAlN-S			465	465	465			385		
42 17703...	Freza toroidala	6	WN	H	VHM UF	HA	2/80	Fire				120	80			140		
42 15371...	Freza degrosare	5–6	DIN 6527	NF	VHM UF	HB	2/72	Fire	100				30			115		
42 15371...	Freza cap sferic	2	WN	N	VHM UF	HA	2/72	TiAlN	200	200	180	160	120	160	90	200		

Codurile marcate cu • nu se regasesc in stoc, livrare rapida

GUHRING Freza degrosare din carbura pentru aluminiu, lunga

- Din carbura monobloc UF
- Tip WR
- DIN 6527
- Pentru degrosare si frezare caneluri

Carbura UF | Tip WR | D 3 | DIN 6527

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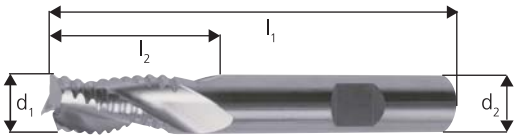
Blank 42 15371 028–052 ▪ Fara racire interioara



Blank 42 15371 028–052

Blank 42 15371 100–112 ▪ Cu racire interioara

Blank 42 15371 100–112

Suprafata	Cod comanda	Otel <850 N	Otel <1000 N	Otel <1400 N	Otel <42 HRC	Otel <52 HRC	Otel <56 HRC	Otel <62 HRC	Otel >62 HRC	INOX	Ti, aliaje Ti, oteluri speciale	Fonta	Al, nemetale, aliaje nemetale	Cupru, alama, bronz	Emulsii	Ulei	Aer	fara racire
Blank	42 15371 028–052	100											350	250	■	◧	□	
Blank	42 15371 100–112	100											350	250	■	◧		

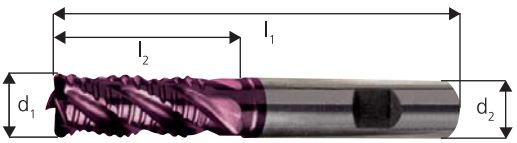
Ø d_1 = h10 mm	GUHRING Cod comanda 42 15371...	Blank	GUHRING Cod comanda 42 15371...	Blank	Lungime totala l_1 mm	Lungime parte activa l_2 mm	Ø coada d_2 = h6 mm
8,0	...028		...100		63	16	8
10,0	...034		...103		72	19	10
12,0	...040		...106		83	22	12
16,0	...046		...109		92	26	16
20,0	...052		...112		104	32	20

GUHRING Freza degrosare din carbura, lunga

- Din carbura monobloc UF
- Tip NF
- DIN 6527
- Cu taiere centrala
- Utilizare pentru degrosare
- Posibilitate utilizare uscata

★ Dantura speciala produce span scurt si usor de indepartat, iar prin pasul inegal al toroanelor de 36° si 38° se optine o utilizare fara vibratii. Se obtine o durata de utilizare semnificativ mai mare si o calitate foarte buna a suprafetei.

Carbura UF | Tip NF | D 4 | DIN 6527



TiAlN 42 15371...

Suprafata	Cod comanda	Otel <850 N	Otel <1000 N	Otel <1400 N	Otel <42 HRC	Otel <52 HRC	Otel <56 HRC	Otel <62 HRC	Otel >62 HRC	INOX	Ti, aliaje Ti, oteluri speciale	Fonta	Al, nemetale, aliaje nemetale	Cupru, alama, bronz	Emulsii	Ulei	Aer	fara racire
TiAlN	42 15371...	95	100	90							60	115		130				

Ø d_1 = h10 mm	GUHRING Cod comanda 42 15371...	TiAlN	Lungime totala l_1 mm	Lungime parte activa l_2 mm	Zona libera mm	Ø retragere coada mm	Ø coada d_2 = h6 mm
6,0	...115		57	13	21	5,5	6
8,0	...118		63	19	27	7,5	8
10,0	...121		72	22	32	9,2	10
12,0	...124		83	26	38	11,2	12
16,0	...127		92	32	44	15,0	14
20,0	...130		104	38	54	19,0	16
25,0	...133		121	45	65	24,0	18

forum Freza degrosare din carbura pentru prelucrare dura, lunga

- Din carbura monobloc UF
- Tip HR
- Norma de productie
- Prelucrare HSC pana la 62 HRC
- Posibilitate utilizare uscata

Carbura UF | Tip HR | D 3–5 | Norma de productie | DIN 6535-HB | HSC | INOX

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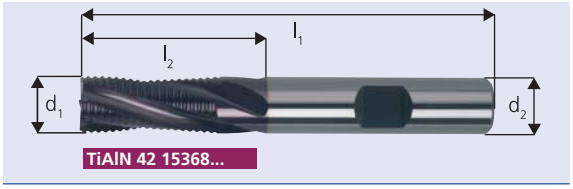

TiAlN 42 15368...

Suprafata	Cod comanda	Otel <850 N	Otel <1000 N	Otel <1400 N	Otel <42 HRC	Otel <52 HRC	Otel <56 HRC	Otel <62 HRC	Otel >62 HRC	INOX	Ti, aliaje Ti, oteluri speciale	Fonta	Al, nemetale, aliaje nemetale	Cupru, alama, bronz	Emulsii	Ulei	Aer	fara racire
TiAlN	42 15368...	315	315	240	65	65	46	46	46	165	315				■	◧	□	

Ø d_1 = js14 mm	forum Cod comanda TiAlN 42 15368...	Lungime totala l_1 mm	Lungime parte activa l_2 mm	Ø coada d_2 = h6 mm	Numar dinti
6,0	...022	57	16	6	3
8,0	...028	63	16	8	3
10,0	...034	72	22	10	4
12,0	...040	83	26	12	4
14,0	...043	83	26	14	4
16,0	...046	92	32	16	4
18,0	...049	92	32	18	4
20,0	...052	104	38	20	4
25,0	...056	121	40	25	5

forum Freza degrosare din carbura pentru prelucrare dura, scurta

- Din carbura monobloc UF
- Tip HR
- Norma de productie
- Prelucrare HSC pana la 62 HRC
- Posibilitate utilizare uscata

Carbura UF | Tip HR | D 3–4 | Norma de productie | DIN 6535-HB | HSC | INOX

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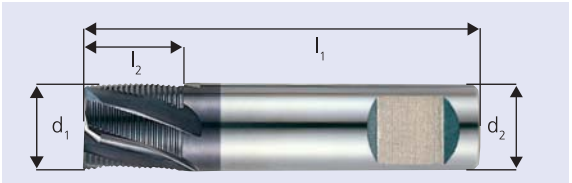
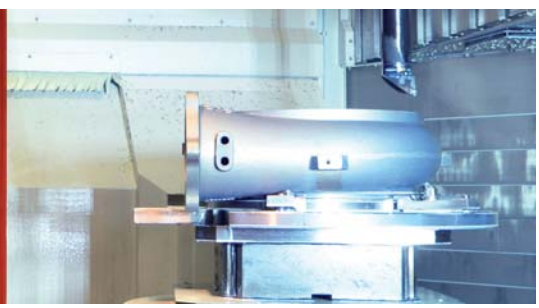


TiAlN 42 15368...

Suprafata	Cod comanda	Otel <850 N	Otel <1000 N	Otel <1400 N	Otel <42 HRC	Otel <52 HRC	Otel <56 HRC	Otel <62 HRC	Otel >62 HRC	INOX	Ti, aliaje Ti, oteluri speciale	Fonta	Al, nemetale, aliaje nemetale	Cupru, alama, bronz	Emulsii	Ulei	Aer	fara racire
TiAlN	42 15368...	315	315	240	65	65	46	46	46	165	315				■	◧	□	

Ø d_1 = h10 mm	forum Cod comanda TiAlN 42 15368...	Lungime totala l_1 mm	Lungime parte activa l_2 mm	Ø coada d_2 = h6 mm	Numar dinti
6,0	...100	54	7	6	3
8,0	...103	58	9	8	3
10,0	...106	66	14	10	4
12,0	...109	73	16	12	4
14,0	...112	75	18	14	4
16,0	...115	82	22	16	4
18,0	...118	84	24	18	4
20,0	...121	92	26	20	4



Codurile marcate cu • nu se regasesc in stoc, livrare rapida

forum Freza degrosare din carbura pentru prelucrare INOX, scurta

- Din carbura monobloc UF
- Tip HR
- Norma de productie
- Posibilitate prelucrare uscata

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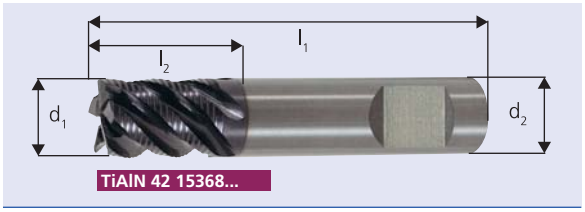

Suprafata	Cod comanda	Otel <850 N	Otel <1000 N	Otel <1400 N	Otel <42 HRC	Otel <52 HRC	Otel <56 HRC	Otel <62 HRC	Otel >62 HRC	INOX	Ti, aliaje Ti, oteluri speciale	Fonta	Al, nemetale, aliaje nemetale	Cupru, alama, bronz	Emulsii	Ulei	Aer	fara racire
TiAlN	42 15368...	315	315	240						165	165				■	◧	□	

Ø d_1 = h10 mm	forum Cod comanda 42 15368...	TiAlN	Lungime totala l_1 mm	Lungime parte activa l_2 mm	Ø coada d_2 = h6 mm	Numar dinti
6,0	...300		54	7	6	4
8,0	...303		58	9	8	4
10,0	...306		66	14	10	4
12,0	...309		73	16	12	4
16,0	...312		82	22	16	5
20,0	...315		92	26	20	6

forum Freza degrosare din carbura pentru prelucrare INOX, lunga

- Din carbura monobloc UF
- Tip HR
- Norma de productie
- Posibilitate prelucrare uscata

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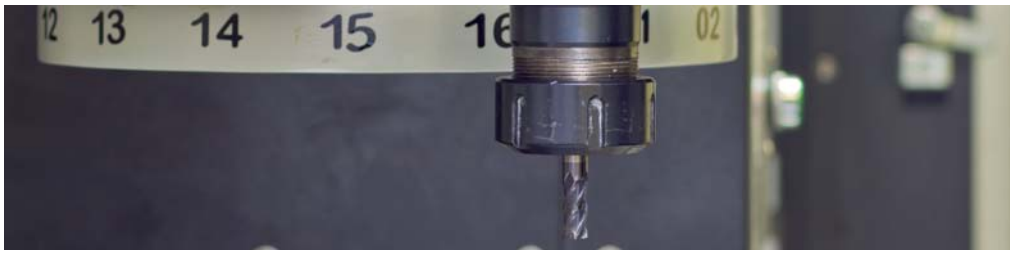
P Pagina 2/67

Suprafata	Cod comanda	Otel <850 N	Otel <1000 N	Otel <1400 N	Otel <42 HRC	Otel <52 HRC	Otel <56 HRC	Otel <62 HRC	Otel >62 HRC	INOX	Ti, aliaje Ti, oteluri speciale	Fonta	Al, nemetale, aliaje nemetale	Cupru, alama, bronz	Emulsii	Ulei	Aer	fara racire
TiAlN	42 15368...	315	315	240						165	165				■	◧	□	

Ø d_1 = h10 mm	forum Cod comanda 42 15368...	TiAlN	Lungime totala l_1 mm	Lungime parte activa l_2 mm	Ø coada d_2 = h6 mm	Numar dinti
4,0	...400		57	11	6	3
5,0	...403		57	13	6	4
6,0	...406		57	16	6	4
7,0	...409		63	16	8	4
8,0	...412		63	16	8	4
9,0	...415		72	19	10	4
10,0	...500		72	22	10	4
12,0	...503		83	26	12	4
14,0	...506		83	26	14	5
16,0	...509		92	32	16	5
20,0	...512		104	38	20	6
25,0	...515		121	45	25	6



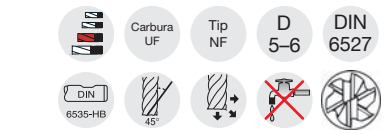
Accesorii optionale

Solutii de racire gasiti la pagina 9/60

GUHRING Freza degrosare din carbura , lunga

- Din carbura monobloc UF
- Tip NF
- DIN6527 L
- Cu taiere centrala
- Pentru degrosare
- Posibilitate prelucrare uscata

★ Prin stratificarea Fire se obtine o viteza de taiere cu 50 % mai mare decat la sculele netratate.



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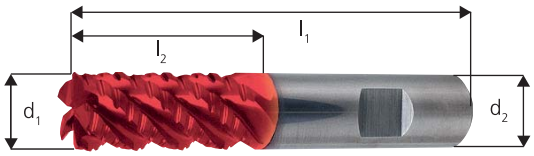


Fire 42 15371...

Suprafata	Cod comanda	Otel <850 N	Otel <1000 N	Otel <1400 N	Otel <42 HRC	Otel <52 HRC	Otel <56 HRC	Otel <62 HRC	Otel >62 HRC	INOX	Ti, aliaje Ti, oteluri speciale	Fonta	Al, nemetale, aliaje nemetale	Cupru, alama, bronz	Emulsii	Ulei	Aer	fara racire
Fire	42 15371...		100			30	20					115						

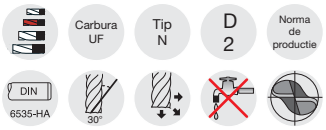
Ø d_1 = h10 mm	GUHRING Cod comanda 42 15371... Fire	Lungime totala l_1 mm	Lungime parte activa l_2 mm	Ø coada d_2 = h6 mm	Numar dinti
6,0	...136	57	13	6	5
8,0	...139	63	19	8	5
10,0	...142	72	22	10	5
12,0	...145	83	26	12	5
14,0	...148	83	26	14	5
16,0	...151	92	32	16	6
18,0	...154	92	32	18	6
20,0	...157	104	38	20	6
25,0	...160	121	45	25	6

GUHRING Freza cu cap sferic din carbura, scurta

- Din carbura monobloc UF
- Tip N
- Norma de productie
- Cu taiere centrala
- Utilizare ca si freza de copiere
- Posibilitate frezare uscata

Nota: Frezele cu cap sferic se utilizeaza numai in mandrine comprimabile sau mandrine hidraulice.

★ Viteza de taiere de pana la 50 % mai mare decat la sculele nestratificate.



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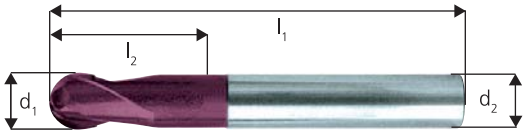


TiAlN 42 15371...

Suprafata	Cod comanda	Otel <850 N	Otel <1000 N	Otel <1400 N	Otel <42 HRC	Otel <52 HRC	Otel <56 HRC	Otel <62 HRC	Otel >62 HRC	INOX	Ti, aliaje Ti, oteluri speciale	Fonta	Al, nemetale, aliaje nemetale	Cupru, alama, bronz	Emulsii	Ulei	Aer	fara racire
TiAlN	42 15371...	200	200	180	160	120	100			160	90	200						

Ø d_1 = h10 mm	GUHRING Cod comanda 42 15371... TiAlN	Lungime totala l_1 mm	Lungime parte activa l_2 mm	Zona libera mm	Raza ± 0,01 mm	Ø coada d_2 = h6 mm
2,0	...163	57	3,0	57	1,0	6
3,0	...166	57	3,5	57	1,5	6
4,0	...169	57	4,0	57	2,0	6
6,0	...172	57	6,0	57	3,0	6
8,0	...175	63	7,0	63	4,0	8
10,0	...178	72	8,0	72	5,0	10
12,0	...181	83	10,0	83	6,0	12

Codurile marcate cu • nu se regasesc in stoc, livrare rapida

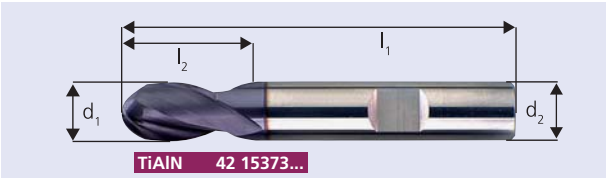
forum Freza cu cap sferic din carbura, scurta

- Din carbura monobloc K10/K20
- Tip N
- Norma de productie
- Posibilitate prelucrare uscata

Carbura K10/K20 | Tip N | D 2 | Norma de productie | DIN 6535-HB | 30° | i Pagina 2/47 | P Pagina 2/67

Accesorii optionale

Solutii de racire gasiti la pagina 9/60



Suprafata	Cod comanda	Otel <850 N	Otel <1000 N	Otel <1400 N	Otel <42 HRC	Otel <52 HRC	Otel <56 HRC	Otel <62 HRC	Otel >62 HRC	INOX	Ti, aliaje Ti, oteluri speciale	Fonta	Al, nemetale, aliaje nemetale	Cupru, alama, bronz	Emulsii	Ulei	Aer	fara racire
TiAlN	42 15373...	40	40	32	32	32	25			77	77	56	170	133	■	◧	□	

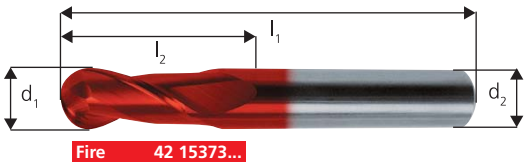
Ø d_1 = h10 mm	forum Cod comanda 42 15373... TiAlN	Lungime totala l_1 mm	Lungime parte activa l_2 mm	Ø coada d_2 = h6 mm
1,0	...010	38	2	3
1,5	...013	38	2,5	3
2,0	...016	38	3	3
3,0	...019	50	5	6
4,0	...022	54	8	6
5,0	...025	54	9	6
6,0	...028	54	10	6

Ø d_1 = h10 mm	forum Cod comanda 42 15373... TiAlN	Lungime totala l_1 mm	Lungime parte activa l_2 mm	Ø coada d_2 = h6 mm
8,0	...034	58	12	8
10,0	...037	66	14	10
12,0	...040	73	16	12
14,0	...043	75	18	14
16,0	...046	82	22	16
18,0	...049	84	24	18

GUHRING Freza cu cap sferic din carbura, lunga

- Din carbura monobloc UF
- Tip N
- DIN 6527
- Pentru frezare de copiere, caneluri, prelucrare universala
- Posibilitate utilizare uscata

Carbura UF | Tip N | D 2 | DIN 6527 | DIN 6535-HA | 30° | i Pagina 2/48 | P Pagina 2/67



Suprafata	Cod comanda	Otel <850 N	Otel <1000 N	Otel <1400 N	Otel <42 HRC	Otel <52 HRC	Otel <56 HRC	Otel <62 HRC	Otel >62 HRC	INOX	Ti, aliaje Ti, oteluri speciale	Fonta	Al, nemetale, aliaje nemetale	Cupru, alama, bronz	Emulsii	Ulei	Aer	fara racire
Fire	42 15373...	160	140	120	100					80	100	200	300	200	◧	◧	■	■

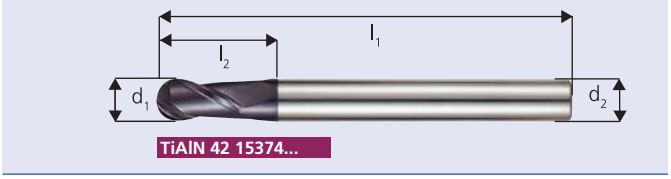
Ø d_1 = h10 mm	GUHRING Cod comanda 42 15373... Fire	Lungime totala l_1 mm	Lungime parte activa l_2 mm	Ø coada d_2 = h6 mm
0,5	...100	38	1	3
1,0	...103	38	2	3
1,5	...106	38	3	3
2,0	...109	57	6	6
3,0	...112	57	7	6
4,0	...115	57	8	6

Ø d_1 = h10 mm	GUHRING Cod comanda 42 15373... Fire	Lungime totala l_1 mm	Lungime parte activa l_2 mm	Ø coada d_2 = h6 mm
5,0	...118	57	10	6
6,0	...121	57	10	6
8,0	...124	63	16	8
10,0	...127	72	19	10
12,0	...130	83	22	12

forum Freza cu cap sferic din carbura pentru prelucrare dura, lunga

- Din carbura monobloc UF
- Tip N
- Norma de productie
- Pentru frezare de copiere
- Posibilitate utilizare uscata

Pagina 2/47
Pagina 2/67



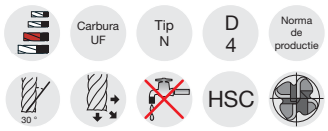
Suprafata	Cod comanda	Otel <850 N	Otel <1000 N	Otel <1400 N	Otel <42 HRC	Otel <52 HRC	Otel <56 HRC	Otel <62 HRC	Otel >62 HRC	INOX	Ti, aliaje Ti, oteluri speciale	Fonta	Al, nemetale, aliaje nemetale	Cupru, alama, bronz	Emulsii	Ulei	Aer	fara racire
TiAlN	42 15374...	130	130	80	60	60	60	60	60			130			■	◧	□	

Ø d1 = e8 mm	forum Cod comanda TiAlN 42 15374...	Lungime totala l_1 mm	Lungime parte activa mm	Raza r ± 0,02 mm	Ø coada d_2 = h6 mm
1,0	...100	50	2,5	0,5	4
1,0	...103	50	2,5	0,5	6
1,2	...106	50	3	0,6	4
1,5	...109	50	4	0,75	4
1,5	...112	50	4	0,75	6
2,0	...115	50	5	1,0	6
2,5	...118	60	6	1,25	6
3,0	...121	60	8	1,5	6
3,5	...124	70	8	1,75	6

Ø d1 = e8 mm	forum Cod comanda TiAlN 42 15374...	Lungime totala l_1 mm	Lungime parte activa mm	Raza r ± 0,02 mm	Ø coada d_2 = h6 mm
4,0	...127	70	8	2,0	6
5,0	...130	80	10	2,5	6
6,0	...133	90	12	3,0	6
7,0	...136	90	14	3,5	8
8,0	...139	100	14	4,0	8
9,0	...142	100	18	4,5	10
10,0	...145	100	18	5,0	10
12,0	...148	110	22	6,0	12

forum Freza cu cap sferic din carbura, lunga

- Din carbura monobloc UF
- Tip N
- Norma de productie
- Pentru frezare de copiere, finisare, circumferinte
- Prelucrare HSC pana la 62 HRC
- Posibilitate prelucrare uscata



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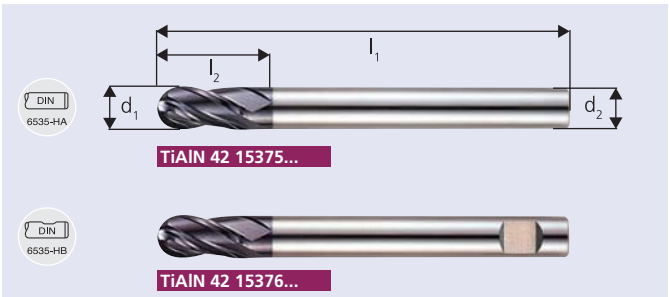
Pagina 2/67



Suprafata	Cod comanda	Otel <850 N	Otel <1000 N	Otel <1400 N	Otel <42 HRC	Otel <52 HRC	Otel <56 HRC	Otel <62 HRC	Otel >62 HRC	INOX	Ti, aliaje Ti, oteluri speciale	Fonta	Al, nemetale, aliaje nemetale	Cupru, alama, bronz	Emulsii	Ulei	Aer	fara racire
TiAlN	42 15375...	130	130	80	60	60	60	60	60			130			■	◧	□	
TiAlN	42 15376...	130	130	80	60	60	60	60	60			130			■	◧	□	

Ø d_1 = h10 mm	forum Cod comanda TiAlN 42 15375...	forum Cod comanda TiAlN 42 15376...	Lungime totala l_1 mm	Lungime parte activa l_2 mm	Ø coada d_2 = h6 mm
3,0	...024	...024	60	8	6
4,0	...026	...026	70	8	6
5,0	...027	...027	80	10	6
6,0	...029	...028	90	12	6
8,0	...035	...034	100	14	8
10,0	...038	...037	100	18	10
12,0	...041	...040	110	22	12
14,0	...042	...043	110	26	14
16,0	...047	...046	140	30	16
18,0	...049	–	140	34	18
20,0	...053	...053	160	38	20

Accesorii optionale
Solutii de racire gasiti la pagina 9/60

Codurile marcate cu • nu se regasesc in stoc, livrare rapida

forum Freza cu cap sferic din carbura pentru prelucrare dura, scurta

- Din carbura monobloc NANO
- Tip N
- Norma de productie
- Pentru frezare de copiere
- Prelucrare HSC pana la 70 HRC
- Posibilitate prelucrare uscata

★ Forma permite o patrundere optima a sculei si este recomandata pentru utilizarea la matrite. Durata de utilizare creste la racirea la MMS sau racirea cu aer. Scula poate fi utilizata la alegere cu ax inclinat sau ax drept.

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TiAlN-S 42 15376...

Suprafata	Cod comanda	Otel <850 N	Otel <1000 N	Otel <1400 N	Otel <42 HRC	Otel <52 HRC	Otel <56 HRC	Otel <62 HRC	Otel >62 HRC	INOX	Ti, aliaje Ti, oteluri speciale	Fonta	Al, nemetale, aliaje nemetale	Cupru, alama, bronz	Emulsii	Ulei	Aer	fara racire
TiAlN-S	42 15376...				220	220	175	175	175			245			■	◧	□	

Ø d_1 = h8 mm	forum Cod comanda TiAlN-S 42 15376...	Lungime totala l_1 mm	Lungime parte activa l_2 mm	Zona libera mm	Raza mm	Ø retragere coada mm	Ø coada d_2 = h6 mm
0,1	...200	40	0,2	–	0,05	–	4
0,2	...203	40	0,3	–	0,1	–	4
0,3	...206	40	0,5	–	0,15	–	4
0,4	...209	40	0,6	–	0,2	–	4
0,5	...212	40	0,7	–	0,25	–	4
0,6	...215	40	0,9	–	0,3	–	4
0,8	...218	40	1,2	–	0,4	–	4
1,0	...221	50	1,5	3	0,5	0,95	6
1,5	...224	50	2,0	4	0,75	1,45	6
2,0	...227	50	2,5	5	1,0	1,95	6
2,5	...230	50	3,0	7	1,25	2,4	6
3,0	...233	60	4,0	10	1,5	2,85	6
3,5	...236	60	4,5	10	1,75	3,35	6
4,0	...239	60	5,0	10	2,0	3,85	6
4,5	...242	60	5,5	10	2,25	4,35	6
5,0	...245	60	6,0	12	2,5	4,85	6
5,5	...248	60	6,5	12	2,75	5,35	6
6,0	...251	60	7,0	15	3,0	5,85	6
8,0	...254	80	9,0	15	4,0	7,7	8
10,0	...257	80	11,0	25	5,0	9,7	10
12,0	...260	80	14,0	25	6,0	11,7	12

forum Freza cu cap sferic din carbura pentru prelucrare dura, lunga

- Din carbura monobloc NANO
- Tip N
- Norma de productie
- Pentru frezare de copiere
- Prelucrare HSC pana la 70 HRC
- Posibilitate prelucrare uscata

★ Forma permite o patrundere optima a sculei si este recomandata pentru utilizarea la matrite. Durata de utilizare creste la racirea la MMS sau racirea cu aer. Scula poate fi utilizata la alegere cu ax inclinat sau ax drept.

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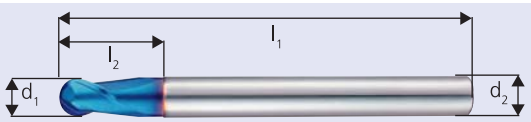
P Pagina 2/67



TiAlN-S 42 15376...

Suprafata	Cod comanda	Otel <850 N	Otel <1000 N	Otel <1400 N	Otel <42 HRC	Otel <52 HRC	Otel <56 HRC	Otel <62 HRC	Otel >62 HRC	INOX	Ti, aliaje Ti, oteluri speciale	Fonta	Al, nemetale, aliaje nemetale	Cupru, alama, bronz	Emulsii	Ulei	Aer	fara racire
TiAlN-S	42 15376...				220	220	175	175	175			245			■	◧	□	

Ø d_1 = h8 mm	forum Cod comanda TiAlN-S 42 15376...	Lungime totala l_1 mm	Lungime parte activa l_2 mm	Zona libera mm	Raza mm	Ø retragere coada mm	Ø coada d_2 = h6 mm
1	...300	50	1,0	2,2	0,5	0,95	4
1,2	...303	50	1,2	2,6	0,6	1,15	4
1,5	...306	50	1,5	3,0	0,75	1,45	4
2	...309	50	2	4,0	1,0	1,95	6
3	...312	60	3	6,0	1,5	2,85	6
4	...315	70	4	8,0	2	3,85	6
5	...318	80	5	10,0	2,5	4,85	6
6	...321	90	6	12,0	3	5,85	6
7	...324	90	7	14,0	3,5	6,7	8
8	...327	100	8	16,0	4	7,7	8
9	...330	100	9	18,0	4,5	8,7	10
10	...333	100	10	20,0	5	9,7	10

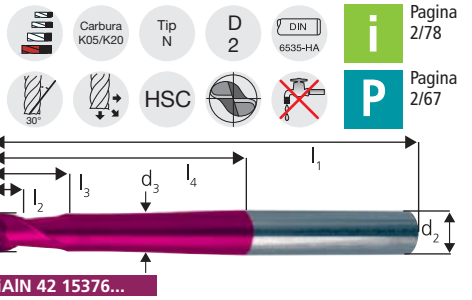
Continuarea pe pagina 2/76

Cifre ingrosate recomandat | Cifre normale adecvat | ■ recomandat | ◧ adecvat | □ ocazional

Continuarea de la pagina 2/75

Ø d_1 = h8 mm	forum Cod comanda TiAlN-S 42 15376...	Lungime totala l_1 mm	Lungime parte activa l_2 mm	Zona libera mm	Raza mm	Ø retragere coada mm	Ø coada d_2 = h6 mm
12	...336	110	12	24,0	6	11,7	12
14	...339	110	14	28,0	7	13,7	14
16	...342	140	16	32,0	8	15,7	16
20	...348	160	20	40,0	10	19,7	20

GUHRING Freza toroidala din carbura pentru prelucrarea HSC, extra lunga



TiAlN 42 15376...

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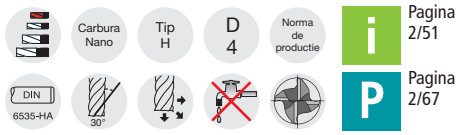
- Din carbura monobloc 05/10
- Tip N
- DIN 6527
- Pentru frezare de copiere, caneluri
- Prelucrare HSC
- Posibilitate prelucrare uscata

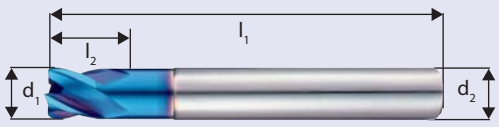
★ Sculele se utilizeaza numai in mandrine comprimabile sau mandrine hidraulice. A nu se utiliza cu ax de frezare inclinat.

Suprafata	Cod comanda	Otel <850 N	Otel <1000 N	Otel <1400 N	Otel <42 HRC	Otel <52 HRC	Otel <56 HRC	Otel <62 HRC	Otel >62 HRC	INOX	Ti, aliaje Ti, oteluri speciale	Fonta	Al, nemetale, aliaje nemetale	Cupru, alama, bronz	Emulsii	Ulei	Aer	fara racire
TiAlN	42 15376...	300	220	200	180	150				100	120	250	500	300	◧	◧	■	■

Ø d_1 mm	GUHRING Cod comanda TiAlN 42 15376...	Lungime totala l_1 mm	Lungime parte activa l_2 mm	Lungime l_3 mm	Lungime l_4 mm	Raza colt ± 0,01 mm	Ø retragere coada d_3 mm	Ø coada d_2 = h6 mm
2,0	...900	80	3	8	40	0,5	1,8	6
3,0	...903	80	3,5	12	40	0,5	2,8	6
4,0	...906	80	4	20	40	1,0	3,8	6
6,0	...909	80	6	25	60	2,0	5,6	8
8,0	...912	100	7	30	75	2,0	7,6	10
10,0	...915	120	8	30	70	3,0	9,6	12
12,0	...918	160	10	30	100	4,0	11,5	16

forum Freza toroidala din carbura pentru prelucrare HSC, extra scurta





TiAlN-S 42 15376...

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Pagina 2/67

- Din carbura monobloc NANO
- Tip H
- Norma de productie
- Pentru frezare circumferinte, caneluri, caneluri adanci
- Prelucrare HSC pana la 70 HRC
- Posibilitate prelucrare uscata

★ Cu raza colt pentru reducerea efectelor de crestaturi la piese – uzura mai mica la colturi la caneluri.

Suprafata	Cod comanda	Otel <850 N	Otel <1000 N	Otel <1400 N	Otel <42 HRC	Otel <52 HRC	Otel <56 HRC	Otel <62 HRC	Otel >62 HRC	INOX	Ti, aliaje Ti, oteluri speciale	Fonta	Al, nemetale, aliaje nemetale	Cupru, alama, bronz	Emulsii	Ulei	Aer	fara racire
TiAlN-S	42 15376...			155	155	155	100	100	100			155			■	◧	□	

Ø d_1 mm	forum Cod comanda TiAlN-S 42 15376...	Lungime totala l_1 mm	Lungime parte activa l_2 mm	Zona libera mm	Raza mm	Ø retragere coada mm	Ø coada d_2 mm
1	...400	40	1,5	–	0,1	–	3
1	...403	40	1,5	–	0,1	–	6
1,5	...406	40	2,2	–	0,1	–	3
1,5	...409	40	2,2	–	0,1	–	6
2	...412	40	3,0	6	0,1	1,95	3
2	...415	40	3,0	6	0,1	1,95	6
2,5	...418	40	4,0	6	0,1	2,40	3
2,5	...421	40	4,0	6	0,1	2,40	6
3	...424	45	4,0	7	0,1	2,85	6
3,5	...427	45	5,0	9	0,1	3,35	6
4	...430	45	5,0	9	0,1	3,85	6
4,5	...433	45	6,0	10	0,1	4,35	6
5	...436	50	6,0	11	0,2	4,85	6
6	...439	50	7,0	14	0,2	5,85	6
8	...442	60	9,0	18	0,2	7,70	8
10	...445	75	12,0	25	0,2	9,70	10
12	...448	75	15,0	30	0,3	11,70	12

Continuarea pe pagina 2/77

Codurile marcate cu • nu se regasesc in stoc, livrare rapida

Continuarea de la pagina 2/76

Ø d_1 mm	forum Cod comanda TiAlN-S 42 15376...		Lungime totala l_1 mm	Lungime parte activa l_2 mm	Zona libera mm	Raza mm	Ø retragere coada mm	Ø coada d_2 mm
16	...451		90	18,0	38	0,3	15,70	16
20	...454		100	24,0	45	0,3	19,70	20

forum Freza toroidala din carbura pentru prelucrare dura, extra scurta

- Din carbura monobloc UF
- Tip N
- Norma de productie
- Pentru frezare circumferinte
- Prelucrare HSC pana la 62 HRC
- Posibilitate prelucrare uscata

★ Cu raza colt pentru reducerea efectelor de crestaturi la piese.

Carbura UF | Tip N | D 4 | Norma de productie | DIN 6535-HA | 30° | 0° | HSC

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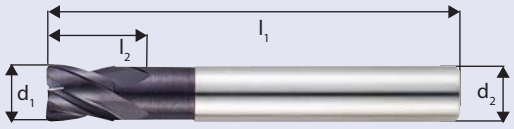

TiAlN 42 15376...

Suprafata	Cod comanda	Otel <850 N	Otel <1000 N	Otel <1400 N	Otel <42 HRC	Otel <52 HRC	Otel <56 HRC	Otel <62 HRC	Otel >62 HRC	INOX	Ti, aliaje Ti, oteluri speciale	Fonta	Al, nemetale, aliaje nemetale	Cupru, alama, bronz	Emulsii	Ulei	Aer	fara racire
TiAlN	42 15376...	110	110	70	70	70	45	45	45			110			■	◧	□	

Ø d_1 mm	forum Cod comanda TiAlN 42 15376...		Lungime totala l_1 mm	Lungime parte activa l_2 mm	Zona libera mm	Raza colt mm	Ø retragere coada mm	Ø coada d_2 = h6 mm
3,0	...606		50	4	7	0,3	2,8	6
5,0	...615		50	6	12	0,5	4,6	6
6,0	...618		55	7	14	0,6	5,6	6
8,0	...621		60	10	18	0,8	7,4	8
10,0	...624		70	12	25	1,0	9,4	10
12,0	...627		80	15	30	1,2	11,4	12

GUHRING Freza toroidala din carbura pentru frezare de copiere cu raza colt

- Din carbura monobloc UF
- Tip H
- Norma de productie
- Pentru frezare de copiere
- Prelucrare HSC pana la 62 HRC
- Posibilitate prelucrare uscata

★ Forma permite o patrundere optima a sculei si este recomandata pentru utilizarea la matrite.

Carbura UF | Tip H | D 4 | Norma de productie | DIN 6535-HA | 30° | 0°

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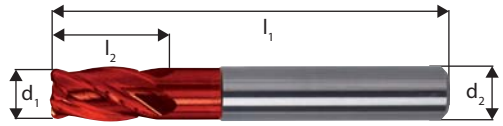
Fire 42 17705...



Fire 42 17705...

Fire 42 17706...

Fire 42 17706...

Suprafata	Cod comanda	Otel <850 N	Otel <1000 N	Otel <1400 N	Otel <42 HRC	Otel <52 HRC	Otel <56 HRC	Otel <62 HRC	Otel >62 HRC	INOX	Ti, aliaje Ti, oteluri speciale	Fonta	Al, nemetale, aliaje nemetale	Cupru, alama, bronz	Emulsii	Ulei	Aer	fara racire
Fire	42 17705...				180	150	100	70	70			250			◧	◧	■	■
Fire	42 17706...				180	150	100	70	70			250			◧	◧	■	■

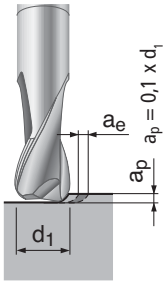
Ø d_1 = h8 mm	GUHRING Cod comanda Fire 42 17705...		GUHRING Cod comanda Fire 42 17706...		Lungime totala l_1 mm	Lungime parte activa l_2 mm	Zona libera mm	Raza colt mm	Ø retragere coada mm	Ø coada d_2 = h6 mm
3,0	...010		–		57	4,5	21	0,5	2,7	6
4,0	...013		–		57	6,5	21	0,5	3,7	6
5,0	...016		–		57	7,5	21	0,5	4,7	6
6,0	...019		–		57	9	21	1,0	5,7	6
6,0	–		...019		75	9	39	1,0	5,7	6
8,0	–		...022		100	12	64	1,0	7,7	8
8,0	...022		–		63	12	27	1,0	7,7	8
10,0	–		...025		100	15	60	1,5	9,5	10
10,0	...025		–		72	15	32	1,5	9,5	10
12,0	–		...028		150	18	105	1,5	11,5	12
12,0	...028		–		83	18	38	1,5	11,5	12
16,0	–		...031		150	24	102	2,0	15,5	16
16,0	...031		–		92	24	44	2,0	15,5	16

forum Freza toroidala carbura monobloc, executie scurta si lunga

Valori de referinta pentru avans per dinte f_z in mm

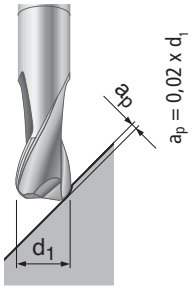
(Valorile nu sunt recomandate pentru frezare dura!)

Degrosare

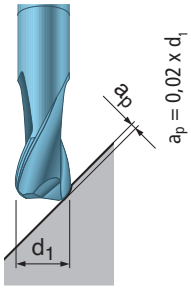


$a_e = 0,2 \times d_1$

Rectificare



Frezare dura



Ø d_1	nestratificat	stratificat	nestratificat	stratificat	stratificat
2	0,010	0,015	0,009	0,010	0,005
3	0,018	0,020	0,010	0,015	0,010
4	0,025	0,030	0,018	0,020	0,015
5	0,035	0,040	0,025	0,030	0,020
6	0,055	0,060	0,045	0,050	0,030
8	0,075	0,080	0,065	0,070	0,050
10	0,090	0,10	0,075	0,080	0,070
12	0,11	0,12	0,090	0,10	0,090
16	0,135	0,15	0,11	0,12	0,10
18	0,145	0,16	0,125	0,14	0,11
20	0,165	0,18	0,135	0,15	0,12

Retineti ca valoarea fz din tabelele de mai sus trebuiesc inmultite cu factorul corespunzator de corectie.
Factorii de corectie ii gasiti in tabelul de pe paginile 2/8–2/9.

General este valabil:

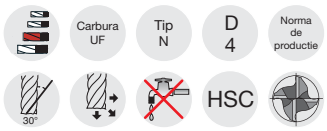
$$f_{z\,Freze} = \left[f_{z\,Tabel}\right] \times [\text{factor de corectie}]$$

Codurile marcate cu • nu se regasesc in stoc, livrare rapida

forum Freza toroidala din carbura pentru prelucrare dura, lunga

- Din carbura monobloc UF
- Tip H
- Norma de productie
- Pentru patrundere si frezare circumferinte
- Prelucrare HSC pana la 62 HRC
- Posibilitate prelucrare uscata

Nota: Cu raza colt pentru reducerea efectelor de crestaturi.



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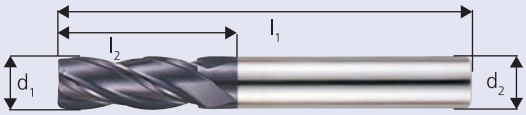


TiAlN 42 15376...

Suprafata	Cod comanda	Otel <850 N	Otel <1000 N	Otel <1400 N	Otel <42 HRC	Otel <52 HRC	Otel <56 HRC	Otel <62 HRC	Otel >62 HRC	INOX	Ti, aliaje Ti, oteluri speciale	Fonta	Al, nemetale, aliaje nemetale	Cupru, alama, bronz	Emulsii	Ulei	Aer	fara racire
TiAlN	42 15376...	70	70	45	45	45	28	28				70			■	◧	□	

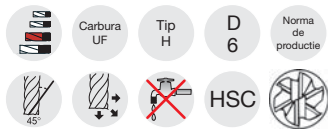
Ø d_1 = e8 mm	forum Cod comanda 42 15376...	TiAlN	Lungime totala l_1 mm	Lungime parte activa l_2 mm	Raza mm	Ø coada d_2 = h6 mm
3,0	...700		50	12	0,3	6
4,0	...703		50	15	0,3	6
4,0	...706		50	15	0,5	6
5,0	...709		60	20	0,3	6
5,0	...712		60	20	0,5	6
6,0	...715		60	20	0,3	6
6,0	...718		60	20	0,5	6
6,0	...721		70	20	1,0	6
8,0	...724		70	25	0,3	8
8,0	...727		70	25	0,5	8
8,0	...730		70	25	1,0	8
8,0	...733		70	25	1,5	8
8,0	...736		70	25	2,0	8
10,0	...739		90	30	0,3	10
10,0	...742		90	30	0,5	10

Ø d_1 = e8 mm	forum Cod comanda 42 15376...	TiAlN	Lungime totala l_1 mm	Lungime parte activa l_2 mm	Raza mm	Ø coada d_2 = h6 mm
10,0	...745		90	30	1,0	10
10,0	...748		90	30	1,5	10
10,0	...751		90	30	2,0	10
12,0	...754		90	30	0,5	12
12,0	...757		90	30	1,0	12
12,0	...760		90	30	1,5	12
12,0	...763		90	30	2,0	12
16,0	...766		110	50	0,5	16
16,0	...769		110	50	1,0	16
16,0	...772		110	50	1,5	16
16,0	...775		110	50	2,0	16
20,0	...778		110	55	0,5	20
20,0	...781		110	55	1,0	20
20,0	...784		110	55	1,5	20
20,0	...787		110	55	2,0	20

forum Freza toroidala din carbura pentru prelucrare dura, lunga

- Din carbura monobloc UF
- Tip H
- Norma de productie
- Pentru frezare circumferinte
- Prelucrare HSC pana la 62 HRC
- Posibilitate prelucrare uscata

Nota: Datorita spiralei de 45° taierea se realizeaza fin, rezultand o calitate superioara a suprafetei. Se evita formarea bavurilor. Cu raza colt pentru reducerea efectului de crestatura pe piesa.



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TiAlN 42 15376...

Suprafata	Cod comanda	Otel <850 N	Otel <1000 N	Otel <1400 N	Otel <42 HRC	Otel <52 HRC	Otel <56 HRC	Otel <62 HRC	Otel >62 HRC	INOX	Ti, aliaje Ti, oteluri speciale	Fonta	Al, nemetale, aliaje nemetale	Cupru, alama, bronz	Emulsii	Ulei	Aer	fara racire
TiAlN	42 15376...	410	410	315	315	315	158	158	158						■	◧	□	

Ø d_1 = h8 mm	forum Cod comanda 42 15376...	TiAlN	Lungime totala l_1 mm	Lungime parte activa l_2 mm	Raza colt mm	Ø coada d_2 = h6 mm
6,0	...800		70	13	0,5	6
8,0	...803		90	19	0,5	8
10,0	...806		100	22	0,5	10
10,0	...809		100	22	1,0	10
12,0	...812		110	26	0,5	12
12,0	...815		110	26	1,0	12

Ø d_1 = h8 mm	forum Cod comanda 42 15376...	TiAlN	Lungime totala l_1 mm	Lungime parte activa l_2 mm	Raza colt mm	Ø coada d_2 = h6 mm
16,0	...818		130	32	1,0	16
16,0	...821		130	32	1,5	16
20,0	...824		140	38	1,0	20
20,0	...827		140	38	1,5	20
20,0	...830		140	38	2,0	20

Accesorii optionale

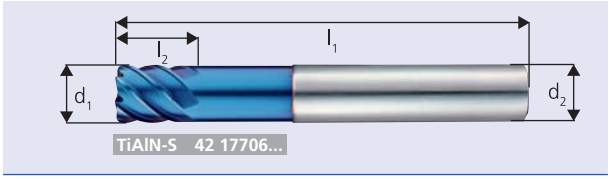
Solutii de racire gasiti la pagina 9/60

forum Freza toroidala din carbura pentru prelucrare dura, lunga

i Pagina 2/51
P Pagina 2/68

- Din carbura monobloc NANO
- Tip H
- Norma de productie
- Pentru frezare caneluri si caneluri adanci
- Adancime de frezare max. 3 x d
- Prelucrare HSC pana la 70 HRC
- Posibilitate prelucrare uscata

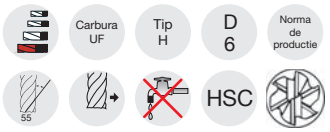
Nota: Cu raza colt pentru reducerea crestaturilor la piese – uzura mai mica la colturi pentru patrundere. Datorita spiralei de 45° frezarea confera o calitate superioara a suprafetei. Se evita formarea de bavuri pe canturile de taiere. Pentru suprafete adanci de frezare cu adancime de pana la 3 x d.



Suprafata	Cod comanda	Otel <850 N	Otel <1000 N	Otel <1400 N	Otel <42 HRC	Otel <52 HRC	Otel <56 HRC	Otel <62 HRC	Otel >62 HRC	INOX	Ti, aliaje Ti, oteluri speciale	Fonta	Al, nemetale, aliaje nemetale	Cupru, alama, bronz	Emulsii	Ulei	Aer	fara racire
TiAlN-S	42 17706...			465	465	465	275	275	275			385			■	◧	□	

Ø d_1 mm	forum Cod comanda TiAlN-S 42 17706...	Lungime totala l_1 mm	Lungime parte activa l_2 mm	Zona libera mm	Raza colt mm	Ø retragere coada mm	Ø coada d_2 = h6 mm
6	...100	50	6	14	0,5	5,85	6
6	...103	70	13	–	0,5	–	6
6	...106	70	26	–	0,5	–	6
8	...109	60	8	24	0,5	7,7	8
8	...112	90	19	–	0,5	–	8
8	...115	90	36	–	0,5	–	8
10	...118	70	10	30	1,0	9,7	10
10	...121	100	22	–	0,5	–	10
10	...124	100	22	–	1,0	–	10
10	...127	100	46	–	1,0	–	10
12	...130	110	26	–	0,5	–	12
12	...133	75	12	30	1,0	11,7	12
12	...136	110	26	–	1,0	–	12
12	...139	110	56	–	1,0	–	12
16	...142	130	32	–	1,0	–	16
16	...145	130	32	–	1,5	–	16
16	...148	130	66	–	1,5	–	16
20	...151	140	38	–	1,0	–	20
20	...154	140	38	–	1,5	–	20
20	...157	140	38	–	2,0	–	20
20	...160	140	76	–	2,0	–	20

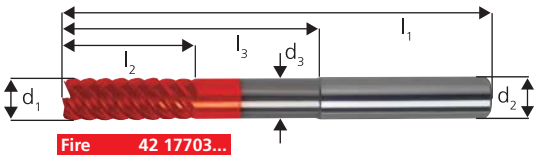
GUHRING Freza toroidala din carbura cu raza colt pentru prelucrare dura, extra lunga



i Pagina 2/45
P Pagina 2/68

- Din carbura monobloc UF
- Tip H
- Norma de productie
- Pentru finisare, frezare circumferinte
- Prelucrare HSC pana la 62 HRC
- Posibilitate utilizare uscata

Nota: Concentricitate buna datorita interiorului special si a pasului toroanelor. Toleranta mica a formei si calitate foarte buna a suprafetei piesei. Datorita formei speciale si a razei colt cu distanta mare de actiune recomandata pentru matrite.



Suprafata	Cod comanda	Otel <850 N	Otel <1000 N	Otel <1400 N	Otel <42 HRC	Otel <52 HRC	Otel <56 HRC	Otel <62 HRC	Otel >62 HRC	INOX	Ti, aliaje Ti, oteluri speciale	Fonta	Al, nemetale, aliaje nemetale	Cupru, alama, bronz	Emulsii	Ulei	Aer	fara racire
Fire	42 17703...				120	80	50	40	40			140			■	◧	□	

Ø d_1 = h10 mm	GUHRING Cod comanda Fire 42 17703...	Lungime totala l_1 mm	Lungime parte activa l_2 mm	Raza colt mm	Ø retragere coada d_3 mm	Lungime l_3 mm	Ø coada d_2 = h6 mm
6,0	...010	75	13	0,5	5,7	39	6
8,0	...013	100	19	0,5	7,7	64	8
10,0	...016	100	22	0,5	9,5	60	10
12,0	...019	150	26	1,0	11,5	105	12
16,0	...022	150	32	1,0	15,5	102	16

Accesorii optionale
Solutii de racire gasiti la pagina 9/60

Codurile marcate cu • nu se regasesc in stoc, livrare rapida

forum PFERD Freze carbura (freze rotative) DIN 8032/8033

Recomandari de utilizare:

- Recomandari de utilizare:Utilizare la turatii foarte mari. Respectati recomandarile pentru numarul de turatii/ viteza de taiere. La utilizare pe dispozitive stationare sau la operatiuni de frezare in adancime se utilizeaza in mod exceptional rotatii sub 3000 min^{-1}.
- Se utilizeaza doar la sisteme de prindere si antrenare fara joc; bataile si defectiunilor sistemelor de prindere duc la uzura prematura a sculelor.
- Suprafata de contact a piesei nu trebuie sa fie mai mare decat o treime din circumferinta. Un unghi de utilizare mai mare de > 1/3 duce la o frezare defectuoasa. Rezultatul este ruperea dintilor.
- La materiale rau conductoare de caldura ca otel inoxidabil, aliaje de titan, etc. recomandam scaderea semnificativa a numarului de turatii pentru evitarea deteriorarii sculei. Este de evitat colorarea albastra a cozii si sculei.
- La materiale cu span redus (debavurare, tesire, prelucrare usoara a suprafetei) poate fi crescut semnificativ numarul de turatii.
- Pentru prelucrari care necesita gresare se recomanda utilizarea de solutii de ungere (vaselina, petrol, creta etc.), pentru a evita incarcarea dintilor.

In general frezele se pot reascuti. Nu se recomanda din motive economice ascutirea frezelor mici si mini.

Recomandari de siguranta:

Va rugam sa respectati turatiile recomandate!

INFO

Dinti C / 3 PLUS (conform DIN MX)

Dinti 3 (conform DIN MX)

Dinti 4 (conform DIN MX)

Dinti 5 (conform DIN F)

Grupe de materiale			Tipuri de prelucrare	Dantura	Viteza de taiere
Otel, otel turnat	netratat, oteluri netratate pana la 1200 N/mm² (< 38 HRC)	Oteluri de constructii, otel carbon, otel de scule, oteluri nealiate, oteluri calite, otel turnat	Span grosier = degrosare mare	3	450–600 m/min
			Span fin = degrosare redusa	3	500–600 m/min
	oteluri tratate pana la 1200 N/mm²	Otel de scule, otel tratat, otel aliat	Span grosier = degrosare mare	3 C / 3 PLUS 4	250–350 m/min
			Span fin = degrosare redusa	5	350–450 m/min
Otel inoxidabil (INOX)	Oteluri rezistente la rugina si acizi	oteluri inoxidabile austenitice si feritice	Span grosier = degrosare mare	3 C / 3 PLUS 4	250–350 m/min
			Span fin = degrosare redusa	5	350–450 m/min
Metale neferoase	Metale neferoase dure	Bronz, titan, aliaje titan, aliaje dure aluminiu (continut mare Si)	Span grosier = degrosare mare	3 4	250–350 m/min
			Span fin = degrosare redusa	3	350–450 m/min
	materiale rezistente la temperaturi ridicate	aliaje pe baza de nichel si cobalt (constructii de angrenaje si turbine)	Span grosier = degrosare mare	C / 3 PLUS 4	300–450 m/min
			Span fin = degrosare redusa	5	350–450 m/min
Fonta	fonta gri, fonta alba	Fonta cu grafit lamelar EN-GJL (GG), cu grafit bile/ fonta sferica ENGJS (GGG), fonta alba temperata EN-GJMW (GTW), fonta neagra temperataEN-GJMG (GTS)	Span grosier = degrosare mare	3 C / 3 PLUS	450–600 m/min
			Span fin = degrosare redusa	3	500–600 m/min

Ø freza cu coada	Viteza de taiere							
mm	250	300	350	400	450	500	600	900
	Numar de rotatii in min^{-1}							
2	40000	48000	56000	64000	72000	80000	95000	143000
3	27000	32000	37000	42000	48000	53000	64000	95000
4	20000	24000	28000	32000	36000	40000	48000	72000
6	13000	16000	19000	21000	24000	27000	32000	48000
8	10000	12000	14000	16000	18000	20000	24000	36000
10	8000	10000	11000	13000	14000	16000	19000	29000
12	7000	8000	9000	11000	12000	13000	16000	24000
16	5000	6000	7000	8000	9000	10000	12000	18000
20	4000	5000	6000	6000	7000	8000	10000	14000

Exemplu:
Freza cu carbura, dantura C / 3 PLUS, Ø 12 mm.
Span grosier de la oteluri netratate.
Viteza de taiere: 450–600 m/min.
Domeniu numar de rotatii: 12000–16000 min^{-1}.

Freze din carbura cu coada 6 mm, forma cilindrica ZYA

42 15201...

Forma	42 15200... forum Cod comanda	Dantura C	42 15201... PFERD Cod comanda	Dantura 3 PLUS	42 15210... PFERD Cod comanda	Dantura 3	42 15211... PFERD Cod comanda	Dantura 4	42 15212... PFERD Cod comanda	Dantura 5	42 15274... PFERD Cod comanda	Dantura INOX	Ø cap mm	Lungime cap mm	Lungime totala mm
ZYA 0413	...003		...007		–		...007		...007		–		4	13	55
ZYA 0616	...006		...010		...010		...010		...010		...010		6	16	55
ZYA 0820	...009		...013		...013		...013		...013		–		8	20	60
ZYA 1013	...012		...014		–		...014		...014		–		10	13	53
ZYA 1020	...015		...016		...016		...016		...016		–		10	20	60
ZYA 1225	...018		...019		...019		...019		...019		...019		12	25	65
ZYA 1625	...021		...022		...022		...022		–		–		16	25	65

Freza din carbura cu coada 6 mm, forma cilindrica ZYA-S, cu dantura frontala

42 15202...

Forma	42 15200... forum Cod comanda	Dantura C	42 15202... PFERD Cod comanda	Dantura 3 PLUS	42 15213... PFERD Cod comanda	Dantura 3	42 15214... PFERD Cod comanda	Dantura 4	42 15215... PFERD Cod comanda	Dantura 5	Ø cap mm	Lungime cap mm	Lungime totala mm
ZYA-S 0413	...030		...007		–		...007		...007		4	13	55
ZYA-S 0616	...033		...010		...010		...010		...010		6	16	55
ZYA-S 0820	...036		...013		...013		...013		...013		8	20	60
ZYA-S 1013	...039		–		–		–		–		10	20	60
ZYA-S 1020	...042		...016		...016		...016		...016		10	25	60
ZYA-S 1025	–		...017		–		–		–		10	25	65
ZYA-S 1225	...045		...019		...019		...019		...019		12	25	65
ZYA-S 1625	...048		...022		...022		...022		...022		16	25	65

Freza din carbura cu coada 6 mm, forma cilindrica WRC

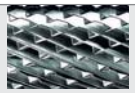
42 15204...

Forma	42 15200... forum Cod comanda	Dantura C	42 15204... PFERD Cod comanda	Dantura 3 PLUS	42 15219... PFERD Cod comanda	Dantura 3	42 15220... PFERD Cod comanda	Dantura 4	42 15221... PFERD Cod comanda	Dantura 5	Ø cap mm	Lungime cap mm	Lungime totala mm
WRC 0413	...060		–		–		–		–		4	13	–
WRC 0413	–		...007		–		...007		–		4	13	55
WRC 0616	...063		–		–		–		–		6	16	–
WRC 0616	–		...010		...010		...010		...010		6	16	55
WRC 0820	...066		–		–		–		–		8	20	–
WRC 0820	–		...013		...013		...013		...013		8	20	60
WRC 1020	...069		–		–		–		–		10	20	–
WRC 1020	–		...016		...016		...016		...016		10	20	60
WRC 1025	...072		–		–		–		–		10	25	–
WRC 1025	–		...017		...017		...017		–		10	25	65
WRC 1225	...075		–		–		–		–		12	25	–
WRC 1225	–		...019		...019		...019		...019		12	25	65
WRC 1625	...078		–		–		–		–		16	25	–
WRC 1625	–		...022		...022		...022		–		16	25	65

Codurile marcate cu • nu se regasesc in stoc, livrare rapida

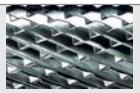
Freza din carbura cu coada 6 mm, forma sferica KUD

42 15203...

Forma	42 15200... forum Cod comanda 42 15200... Dantura C	42 15203... PFERD Cod comanda 42 15203... Dantura 3 PLUS	42 15216... PFERD Cod comanda 42 15216... Dantura 3	 42 15217... PFERD Cod comanda 42 15217... Dantura 4	42 15218... PFERD Cod comanda 42 15218... Dantura 5	42 15275... PFERD Cod comanda 42 15275... Dantura INOX	Ø cap mm	Lungime cap mm	Lungime totala mm
KUD 0403	–	...007	–	–	–	–	4	3,0	45
KUD 0403	...087	–	–	–	...007	–	4	3,6	45
KUD 0605	...090	...010	...010	...010	...010	–	6	5,4	45
KUD 0605	–	–	–	–	–	...010	6	5	45
KUD 0807	...093	...013	...013	...013	...013	–	8	7,0	47
KUD 1009	...096	...016	...016	...016	...016	–	10	9,0	49
KUD 1210	...099	...019	...019	...019	...019	–	12	10,8	50
KUD 1210	–	–	–	–	–	...019	12	10	51
KUD 1614	–	...020	–	–	–	–	16	14,0	54
KUD 1614	...102	–	–	...020	...020	–	16	14,3	54
KUD 2018	...105	...022	...022	–	–	–	20	18,0	58

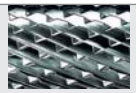
Freza din carbura cu coada 6 mm, forma proiectil SPG

42 15205...

Forma	42 15200... forum Cod comanda 42 15200... Dantura C	42 15205... PFERD Cod comanda 42 15205... Dantura 3 PLUS	42 15222... PFERD Cod comanda 42 15222... Dantura 3	 42 15223... PFERD Cod comanda 42 15223... Dantura 4	42 15224... PFERD Cod comanda 42 15224... Dantura 5	Ø cap mm	Lungime cap mm	Lungime totala mm
SPG 0618	...114	...010	...010	...010	...010	6	18	55
SPG 1020	...117	...013	...013	...013	...013	10	20	60
SPG 1225	...120	...016	...016	...016	...016	12	25	65
SPG 1230	...123	...019	...019	...019	...019	12	30	70
SPG 1630	...126	...022	...022	...022	–	16	30	70

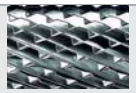
Freza din carbura cu coada 6 mm, forma strop TRE

42 15209...

Forma	42 15200... forum Cod comanda 42 15200... Dantura C	42 15209... PFERD Cod comanda 42 15209... Dantura 3 PLUS	42 15234... PFERD Cod comanda 42 15234... Dantura 3	 42 15235... PFERD Cod comanda 42 15235... Dantura 4	42 15236... PFERD Cod comanda 42 15236... Dantura 5	Ø cap mm	Lungime cap mm	Lungime totala mm
TRE 0610	...129	...010	–	–	...010	6	10	50
TRE 0813	...132	–	–	...011	–	8	13	53
TRE 1016	...135	...013	–	...013	–	10	16	56
TRE 1220	...138	...016	...016	...016	...016	12	20	60
TRE 1625	...141	–	–	...019	–	16	25	65

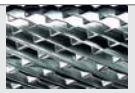
Freza din carbura cu coada 6 mm, forma con ascutit SKM

42 15206...

Forma	42 15200... forum Dantura C Cod comanda 42 15200...	42 15206... PFERD Dantura 3 PLUS Cod comanda 42 15206...	42 15225... PFERD Dantura 3 Cod comanda 42 15225...	 42 15226... PFERD Dantura 4 Cod comanda 42 15226...	42 15227... PFERD Dantura 5 Cod comanda 42 15227...	Ø cap mm	Lungime cap mm	Lungime totala mm	Unghi a °
SKM 0618	...150	–	–	–	–	6	18	50	18
SKM 0618	–	...010	...010	...010	...010	6	18	55	18
SKM 1020	...153	...013	...013	...013	...013	10	20	60	28
SKM 1225	...156	...016	...016	...016	...016	12	25	65	26

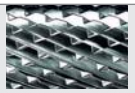
Freza din carbura cu coada 6 mm, forma con rotund KEL

42 15208...

Forma	42 15200... forum Dantura C Cod comanda 42 15200...	42 15208... PFERD Dantura 3 PLUS Cod comanda 42 15208...	42 15231... PFERD Dantura 3 Cod comanda 42 15231...	 42 15232... PFERD Dantura 4 Cod comanda 42 15232...	42 15233... PFERD Dantura 5 Cod comanda 42 15233...	Ø cap mm	Lungime cap mm	Lungime totala mm	Unghi a °
KEL 1020	...159	...010	...010	...010	–	10	20	60	14
KEL 1225	...162	...013	...013	...013	–	12	25	65	14
KEL 1230	...165	–	...016	...016	...016	12	30	70	14
KEL 1630	...168	–	–	...019	–	16	30	70	14

Freza din carbura cu coada 6 mm, forma con rotund RBF

42 15207...

Forma	42 15200... forum Dantura C Cod comanda 42 15200...	42 15207... PFERD Dantura 3 PLUS Cod comanda 42 15207...	42 15228... PFERD Dantura 3 Cod comanda 42 15228...	 42 15229... PFERD Dantura 4 Cod comanda 42 15229...	42 15230... PFERD Dantura 5 Cod comanda 42 15230...	Ø cap mm	Lungime cap mm	Lungime totala mm
RBF 0618	...177	...010	...010	...010	...010	6	18	55
RBF 0820	...180	...013	...013	...013	–	8	20	60
RBF 1020	...183	...016	...016	...016	...016	10	20	60
RBF 1225	...186	...019	...019	...019	...019	12	25	65
RBF 1630	...189	–	...022	...022	–	16	30	70

Freza din carbura cu coada 6 mm, forma flacara B

42 15273...

Forma	42 15200... forum Dantura C Cod comanda 42 15200...	42 15273... PFERD Dantura 3 PLUS Cod comanda 42 15273...	42 15237... PFERD Dantura 3 Cod comanda 42 15237...	Ø cap mm	Lungime cap mm	Lungime totala mm
B 0820	...198	...010	...010	8	20	60
B 1230	...201	...013	...013	12	30	70
B 1635	...204	–	–	16	35	75

Codurile marcate cu • nu se regasesc in stoc, livrare rapida

PFERD Freza din carbura cu coada 6 mm, forma unghiulara WKN

42 15238...

42 15238...

Forma	Cod comanda PFERD Dantura 3	Ø cap	Lungime cap	Lungime totala	Unghi a
	42 15238...	mm	mm	mm	°
WKN 1013	...010	10	13	53	10
WKN 1213	...013	12	13	53	20
WKN 1613	...016	16	13	53	30

forum Set freze din carbura cu coada 6 mm

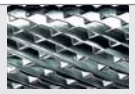
Livrare: In cutie plastic cu insertie burete.

	Cantitate	10 piese
Dantura C	Cod comanda forum 42 15200...	...207
	Continut	2 freze forma cilindrica ZYA 0820, ZYA 1020 2 freze forma cilindrica sferica WRC 0820, WRC 1020 2 freze forma sferica KUD 0807, KUD 1009 2 freze forma proiectil SPG 1020, SPG 1225 1 freza forma con rotund KEL 1020 1 freza forma con rotund RBF 0820

42 15200...

PFERD Freza mica din carbura cu coada 3 mm, forma cilindrica ZYA

42 15239...


42 15239...

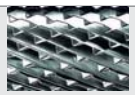
42 15240...

Forma	Cod comanda PFERD Dantura 4	Cod comanda PFERD Dantura 5	Ø cap	Lungime cap	Lungime totala
	42 15239...	42 15240...	mm	mm	mm
ZYA 0210	...010	...010	2	10	40
ZYA 0313	...013	...013	3	13	43
ZYA 0607	–	...016	6	7	37
ZYA 0613	...019	...019	6	13	43
ZYA-S 0607*	–	...022	6	7	37

* cu dantura frontala.

PFERD Freza mica din carbura cu coada 3 mm, forma sferica KUD

42 15243...


42 15243...

42 15244...

Forma	Cod comanda PFERD Dantura 4	Cod comanda PFERD Dantura 5	Ø cap	Lungime cap	Lungime totala
	42 15243...	42 15244...	mm	mm	mm
KUD 0302	...010	...010	3	2	33
KUD 0403	...013	...013	4	3	34
KUD 0605	...016	...016	6	5	35

Freza mica din carbura cu coada 3 mm, forma cilindrica WRC

42 15241...

Forma	42 15241... Cod comanda Dantura 4	42 15242... Cod comanda Dantura 5	42 15276... Cod comanda Dantura INOX	Ø cap mm	Lungime cap mm	Lungime totala mm
WRC 0210	...010	...010	–	2	10	40
WRC 0313	...013	...013	–	3	13	43
WRC 0613	–	–	...009	6	16	55
WRC 0613	...016	...016	–	6	13	43
WRC 1225	–	–	...019	12	25	65

Freza mica din carbura cu coada 3 mm, forma proiectil SPG

42 15249...

Forma	42 15249... Cod comanda Dantura 4	42 15250... Cod comanda Dantura 5	Ø cap mm	Lungime cap mm	Lungime totala mm
SPG 0307	...010	...010	3	7	37
SPG 0313	...013	...013	3	13	43
SPG 0613	...016	...016	6	13	43

Freza mica din carbura cu coada 3 mm, forma con ascutit SKM

42 15245...

Forma	42 15245... Cod comanda Dantura 4	42 15246... Cod comanda Dantura 5	Ø cap mm	Lungime cap mm	Lungime totala mm	Unghi a °
SKM 0307	–	...010	3	7	37	22
SKM 0311	...013	...013	3	11	41	14
SKM 0613	–	...016	6	13	43	25

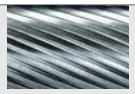
Freza mica din carbura cu coada 3 mm, forma con rotund RBF

42 15247...

Forma	42 15247... Cod comanda Dantura 4	42 15248... Cod comanda Dantura 5	42 15277... Cod comanda Dantura 5	Ø cap mm	Lungime cap mm	Lungime totala mm
RBF 0307	–	...010	–	3	7	37
RBF 0613	...013	...013	–	6	13	43
RBF 0618	–	–	...010	6	18	55
RBF 1225	–	–	...019	12	25	65

Codurile marcate cu • nu se regasesc in stoc, livrare rapida

Freza mica din carbura cu coada 3 mm, forma strop TRE

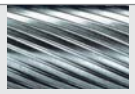


42 15252...

Forma	Cod comanda 42 15252...	Dantura 5	Ø cap mm	Lungime cap mm	Lungime totala mm
TRE 0307	...010		3	7	37
TRE 0610	...013		6	10	40

42 15252...

Freza mica din carbura cu coada 3 mm, forma flacara B

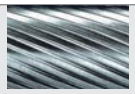


42 15253...

Forma	Cod comanda 42 15253...	Dantura 5	Ø cap mm	Lungime cap mm	Lungime totala mm
B 0307	...010		3	7	37
B 0613	...013		6	13	43

42 15253...

Freza mica din carbura cu coada 3 mm, forma unghiulara WKN



42 15251...

Forma	Cod comanda 42 15251...	Dantura 5	Ø cap mm	Lungime cap mm	Lungime totala mm	Unghi α °
WKN 0307	...010		3	7	37	4
WKN 0607	...013		6	7	37	10

42 15251...

PFERD Freze HSS

Recomandari de utilizare:

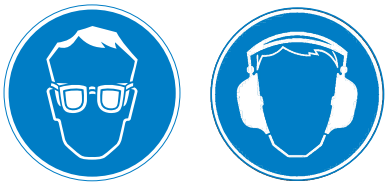
- Frezele HSS sunt recomandate datorita geometriei danturii si a calitatii de finisare bune in special pentru debavurare, tesire, curatare fonta si prelucrari din aluminiu. Se pot utiliza economic si pe utilaje de putere mica cu turatie scazuta
- Frezele HSS trebuiesc utilizate comparativ cu frezele cu carbura cu numar mic de rotatii
- Pot fi utilizate si cu turatie redusa
- Duritatea otelului rapid de solicitare mare (HSS) duce la o stabilitate mare a taisului dintilor

Dantura 1 fara rupere span

Dantura 3 cu rupere span

Dantura 5 fara rupere

Recomandari de siguranta:



Va rugam sa respectati turatiile recomandate!

Grupe de materiale			Tipuri de prelucrare	Dantura	Viteza de taiere
Otel, otel turnat	netratat, oteluri netratate pana la 1200 N/mm² (< 38 HRC) >0	Oteluri de constructii, otel carbon, otel de scule, oteluri nealiate, oteluri calite, otel turnat	Span grosier = degrosare mare	3	60– 80 m/min
			Span fin = degrosare redusa	3	80–100 m/min
			Span fin = degrosare redusa	5	60– 80 m/min
Otel inoxidabil (INOX)	Otel rezistent la rugina si acizi	oteluri inoxidabile austenitice si feritice	Span grosier = degrosare mare	1	60– 80 m/min
			Span fin = degrosare redusa	5	80–100 m/min
Metale neferoase	metale neferoase moi	Aliaje aluminiu, alama, cupru, zinc	Span grosier = degrosare mare	1	200–300 m/min
			Span fin = degrosare redusa	1	200–300 m/min
Fonta	fonta gri, fonta alba	Fonta cu grafit lamelar EN-GJL (GG), cu grafit bile/ fonta sferica ENGJS (GGG), fonta alba temperata EN-GJMW (GTW), fonta neagra temperataEN-GJMG (GTS)	Span grosier = degrosare mare	3	60– 80 m/min
			Span fin = degrosare redusa	5	80–100 m/min
Plastic, alte materiale	Materiale termoplastice si termorigide armate cu fibre, cauciuc dur si lemn		Span grosier = degrosare mare	1	200–300 m/min
			Span fin = degrosare redusa	1	250–300 m/min

Ø freza cu coada mm	Viteza de taiere 60	80	100	200	250	300
	Numar de rotatii in min^{-1}					
3	6000	8000	10000	19900	24900	29900
4	4800	6400	8000	16000	19900	23900
5	3900	5100	6400	12800	16000	19100
6	3200	4300	5400	10700	13300	16000
7	2800	3700	4600	9100	11400	13700
8	2400	3200	4000	8000	10000	12000
10	2000	2600	3200	6400	8000	9600
12	1600	2200	2700	5400	6700	8000
14	1400	1900	2300	4600	5700	6900
16	1200	1600	2000	4000	5000	6000

Exemplu:
Freza cu carbura, dantura 1, Ø 12 mm.
Span grosier la NE-metale moi.
Viteza de taiere: 200–00 m/min.
Domeniu numar de rotatii: 5400–8000 min^{-1}.

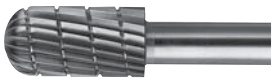
Codurile marcate cu • nu se regasesc in stoc, livrare rapida

Freza HSS cu coada 6 mm, forma cilindrica A, cu dantura frontala

42 15254...–42 15256...

Forma	42 15254... Cod comanda 42 15254... Dantura 1	42 15255... Cod comanda 42 15255... Dantura 3	42 15256... Cod comanda 42 15256... Dantura 5	Ø cap mm	Lungime cap mm	Lungime totala mm
A 0413 ST	–	...010	–	4	13	60
A 0616 ST	...013	...013	...013	6	16	60
A 0820 ST	–	...016	–	8	20	60
A 1013 ST	–	...019	–	10	13	53
A 1020 ST	–	...022	–	10	20	60
A 1225 ST	...025	...025	...025	12	25	65
A 1625 ST	–	...028	–	16	25	65

Freza HSS cu coada 6 mm, forma cilindrica C



42 15257...–42 15258...

Forma	42 15257... Cod comanda 42 15257... Dantura 1	42 15258... Cod comanda 42 15258... Dantura 3	Ø cap mm	Lungime cap mm	Lungime totala mm
C 0616	...010	...010	6	16	60
C 0820	–	...013	8	20	60
C 1020	–	...016	10	20	60
C 1225	–	...019	12	25	65

Freza HSS cu coada 6 mm, forma proiectil K

42 15259...

Forma	42 15259... Cod comanda 42 15259... Dantura 3	Ø cap mm	Lungime cap mm	Lungime totala mm
K 0618	...010	6	18	60
K 1020	...013	10	20	60
K 1225	...016	12	25	65
K 1630	...019	16	30	70

Freza HSS cu coada 6 mm, forma con rotund L

42 15260...

Forma	42 15260... Cod comanda 42 15260... Dantura 3	Ø cap mm	Lungime cap mm	Lungime totala mm	Unghi α °
L 1230	...010	12	30	70	14
L 1630	...013	16	30	70	14

Freza HSS cu coada 6 mm, forma strop O

42 15261...

42 15261...

Forma	Cod comanda 42 15261...	Dantura 3	Ø cap mm	Lungime cap mm	Lungime totala mm
O 1220	...010		12	20	60
O 1625	...013		16	25	65

Freza HSS cu coada 6 mm, forma sferica F

42 15262...–42 15264...

42 15262...

42 15263...

42 15264...

Forma	Cod comanda 42 15262...	Dantura 1	Cod comanda 42 15263...	Dantura 3	Cod comanda 42 15264...	Dantura 5	Ø cap mm	Lungime cap mm	Lungime totala mm
F 0403*	–		...010		–		4	3,6	55
F 0605*	–		...013		–		6	5,4	55
F 0807	...016		...016		...016		8	7,0	55
F 1009	–		...019		–		10	9,0	49
F 1210	–		...022		–		12	10,8	51
F 1614	–		...025		–		16	14,3	54

* fara rupere span.

Freza HSS cu coada 6 mm, forma con ascutit G

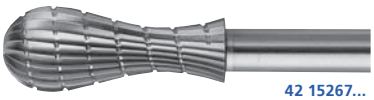
42 15265...–42 15266...

42 15265...

42 15266...

Forma	Cod comanda 42 15265...	Dantura 1	Cod comanda 42 15266...	Dantura 3	Ø cap mm	Lungime cap mm	Lungime totala mm	Unghi α °
G 0618	–		...010		6	18	60	14
G 1020	...013		...013		10	20	60	28
G 1225	–		...016		12	25	65	27

Freza HSS cu coada 6 mm, forma de lob HSS 64



42 15267...

42 15267...

Forma	Cod comanda 42 15267...	Dantura 3	Ø cap mm	Lungime cap mm	Lungime totala mm
HSS 64	...010		12	30	70

Codurile marcate cu • nu se regasesc in stoc, livrare rapida

Freza HSS cu coada 6 mm, forma unghiulara HSS 63

42 15268...

Forma	42 15268... Cod comanda 42 15268...	Dantura 3	Ø maxim cap mm	Ø minim cap mm	Lungime cap mm	Lungime totala mm	Unghi α °
HSS 63	...010		12	8	30	70	7

Set freze HSS cu coada 6 mm

Livrare: In cutie de plastic.

	Cantitate	10 piese
Dantura 3	Cod comanda 42 15272... €	...010
	Descriere	82 HSS
	Continut	2 freze forma cilindrica A 1013 ST, A 1625 ST 1 freza forma sferica F 1614 1 freza forma con ascutit G 1020 1 freza forma proiectil K 1630 2 freze forma con rotund L 1020, L 1630 1 freza forma strop O 1625 1 freza forma unghiulara W 1220 1 freza forma speciala HSS 45

42 15272...

Set freze HSS cu coada 6 mm

Livrare: In cutie de plastic.

	Cantitate	18 piese
Dantura 3	Cod comanda 42 15272...	...020
	Descriere	83 HSS
	Continut	2 freze forma cilindrica A 0616 ST, A 1225 ST 2 freze forma sferica C 0616, C 1225 4 freze forma sferica F 0403, F 0807, F 1210, F 1614 2 freze forma con ascutit G 0618, G 1225 3 freze forma proiectil K 0618, K 1225, K 1230 2 freze forma strop O 0610, O 1220 3 freze forma speciala HSS 55, HSS 63, HSS 64

42 15272...

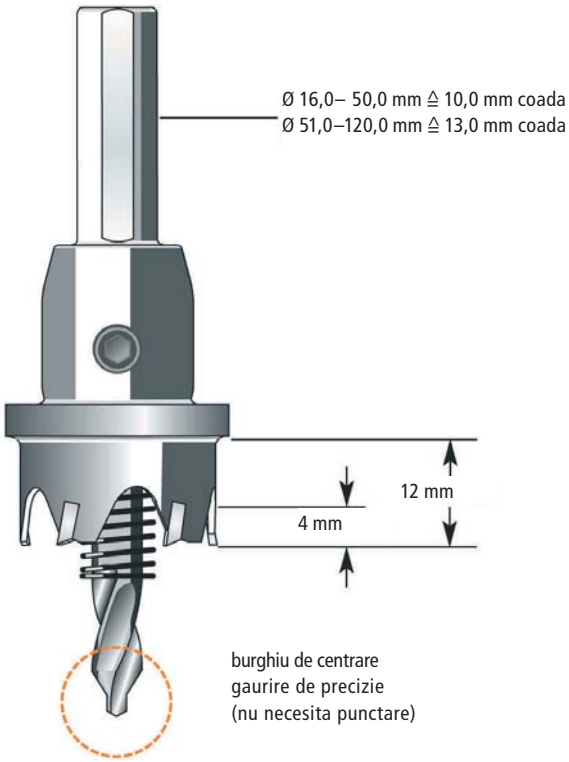
Carote cu carbura

Toate carotele cu carbura pana la Ø 100 mm sunt dotate cu arc ejector.
Materialul gaurit este ejectat automat.

Executie de taiere dreapta pentru grosime de material de pana la 4 mm
FORUM - carota cu carbura pentru masini de gaurit manuale si cu coloana, universale, utilizabile pentru **otel inoxidabil pana la 2 mm,** oteluri nealiate pana la 4 mm, azbest, fibra de sticla si materiale plastice, PVC, alu, zinc, panouri ipsos si panouri de constructii usoare.

- Concentricitate mare datorita constructiei stabile
- Unghi span optimizat CAD cu finisare speciala confera putere buna de taiere si rezistenta la uzura
- Ejectare rapida a miezului de gaurire prin arc ejector
- Placutele cu carbura permit slefuirea repetata
- Carotele FORUM se pot repara.
  Este posibila inlocuirea dintilor in caz de deteriorare
- Burghiu de centrare se poate inlocui

Specific:
Carotele Ø 16,0 pana la 30,0 mm sunt executate dintr-o bucata.
Peste Ø 31,0 mm utilizam un suport de prindere tratat special, pentru a disipa fortele de torsiune la solicitare mare si a evita prin aceasta forfecarea prematura a cozii de prindere.



	Numar de rotatii in min^{-1}					
m/min	25	30	40	50	60	70
Ø	1			2		3
15	531	637	849	1062	1274	1486
16	498	597	796	995	1194	1393
17	468	562	749	937	1124	1311
18	442	531	708	885	1062	1238
19	419	503	670	838	1006	1173
20	398	478	637	796	955	1115
25	318	382	510	637	764	892
30	265	318	425	531	637	743
35	227	273	364	455	546	637
40	199	239	318	398	478	557
45	177	212	283	354	425	495
50	159	191	255	318	382	446
55	145	174	232	290	347	405
60	133	159	212	265	318	372
65	122	147	196	245	294	343
70	114	136	182	227	273	318
80	100	119	159	199	239	279
90	88	106	142	177	212	248
100	80	96	127	159	191	223
110	72	87	116	145	174	203
120	66	80	106	133	159	186
130	61	73	98	122	147	171
140	57	68	91	114	136	159
150	53	64	85	106	127	149

1 Viteza de taiere recomandata la otel inoxidabil
2 Viteza de taiere recomandata la otel de constructii ST 37
3 Viteza de taiere recomandata la aluminiu

Carote cu carbura de la pagina 2/93.

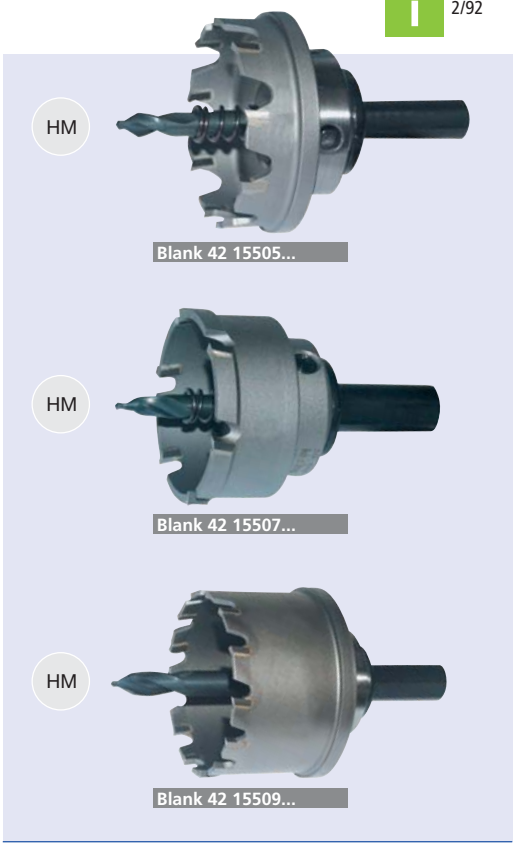
Codurile marcate cu • nu se regasesc in stoc, livrare rapida

forum Carota cu carbura

Rezultate optime de taiere prin rectificare speciala axiala si radiala. Carotele cu carbura se pot reascuti. Pregaurire cu burghiu de centrare.

Livrare: inclusiv burghiu.

i Pagina 2/92



Blank 42 15505...

Debitare plana: Toate carotele cu carbura pana la Ø 100 mm sunt prevazute cu arc ejector. Utilizare pentru materiale pana la 4 mm, otel inoxidabil pana la 2 mm. Pana la 30 mm carota este produsa dintr-o bucata, de la 31 mm se utilizeaza dispozitive de prindere tratate special, pentru disiparea fortei de torsiune, MK 2/MK 3 se recomanda de la 61 mm.
Inaltime carota: 12 mm.
Ø 16–50 mm cu coada 10 mm.
Ø 51–120 mm cu coada 13 mm.

Blank 42 15507...

MBS: Toate carotele cu carbura sunt prevazute cu arc ejector. Grosime material max. 10 mm fara arc. Masini de gaurit manuale pana la 4 mm si masini de gaurit cu coloana pana la 10 mm grosime material. De la 6 mm recomandam detensionare. De la 37 mm se utilizeaza suport de prindere tratat special. MK 2/MK 3 se recomanda de la 37 mm.
Inaltime carota: 22 mm.
Ø 18–36 mm cu coada 10 mm.
Ø 37–100 mm cu coada 13 mm.

Blank 42 15509...

Debitare adanca: Utilizare pentru grosime material pana la 4 mm, otel inoxidabil pana la 2 mm. Recomandat in special pentru teava si pentru suprafete curbate. MK 2/MK 3 se recomanda de la 61 mm.
Inaltime carota: 35 mm la carotele cu Ø 20–55 mm.
Inaltime carota: 60 mm la carotele Ø 60 mm.
Ø 20–50 mm coada 10 mm.
Ø 51–60 mm coada 13 mm.

Suprafata	Cod comanda	Otel <850 N	Otel <1000 N	Otel <1400 N	Otel <42 HRC	Otel <52 HRC	Otel <56 HRC	Otel <62 HRC	Otel >62 HRC	INOX	Ti, aliaje Ti, oteluri speciale	Fonta	Al, nemetale, aliaje nemetale	Cupru, alama, bronz	Emulsii	Ulei	Aer	fara racire
Blank	42 15505...	50	40	28	22	20	18	15	10	30		40	65	70	□	■	■	◧
Blank	42 15507...	50	40	28	22	20	18	15	10	30		40	65	70	□	■	■	◧
Blank	42 15509...	50	40	28	22	20	18	15	10	30		40	65	70	□	■	■	◧

Ø carota mm	forum Cod comanda 42 15505...	Blank	forum Cod comanda 42 15507...	Blank	forum Cod comanda 42 15509...	Blank	PG/metric
16	...010		–		–		M16
17	...013		–		–		–
18	...016		...016		–		–
19	–		...022		–		–
20	...025		...025		...025		M20
21	...031		...031		...031		–
22	...034		...034		...034		–
23	...040		...040		...040		–
24	...043		...043		...043		–
25	...046		...046		...046		M25
26	...049		...049		...049		–
27	...052		...052		–		–
28	...055		...055		...055		–
29	...061		...061		–		–
30	...064		...064		...064		–
31	...067		...067		–		–
32	...070		...070		...070		M32
33	...073		...073		–		–
34	...076		...076		...076		–
35	...079		...079		...079		–
36	...082		...082		–		–
37	...085		...085		...085		PG 29
38	...088		...088		–		–
39	...091		...091		...091		–
40	...094		...094		...094		M40
41	...097		...097		–		–
42	...100		...100		...100		–
43	...103		...103		–		–
44	...106		...106		–		–

Continuarea pe pagina 2/94

Continuarea de la pagina 2/93

Ø carota mm	forum Cod comanda Blank 42 15505...	forum Cod comanda Blank 42 15507...	forum Cod comanda Blank 42 15509...	PG/metric
45	...109	...109	...109	–
46	...112	...112	...112	–
47	...115	...115	...115	PG 36
48	...118	...118	–	–
49	...121	...121	–	–
50	...124	...124	...124	M50
51	...127	...127	–	–
52	...130	...130	–	–
53	...133	...133	–	–
54	...136	...136	–	PG 42
55	...139	...139	...139	–
56	...142	...142	–	–
57	...145	...145	–	–
58	...148	...148	–	–
59	...151	...151	–	–
60	...154	...154	...154	PG 48
61	–	...157	–	–
62	–	...160	–	–
63	–	...163	–	M63
64	–	...166	–	–
65	...169	...169	–	–
66	–	...172	–	–
67	–	...175	–	–
68	...178	...178	–	–
69	–	...181	–	–
70	...184	...184	–	–
71	–	...187	–	–
72	–	...190	–	–
73	–	...193	–	–
74	–	...196	–	–
75	...199	...199	–	–
76	–	...202	–	–
77	–	...205	–	–
78	–	...208	–	–
79	–	...211	–	–
80	...214	...214	–	–
81	–	...217	–	–
82	–	...220	–	–
83	–	...223	–	–
84	–	...226	–	–
85	...229	...229	–	–
86	–	...232	–	–
87	–	...235	–	–
88	–	...238	–	–
89	–	...241	–	–
90	...244	...244	–	–
91	–	...247	–	–
92	–	...250	–	–
93	–	...253	–	–
94	–	...256	–	–
95	...259	...259	–	–
96	–	...262	–	–
97	–	...265	–	–
98	–	...268	–	–
99	–	...271	–	–
100	...274	–	–	–
100	–	...274	–	–
110	...277	–	–	–
115	...280	–	–	–
120	...283	–	–	–

Codurile marcate cu • nu se regasesc in stoc, livrare rapida

forum Burghiu de centrare HSS de rezerva

42 15505... ▪ Pentru debitare plana

42 15507... ▪ Pentru MBS

42 15509... ▪ Pentru debitare adanca

42 15505...–42 15509...

Ø x lungime mm	forum Cod comanda 42 15505...	forum Cod comanda 42 15507...	forum Cod comanda 42 15509...	Pentru Ø carota mm
6 x 50	...300	–	–	16– 60
6 x 60	–	...300	–	18– 60
6 x 80	–	–	...300	20– 55
8 x 50	...303	–	–	110–120
8 x 80	–	...303	–	61–100
8 x 80	–	–	...303	60
8 x 100	–	–	...306	60

forum Suport de prindere MK

▪ Suport de prindere cu burghiu de centrare HSS
▪ Ø 8 x 80 mm

Coada MK	forum Cod comanda 42 15511...	Pentru Ø carota mm
MK 2	...010	pana la 100
MK 3	...013	pana la 150

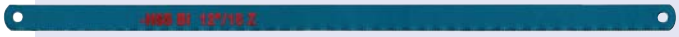
42 15511...

Panza fierastrau

forum 42 15415...

▪ Cant dinti din HSS-bimetal
▪ Dantura este sudata in vacuum pe materialul de baza
▪ Aceste panze combina solicitarea mare si siguranta la casare si sunt utilizabile universal

HSS-bimetal



42 15415...

BAHCO 42 15406...

▪ Cant dintat din aliaj inalt HSS
▪ Materialul de baza este din otel de arc flexibil
▪ Dantura din bimetal este incasabila cu finisare de precizie pentru toate tipurile de span metalic
▪ Aceste panze garanteaza o rezistenta la utilizare semnificativ mai mare si durata de mentinere mai mare a danturii in stare ascutita decat panzele de fierastrau uzuale

42 15406...

Lungime mm	forum Cod comanda 42 15415...	BAHCO Cod comanda 42 15406...	Latime mm	Grosime mm	Dinti per tol
300	...010	...200	13	0,65	18
300	...013	...203	13	0,65	24
300	...016	...206	13	0,65	32

Panza de fierastrau, progresiva

forum 42 15415...

▪ Panza de fierastrau bimetal cu impartire progresiva a dintilor, descrescator de la 32 pana la 18 dinti per tol
▪ Eficienta deosebita in domeniu universal de utilizare
▪ Fara schimbarea panzei, la durata mare de utilizare, se pot debita materiale de duritate diferita
▪ Reduce vibratia la materialele subtiri la inceperea debitarii, putere mare de debitare si in materiale grosiere

HSS-bimetal

42 15415...

BAHCO 42 15406...

▪ Cant dintat din aliaj inalt HSS
▪ Materialul de baza este din otel de arc flexibil
▪ Dantura din bimetal este incasabila cu dinti descrescatori progresiv, de la 28–18 dinti pentru toate tipurile de span metalic
▪ Aceste panze garanteaza o rezistenta la utilizare semnificativ mai mare si durata de mentinere mai mare a danturii in stare ascutita decat panze fierastrau uzuale

42 15406...

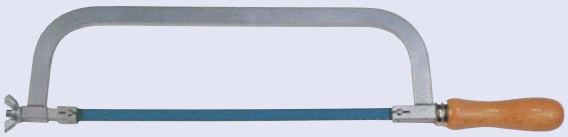
Lungime mm	forum Cod comanda 42 15415...	BAHCO Cod comanda 42 15406...	Latime mm	Grosime mm	Dinti per tol
300	–	...220	13	0,65	28–18
300	...050	–	13	0,65	32–18

forum Fierastrau metal

- DIN 6473 A
- Maner lemn, stift dintr-o bucata
- Maner 18 x 8 mm
- Vopsit

Livrare: Fara panza.

Lungime panza mm	forum Cod comanda 42 15406...
300	...015



42 15406...

forum Fierastrau metal

- Stratificat epoxi
- Protectie antialunecare frontala

Livrare: Panza bimetal.

42 15406 023
- Maner stabil din otel plin
- Maner rotativ bicomponent

42 15406 026
- Maner stabil din aluminiu turnat sub presiune
- Maner tip pistol bicomponent

★ Tensionare panza prin manerul rotativ.

Lungime panza mm	forum Cod comanda 42 15406...	forum Cod comanda 42 15406...
300	...023	...026

42 15406 023

42 15406 026

BAHCO Fierastrau aluminiu

- Constructie robusta din aluminiu
- Tensionare panza la 0° si 55°
- Rezerva panza in maner
- Utilizare ca fierastrau pendular prin fixarea panzei in maner

Livrare: Panza fierastrau bimetal SANDFLEX®, 24 dinti per tol.

Lungime panza mm	BAHCO Cod comanda 42 15406...
300	...030

42 15406...

BAHCO Fierastrau metal

- Cadru cu forme rotunjite
- Material din plastic bicomponent
- Confort marit de debitare prin maner ergonomic cu protectie pentru incheietura

Livrare: Panza fierastrau SANDFLEX® bimetal, 24 dinti per tol.

Lungime panza mm	BAHCO Cod comanda 42 15406...
300	...035

42 15406...

BAHCO Fierastrau ERGO®

- Fierastrau ergonomic profesional
- Tensionare mare a panzei pentru debitare dreapta, fixare panza cu arc de tensionare pentru schimbarea rapida a panzei
- Manere antialunecare, protectie incheieturi

Livrare: 6 panze bimetal SANDFLEX®, 24 dinti per tol.

Lungime panza mm	BAHCO Cod comanda 42 15406...
300	...040

42 15406...

Codurile marcate cu • nu se regasesc in stoc, livrare rapida

BAHCO Fierastrau mini

- Pentru debitare in locuri greu accesibile

Livrare: Panza fierastrau bimetal SANDFLEX®.

Lungime panza mm	BAHCO Cod comanda 42 15406...
250	...045

42 15406...

forum Fierastrau universal

- Fierastrau pentru lemn si metal
- Deschidere 45 mm
- Panze fierastrau cu gauri pentru stifturi, pentru metal
- Din otel rotund 6 mm, nichelat
- Cu maner din lemn de fag

Livrare: Inclusiv panza fierastrau pentru metale.

Executie	forum Cod comanda 42 15406...	Distanta stifturi mm
Cu maner fix	...150	148

42 15406...

PUK® Fierastrau universal

- Pentru panze fierastrau 150 mm

42 15407 010
- Rama din otel rotund 6 mm

Livrare: Panze universale.

42 15407 020
- Rama din otel 4 canturi 5,4 mm

Livrare: Panza universala, in husa.

Executie	PUK® Cod comanda 42 15407...	Lungime mm
cu maner fix	...010	290
cu maner reglabil	...020	310

42 15407 010

42 15407 020

forum Fierastrau metal

- Fierastrau pentru lemn si metal
- Deschidere 50 mm
- Din otel plat 10 x 5 mm, zincat/nichelat
- Cu maner plastic cu insertie fibra de sticla

Livrare: Inclusiv panza fierastrau pentru metal.

Distanta stifturi mm	forum Cod comanda 42 15406...
148	...155

42 15406...

forum Fierastrau universal

- Fierastrau pentru lemn, metal si plastic
- Din otel rotund, nichelat
- Cu maner ergonomic de plastic

Livrare: Inclusiv panza fierastrau pentru metal.

Distanta stifturi mm	forum Cod comanda 42 15406...
148	...160

42 15406...

PUK® Panza fierastrau pentru fierastrau universal

- Din banda de otel
- Tratat special
- Cu gauri pentru stifturi de fixare

42 15407 060
- Dantura fina, pentru debitarea tablei subtiri, tevilor cu pereti subtiri si profilelor

42 15407 055
- Dantura ondulata, fina, pentru debitare fara tesitura a materialelor uzuale, in special metalelor

42 15407 050
- Dantura grosiera, pentru debitarea placajului aglomerat de lemn verde, carton, fibra dura si plastic moale

Executie	PUK® Cod comanda 42 15407...	Dinti cm/tol	Lungime mm
Panza fierastrau fina	...060	20/50	150
Panza fierastrau pentru metale	...055	12/32	150
Panza fierastrau pentru lemn	...050	5,5/14	150

42 15407 060

42 15407 055

42 15407 050

Panza fierastrau pentru utilaje

forum
Blank 42 15417...

- Panze fierastrau HSS pentru utilaje, cu unghi deschidere 0°
- Din otel HSS 1.3343 (DMo5) tratat in vacuum

HSS-DMo5

Blank 42 15417...

KOMET
Blank 42 15430...

- Executie din HSS duritate foarte mare conform metodelor de fabricatie cele mai moderne
- Panza VP-7 cu impartire variabila a dintilor si dinti pozitivi
- Domeniu universal de utilizare, in materiale dure cu span lung, ca de ex. otel inoxidabil
- Forma dintilor reduce vibratiile la debitare
- Datorita impartirii variabile a dintilor se extinde domeniul de utilizare

HSS-DMo5

Blank 42 15430...

KOMET
Blank 42 15431...

- Panza de debitat pentru solicitare mare Ko-Bi
- Corp de baza din otel de arc cu sudura HSS
- Pentru utilizare universala
- Siguranta mare la casare

HSS-bimetal

Blank 42 15431...

Suprafata	Cod comanda	Otel <850 N	Otel <1000 N	Otel <1400 N	Otel <42 HRC	Otel <52 HRC	Otel <56 HRC	Otel <62 HRC	Otel >62 HRC	INOX	Ti, aliaje Ti, oteluri speciale	Fonta	Al, nemetale, aliaje nemetale	Cupru, alama, bronz	Emulsii	Ulei	Aer	fara racire
Blank	42 15417...	■								◧		◧	◧	◧	■			
Blank	42 15430...	■								◧		◧	◧	◧	■			
Blank	42 15431...	■	■								◧	◧	◧	◧	■			

Lungime mm	forum Cod comanda 42 15417...	Blank	KOMET Cod comanda 42 15430...	Blank	KOMET Cod comanda 42 15431...	Blank	Latime mm	Grosime mm	Dinti per toli FORUM 42 15417...	Komet 42 15430...	Komet 42 15431...	Unghi deschidere	Ø gaura fixare model mijloc mm	Ø gaura fixare model deplasat/ Kasto mm
300	–		...001		–		25	1,25	–	10	–	0°	8,5	–
300	–		...003		–		25	1,25	–	14	–	0°	8,5	–
300	–		...005		–		25	1,5	–	14	–	0°	8,5	–
350	–		...007		–		25	1,5	–	10	–	0°	8,5	–
350	–		...009		–		30	1,5	–	10	–	0°	8,5	–
350	...100		...010		–		30	2	4	4	–	0°	8,5	–
350	...103		...013		–		30	2	6	6	–	0°	8,5	–
350	...106		...016		–		30	2	8	8	–	0°	8,5	–
350	...109		...019		–		30	2	10	10	–	0°	8,5	–
350	...112		...022		–		36	2	4	4	–	0°	8,5	–
350	...115		...025		–		36	2	6	6	–	0°	8,5	–
350	...118		...028		–		36	2	8	8	–	0°	8,5	–
350	...121		...031		–		36	2	10	10	–	0°	8,5	–
350	–		–		...031		32	1,6	–	–	6–10	7°	8,5	–
400	–		...121		–		25	1,25	–	10	–	0°	8,5	–
400	–		...124		–		25	1,25	–	14	–	0°	8,5	–
400	–		...127		–		25	1,5	–	14	–	0°	8,5	–
400	...124		...034		–		30	1,5	6	6	–	0°	8,5	–
400	...127		...037		–		30	1,5	8	8	–	0°	8,5	–
400	...130		–		–		30	1,5	10	10	–	0°	8,5	–
400	–		...040		–		32	1,5	10	10	–	0°	8,5	–
400	...133		...043		–		30	1,5	14	14	–	0°	8,5	–
400	...136		...046		–		30	1,5	18	18	–	0°	8,5	–
400	...139		...049		–		30	2	4	4	–	0°	8,5	–
400	...142		...052		–		30	2	6	6	–	0°	8,5	–
400	...145		...055		–		30	2	8	8	–	0°	8,5	–
400	...148		...058		–		30	2	10	10	–	0°	8,5	–
400	...151		...061		–		30	2	14	14	–	0°	8,5	–
400	...154		...130		–		35	2	4	6	–	7°	10,5	–
400	–		...062		–		35	2	–	4–7	–	7°	10,5	–
400	–		–		...034		32	1,6	–	–	6	0°	8,5	–
400	–		–		...040		32	1,5	–	–	10	0°	8,5	–
450	–		...063		–		30	1,5	–	10	–	0°	8,5	–
450	...157		...064		–		35	2	4	4	–	0°	10,5	–
450	...160		...067		–		35	2	6	6	–	0°	10,5	–
450	...163		...070		–		35	2	8	8	–	0°	10,5	–
450	...166		...071		–		40	2	4	4–7	–	7°	–	8,5
450	...169		...073		–		35	2	10	10	–	0°	10,5	–
450	–		...133		–		40	2	4	4	–	0°	–	8,5
450	...172		–		–		40	2	4	4	–	7°	10,5	–
450	–		...136		–		40	2	–	4	–	0°	10,5	–
450	–		...074		...079		40	2	–	4–7	6	7°	10,5	–
450	–		...075		...077		40	2	–	6	6	0°	–	8,5

Continuarea pe pagina 2/99

Codurile marcate cu • nu se regasesc in stoc, livrare rapida

Continuarea de la pagina 2/98

Lungime mm	forum Cod comanda 42 15417...	Blank	KOMET Cod comanda 42 15430...	Blank	KOMET Cod comanda 42 15431...	Blank	Dinti per toli Latime mm	Grosime mm	FORUM 42 15417...	Komet 42 15430...	Komet 42 15431...	Unghi deschidere	Ø gaura fixare model mijloc mm	Ø gaura fixare model deplasat/ Kasto mm
450	–		...076		–		40	2	–	6	–	0°	10,5	–
450	–		...077		...076		40	2	–	10	4	0°	10,5	–
500	–		...078		–		40	2	–	4	–	0°	10,5	–
500	–		...079		–		40	2	–	6	–	0°	10,5	–
500	...175		...082		–		48	2,5	4	4	–	0°	–	10,5
500	...178		...085		–		48	2,5	6	6	–	0°	–	10,5
500	...181		...088		...085		50	2,5	4	4	4	0°	13,0	–
500	...184		...091		...088		50	2,5	6	6	6	0°	13,0	–
550	...187		...094		–		45	2	4	4	–	0°	10,5	–
550	...190		...097		–		45	2	6	6	–	0°	–	10,5
550	...193		...100		–		45	2	10	10	–	0°	–	10,5
550	–		...101		–		50	2,5	–	6	–	0°	–	10,5
575	...196		...103		...091		50	2,5	4	4	4	0°	–	10,5
575	...199		...106		–		50	2,5	6	6	–	0°	–	10,5
600	...202		...109		–		50	2,5	4	4	–	0°	13,0	–
600	...205		...112		...094		50	2,5	6	6	4	0°	13,0	–
650	...208		...115		...097		50	2,5	4	4	4	0°	13,0	–
650	...211		...118		–		50	2,5	6	6	–	0°	13,0	–
650	–		...119		–		55	2,5	–	4	–	0°	–	10,5

Panza fierastrau HSS-CO pentru utilaje, cu unghi deschidere 7° sau dimensiuni speciale pana la 1500 mm livrabile la cerere.

Recomandari utilizare panze bimetal pentru fierastrau

Executie

1. Fixarea unei noi panze
Fixarea influenteaza foarte mult rezistenta la uzura. Se recomanda urmatoarea procedura:
- 100 % a vitezei normale de taiere (m/min) se regleaza in functie de calitatea materialului
- Avansul se regleaza la doar 50 % a valorii corecte
- Dupa prelucrarea unei suprafete de cca. 500 cm² se creste usor valoarea

2. Alegerea numarului si formei dintilor conform tabelului alaturat

2.1 Forma dintelui si unghi span
Dinti combinati: Recomandat in special pentru sectiuni schimbabile de material, domeniul de utilizare se mareste prin aceasta. Reduce oscilatiile.

2.2 Unghi span
- Tevi, profile si sectiuni mai mici de material trebuiesc prelucrate cu un varf de dinte robust (= 0° unghi span/dinte normal)
- Sectiuni mai mari de material si materiale dure, cu span lung trebuiesc prelucrate cu un unghi span pozitiv (10° dinte ghiara)

2.3 Viteza de taiere si avans
Viteza de taiere si avansul sunt in functie de rezistenta materialului de prelucrat.

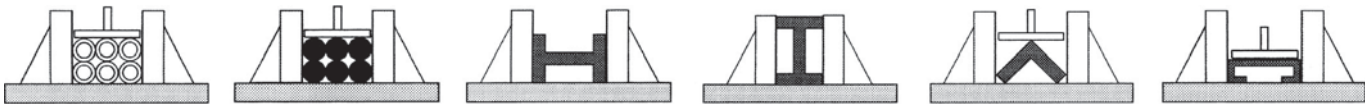
Recomandare impartire dinti pentru material plin dantura combinata	
Sectiune material mm	**Dantura ZpZ**
pana la 30	10/14
20– 50	8/12
25– 60	6/10
35– 80	5/8
50– 100	4/6
70– 120	4/5
80– 150	3/4
130– 350	2/3
250– 600	1,4/2
500–1200	0,75/1,25
1000–3000	0,55/0,75

Recomandare impartire dinti pentru tevi

Grosime perete S mm	exterior teava Ø D mm: 20	40	60	80	10	12	150	200	300	400
	Impartire dinti T_z (ZpZ)									
2	14	14	14	14	14	14	10–14	10–14	8–12	8–12
3	14	14	10–14	10–14	10–14	10–14	8–12	8–12	6–10	6–10
4	14	14	10–14	10–14	8–12	8–12	8–12	8–12	5– 8	5– 8
5	14	10–14	10–14	10–14	8–12	8–12	8–12	6–10	5– 8	5– 8
6	14	10–14	10–14	8–12	8–12	8–12	8–12	5– 8	5– 8	4– 6
8	14	10–14	8–12	8–12	8–12	6–10	6–10	5– 8	4– 6	4– 6
10		8–12	6–10	6–10	6–10	5– 8	5– 8	4– 6	4– 6	4– 6
12		8–12	6–10	6–10	5– 8	5– 8	4– 6	4– 6	4– 6	3– 4
15		8–12	6–10	5– 8	5– 8	4– 6	4– 6	4– 6	3– 4	3– 4
20			6–10	5– 8	4– 6	4– 6	4– 6	3– 4	3– 4	3– 4
30				4– 6	4– 6	4– 6	3– 4	3– 4	3– 4	2– 3
50						3– 4	3– 4	3– 4	2– 3	2– 3
75								2– 3	2– 3	2– 3
100									2– 3	2– 3
150										2– 3
>200										

Pentru tevi cu perete subtire (pana la cca. 8 mm grosime perete) se recomanda pe cat posibil impartirea dintilor cu unghi span 0°.

Material	Viteza de taiere in m/min	Putere de taiere in cm²/min la o suprafata de (mm) 25 Ø	50 Ø	75 Ø	100 Ø	150 Ø	200 Ø
Otel constructii/ otel automat	80–90	25–35	40–50	50–60	55–70	70–90	75–85
Oteluri calite/oteluri tratate	45–75	20–25	25–35	30–40	35–50	40–60	40–50
Oteluri de scule nealiate/oteluri rulmenti cu role	40–60	20–25	25–35	30–35	30–40	40–50	40–50
Oteluri de scule aliate/oteluri rapide	30–40	15–20	20–25	25–30	30–35	30–35	30–35
Oteluri inoxidabile	20–35	10–15	15–20	15–20	15–20	15–20	15–20
Oteluri rezistente la temperaturi ridicate/ aliaje rezistente la temperaturi ridicate	15–20	5–10	5–10	7–13	5–15	5–15	5–15



Fixarea materialului de debitat
Materialul trebuie fixat astfel incat
- Sa nu se produca oscilatii
- Sa se atinga la profile, traverse T etc. pe cat se poate lungimi constante

La utilizarea utilajului de debitare cu cadru trebuie fixat materialul conform schitei 4, 5 si 6.
La debitarea de tevi si bare in legaturi trebuiesc punctati cu sudura capetii.

Codurile marcate cu • nu se regasesc in stoc, livrare rapida

Panza bimetal de debitat RÖNTGEN bi-alfa cobalt M42

- Panza bimetal de debitat cu banda portanta de flexibilitate mare si varfuri dinti din HSS M42
- Duritate varfuri dinti 67–69 HRC
- Recomandat pentru toate otelurile, chiar si oteluri inalt aliate care produc greu span pana la rezistenta 1400 N/mm²

Tipuri de dinti:

Dinte normal N: pentru sectiuni mai mici sau medii pana la 70 mm pentru teava si profile

Dinte Hook H: pentru material plin de la 50 mm

42 15409...

Suprafata	Cod comanda	Otel <850 N	Otel <1000 N	Otel <1400 N	Otel <42 HRC	Otel <52 HRC	Otel <56 HRC	Otel <62 HRC	Otel >62 HRC	INOX	Ti, aliaje Ti, oteluri speciale	Fonta	Al, nemetale, aliaje nemetale	Cupru, alama, bronz	Emulsii	Ulei	Aer	fara racire
	42 15409...	■	■	■	◧					◧			◧	◧	■	◧		

Lungime mm	Cod comanda 42 15409...	Latime mm	Grosime mm	Dinti per tol
1138	...400	13	0,6	6–10 N
1138	...403	13	0,6	8–12 N
1138	...406	13	0,6	10–14 N
1325	...409	13	0,6	6–10 N
1325	...412	13	0,6	8–12 N
1325	...415	13	0,6	10–14 N
1440	...418	13	0,6	8–12 N
1440	...421	13	0,6	10–14 N
1638	...424	13	0,6	6–10 N
1638	...427	13	0,6	8–12 N
1745	...430	19	0,9	5– 8 N
1745	...433	19	0,9	8–12 N
2000	...436	20	0,9	5– 8 N
2000	...439	20	0,9	8–12 N
2140	...442	20	0,9	5– 8 N
2140	...445	20	0,9	8–12 N
2375	...448	20	0,9	5– 8 N
2375	...451	20	0,9	6–10 N
2375	...454	20	0,9	8–12 N
2375	...457	20	0,9	10–14 N
2450	...460	27	0,9	4– 6 H
2450	...463	27	0,9	5– 8 N
2450	...466	27	0,9	6–10 N
2450	...469	27	0,9	8–12 N
2450	...472	27	0,9	10–14 N
2750	...475	27	0,9	4– 6 H
2750	...478	27	0,9	5– 8 N
2750	...481	27	0,9	6–10 N
2750	...484	27	0,9	8–12 N
2750	...487	27	0,9	10–14 N
2835	...490	27	0,9	4– 6 H
2835	...493	27	0,9	5– 8 N
2835	...496	27	0,9	6–10 N
2835	...499	27	0,9	8–12 N
2835	...502	27	0,9	10–14 N
2910	...505	27	0,9	4– 6 H
2910	...508	27	0,9	5– 8 N
2910	...511	27	0,9	6-10 N
2910	...514	27	0,9	8–12 N
2950	...517	27	0,9	4– 6 H
2950	...520	27	0,9	5– 8 N
2950	...523	27	0,9	6–10 N
2950	...526	27	0,9	8–12 N
2950	...529	27	0,9	10–14 N
3150	...532	27	0,9	4– 6 H
3150	...535	27	0,9	5– 8 N
3150	...538	27	0,9	6–10 N
3150	...541	27	0,9	8–12 N
3150	...544	27	0,9	10–14 N
3660	...547	27	0,9	3– 4 H
3660	...550	27	0,9	4– 6 H
3660	...553	27	0,9	5– 6 H

Lungime mm	Cod comanda 42 15409...	Latime mm	Grosime mm	Dinti per tol
3660	...556	27	0,9	3– 4 N
3660	...559	27	0,9	4– 6 N
3660	...562	27	0,9	5– 8 N
3660	...565	27	0,9	6–10 N
3660	...568	27	0,9	8–12 N
3660	...571	27	0,9	10–14 N
3660	...574	27	0,9	4 H
3660	...577	27	0,9	6 H
3660	...580	27	0,9	4 N
3660	...583	27	0,9	6 N
3660	...586	27	0,9	8 N
3660	...589	27	0,9	10 N
3830	...592	27	0,9	3– 4 H
3830	...595	27	0,9	4– 6 H
3830	...601	27	0,9	5– 8 N
3830	...604	27	0,9	6–10 N
3830	...607	27	0,9	8–12 N
4150	...610	27	0,9	3– 4 H
4150	...613	27	0,9	4– 6 H
4150	...616	27	0,9	5– 6 N
4150	...619	27	0,9	5– 8 N
4150	...622	27	0,9	6–10 N
4150	...625	27	0,9	8–12 N
3800	...628	34	1,1	3– 4 H
3800	...631	34	1,1	4– 6 H
4100	...634	34	1,1	2– 3 H
4100	...637	34	1,1	3– 4 H
4100	...640	34	1,1	4– 6 H
4150	...643	34	1,1	3– 4 H
4150	...646	34	1,1	4– 6 H
4400	...649	34	1,1	3– 4 H
4400	...652	34	1,1	4– 6 H
4530	...655	34	1,1	2– 3 H
4530	...658	34	1,1	3– 4 H
4570	...661	34	1,1	2– 3 H
4570	...664	34	1,1	3– 4 H
4640	...667	34	1,1	2– 3 H
4640	...670	34	1,1	3– 4 H
4640	...673	34	1,1	4– 6 H
5000	...676	34	1,1	2– 3 H
5000	...679	34	1,1	3– 4 H
5090	...682	34	1,1	2– 3 H
5090	...685	34	1,1	3– 4 H
4115	...688	41	1,3	2– 3 H
4115	...691	41	1,3	3– 4 H
4640	...694	41	1,3	2– 3 H
4640	...697	41	1,3	3– 4 H
5334	...700	41	1,3	2– 3 H
5334	...703	41	1,3	3– 4 H
5800	...706	41	1,3	2– 3 H
5800	...709	41	1,3	3– 4 H

Cifre ingrosate recomandat | Cifre normale adecvat | ■ recomandat | ◧ adecvat | □ ocazional

forum Tabel de selectie pentru impartire dinti pentru discuri de debitat metale si HSS

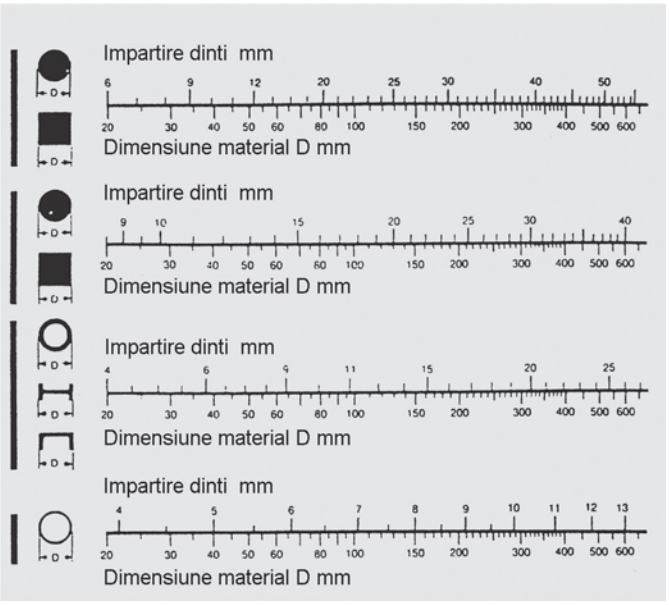
Materiale:

Oteluri inoxidabile,
Metale usoare, cupru, otel turnat

Oteluri rapide
oteluri de scule aliate
alama, bronz
fonta

Tevi cu perete gros si profile
din otel

Tevi cu perete subtire si profil
din otel



Tabel de selectie pentru unghi deschidere, unghi liber si viteza de debitare

Material	Rezistenta la tractiune N/mm	Unghi span si unghi liber	Viteza de taiere m/min
Oteluri nealiate			
St 33, St 34, St 37	330–450	18–20/8	24–60
St 42, St 50, St 52	450–600	18/8	18–32
C 10 G, C 15 G, C 22 N, C 35 N	450–600	18/8	18–32
St 60, St 70, C 45 N, C 60 N	600–850	15/8	14–22
Oteluri aliate			
15 Cr 3	500–700	15/8	
16 Mn Cr 5, 20 Mn Cr 5	600–800	15/6	12–24
37 Mn St 5, 42 Mn V 7	750–850	15/6	
50 CrV 4, 35 Ni Cr 18	800–900		
14 Ni Cr 14	600–700	15/6	10–16
34 Cr Ni Mo 6, 22 Ni Cr 14	700–800		
Oteluri speciale			
cu rezistenta mare	1000–1200		5– 8
Oteluri rapide SS	800–900	12/6	8–12
Oteluri inoxidabile	500–700		6–10
Profile valt			
DIN 1024/25/26	340–450	18/8	24–36
Tevi din otel	500–600	15/8	18–36
Otel turnat DIN 1681			
GS 38, GS 45	380–450	18/8	14–22
GS 52, GS 60	520–600	15/8	8–16
Fonta			
GG 12, GG 30	120–300	15/6	14–25
Metale neferoase			
Cupru		20/10	200–400
Aliaje zinc		25/10	100–200
Bronz	pana la 600	5–10/10	40–120
Alama		10–15/8	200–300
Alpaca		20/10	20– 75
Aliaje alu			
Aliaje Mg		25/10	500–2000

Gauri suplimentare pentru diverse utilaje de debitat

Productie fierastrau	Ø panza fierastrau mm	Gaura Ø mm	gauri secundare necesare
Adige	200–250	32	2/9/50 + 2/8/45
	300–315	32	2/9/50 + 2/11/63
	315–350	40	2/8/55 + 4/12/64
	400–425	50	4/15/80
Baier	175–250	32	4 canale de pana
Berg & Schmid	225–300	32	fara
	250–350	32	2/12/64
	315–350	40	2/12/64
	425	50	4/15/80
BEWO	225–300	32	2/8/45
	315–370	40	2/8/55 + 4/12/64
Eisele	210–275	32	2/8/45
	210–275	40	2/8/55
	300–350	40	2/8/55 + 4/12/64
	400–425	40	2/15/80 + 4/12/64
Häberle	225–350	40	2/8/55
I. B. P.	200–350	32	2/11/63
Kaltenbach	250	32	fara
	350–450	50	4/15/80
MEP	200–350	32	2/11/63
Trennjäger	250	32	2/9/50
	250–275	40	4/11/63
	315–400	50	4/14/85 + 4/15/80
	400–460	60	8/16/90 + 4/18/100
Ulmia	250	32	fara
	250–400	40	4/11/63
Wagner	210–275	32	4/9/50
	315	40	4/11/63
Wahlen	250–350	40	2/8/55 + 4/11/63
Weidmann	225–300	32	2/8/45
	275–350	40	2/8/55 + 4/12/64

Datele corespund valorilor medii, care au fost determinate din experienta practica la utilizarea diferitele modele de utilaje de debitat.
In functie de modelul de utilaj se pot modifica usor impartirea dintilor si viteza de circumferinta.

Discuri de debitat metal de la pagina 2/103.

Codurile marcate cu • nu se regasesc in stoc, livrare rapida

Panza de debitat RRR Plus

- Panza de debitat din otel de scule cu varfuri dinti tratati
- Corp de baza din banda tratata
- In role 30 m
- Pentru operatiuni generale de debitare la oteluri slab aliate cu o rezistenta la tractiune de pana la 800 N/mm²

Tipuri de dinti:
N = dinte normal
H = dinte gheara
(24 dinti per tol tesitura ondulata)

Blank 42 15409...

Suprafata	Cod comanda	Otel <850 N	Otel <1000 N	Otel <1400 N	Otel <42 HRC	Otel <52 HRC	Otel <56 HRC	Otel <62 HRC	Otel >62 HRC	INOX	Ti, aliaje Ti, oteluri speciale	Fonta	Al, nemetale, aliaje nemetale	Cupru, alama, bronz	Emulsii	Ulei	Aer	fara racire
Blank	42 15409...	■										◧	□		■	◧	◧	□

Latime mm	Cod comanda 42 15409...	Blank	Grosime mm	Numar dinti per tol
6	...310		0,65	6 N
6	...313		0,65	8 N
6	...316		0,65	10 N
6	...319		0,65	14 N
6	...322		0,65	18 N
6	...325		0,65	24 N
8	...328		0,65	8 N
8	...331		0,65	10 N
8	...334		0,65	14 N
8	...337		0,65	18 N
8	...340		0,65	24 N
10	...343		0,65	4 N
10	...346		0,65	6 N

Latime mm	Cod comanda 42 15409...	Blank	Grosime mm	Numar dinti per tol
10	...349		0,65	8 N
10	...352		0,65	10 N
10	...355		0,65	14 N
10	...358		0,65	18 N
10	...361		0,65	24 N
13	...364		0,65	4 N
13	...367		0,65	6 N
13	...370		0,65	8 N
13	...373		0,65	10 N
13	...376		0,65	14 N
13	...379		0,65	18 N
13	...382		0,65	24 N

Panza bimetal de debitat RÖNTGEN bi-alfa cobalt M42

- Panza bimetal de debitat cu banda portanta de flexibilitate mare si varfuri dinti din HSS-M42
- Duritate varfuri dinti 67–69 HRC
- In role 15 m
- Recomandat in special pentru sectiuni mici si mijlocii
- Putere de debitare semnificativ mai buna si rezistenta mai mare la uzura

Tipuri de dinti:

Dinte normal N: pentru sectiuni mici si medii pana la 70 mm pentru teava si profile

Dinte Hook H: pentru material plin de la 50 mm

Blank 42 15409...

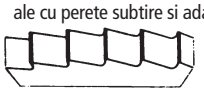
Suprafata	Cod comanda	Otel <850 N	Otel <1000 N	Otel <1400 N	Otel <42 HRC	Otel <52 HRC	Otel <56 HRC	Otel <62 HRC	Otel >62 HRC	INOX	Ti, Ti-aliaje si oteluri speciale	Fonta	Al, nemetale, aliaje nemetale	Cupru, alama, bronz	Emulsii	Ulei	Aer	fara racire
Blank	42 15409...	■	■	■						■	■	■		■	■	■		

Latime mm	Cod comanda 42 15409...	Blank	Grosime mm	Numar dinti per tol
6	...750		0,6	10–14 N
10	...753		0,6	6 H
10	...756		0,6	10–14 N
13	...759		0,6	6 H
13	...762		0,6	10–14 N
6	...765		0,9	6 H
6	...768		0,9	10 N
6	...771		0,9	14 N
6	...774		0,9	10–14 N

Latime mm	Cod comanda 42 15409...	Blank	Grosime mm	Numar dinti per tol
10	...777		0,9	6 H
10	...780		0,9	8 N
10	...783		0,9	10 N
10	...786		0,9	14 N
10	...789		0,9	10–14 N
13	...792		0,9	4 H
13	...795		0,9	6 H
13	...798		0,9	10 N

Disc de debitat HSS pentru metal

- HSS-DMo5
- Fara gauri suplimentare
- Tratat (63–65 HRC), finisare repetata, fina
- Precizie de fabricatie caneluri conform **DIN 1840**, rectificate
- **DIN 1837-A** – dinti unghiulari, dinti fini, pentru materiale cu perete subtire si adancime mica de taiere


Dantura forma A

HSS DIN 1837-A

Blank 42 15417...

Suprafata	Cod comanda	Otel <850 N	Otel <1000 N	Otel <1400 N	Otel <42 HRC	Otel <52 HRC	Otel <56 HRC	Otel <62 HRC	Otel >62 HRC	INOX	Ti, aliaje Ti, oteluri speciale	Fonta	Al, nemetale, aliaje nemetale	Cupru, alama, bronz	Emulsii	Ulei	Aer	fara racire
Blank	42 15417...	■													■		◧	

Ø j15 mm	Cod comanda 42 15417...	Blank	Latime j11 mm	Gaura H7 mm	Numar dinti forma A
20	...300		0,2	5	80
20	...303		0,25	5	64
20	...306		0,3	5	64

Ø j15 mm	Cod comanda 42 15417...	Blank	Latime j11 mm	Gaura H7 mm	Numar dinti forma A
20	...309		0,4	5	64
20	...312		0,5	5	48
20	...315		0,6	5	48

Continuarea pe pagina 2/104

Continuarea de la pagina 2/103

Ø j15 mm	Cod comanda 42 15417...	Blank	Latime j11 mm	Gaura H7 mm	Numar dinti forma A
20	...318		0,8	5	48
20	...321		1,0	5	40
20	...324		1,2	5	40
20	...327		1,6	5	40
20	...330		2,0	5	32
20	...333		2,5	5	32
20	...336		3,0	5	32
20	...339		4,0	5	24
20	...342		5,0	5	24
20	...345		6,0	5	24
25	...348		0,2	8	80
25	...351		0,25	8	80
25	...354		0,3	8	80
25	...357		0,4	8	64
25	...360		0,5	8	64
25	...363		0,6	8	64
25	...366		0,8	8	48
25	...369		1,0	8	48
25	...372		1,2	8	48
25	...375		1,6	8	40
25	...378		2,0	8	40
25	...381		2,5	8	40
25	...384		3,0	8	32
25	...387		4,0	8	32
25	...390		5,0	8	32
25	...393		6,0	8	24
32	...396		0,2	8	100
32	...399		0,25	8	100
32	...402		0,3	8	80
32	...405		0,4	8	80
32	...408		0,5	8	80
32	...411		0,6	8	64
32	...414		0,8	8	64
32	...417		1,0	8	64
32	...420		1,2	8	48
32	...423		1,6	8	48
32	...426		2,0	8	48
32	...429		2,5	8	40
32	...432		3,0	8	40
32	...435		4,0	8	40
32	...438		5,0	8	32
32	...441		6,0	8	32
40	...444		0,2	10	128
40	...447		0,25	10	100
40	...450		0,3	10	100
40	...453		0,4	10	100
40	...456		0,5	10	80
40	...459		0,6	10	80
40	...462		0,8	10	80
40	...465		1,0	10	64
40	...468		1,2	10	64
40	...471		1,6	10	64
40	...474		2,0	10	48
40	...477		2,5	10	48
40	...480		3,0	10	48
40	...483		4,0	10	40
40	...486		5,0	10	40
40	...489		6,0	10	40
50	...492		0,2	13	128
50	...495		0,25	13	128
50	...498		0,3	13	128
50	...501		0,4	13	100
50	...504		0,5	13	100
50	...507		0,6	13	100
50	...510		0,8	13	80
50	...513		1,0	13	80
50	...516		1,2	13	80
50	...519		1,6	13	64
50	...522		2,0	13	64
50	...525		2,5	13	64
50	...528		3,0	13	48
50	...531		4,0	13	48
50	...534		5,0	13	48
50	...537		6,0	13	40
63	...540		0,25	16	160
63	...543		0,3	16	128
63	...546		0,4	16	128
63	...549		0,5	16	128

Ø j15 mm	Cod comanda 42 15417...	Blank	Latime j11 mm	Gaura H7 mm	Numar dinti forma A
63	...552		0,6	16	100
63	...555		0,8	16	100
63	...558		1,0	16	100
63	...561		1,2	16	80
63	...564		1,6	16	80
63	...567		2,0	16	80
63	...570		2,5	16	64
63	...573		3,0	16	64
63	...576		4,0	16	64
63	...579		5,0	16	48
63	...582		6,0	16	48
80	...585		0,3	22	160
80	...588		0,4	22	160
80	...591		0,5	22	128
80	...594		0,6	22	128
80	...597		0,8	22	128
80	...600		1,0	22	100
80	...603		1,2	22	100
80	...606		1,6	22	100
80	...609		2,0	22	80
80	...612		2,5	22	80
80	...615		3,0	22	80
80	...618		4,0	22	64
80	...621		5,0	22	64
80	...624		6,0	22	64
100	...627		0,5	22	160
100	...630		0,6	22	160
100	...633		0,8	22	128
100	...636		1,0	22	128
100	...639		1,2	22	128
100	...642		1,6	22	100
100	...645		2,0	22	100
100	...648		2,5	22	100
100	...651		3,0	22	80
100	...654		4,0	22	80
100	...657		5,0	22	80
100	...660		6,0	22	64
125	...663		0,6	22	160
125	...666		0,8	22	160
125	...669		1,0	22	160
125	...672		1,2	22	128
125	...675		1,6	22	128
125	...678		2,0	22	128
125	...681		2,5	22	100
125	...684		3,0	22	100
125	...687		4,0	22	100
125	...690		5,0	22	80
125	...693		6,0	22	80
160	...696 •		1,0	32	160
160	...699 •		1,2	32	160
160	...702 •		1,6	32	160
160	...705 •		2,0	32	128
160	...708 •		2,5	32	128
160	...711 •		3,0	32	128
160	...714 •		4,0	32	100
160	...717 •		5,0	32	100
160	...720 •		6,0	32	100
200	...723 •		1,0	32	200
200	...726 •		1,2	32	200
200	...729 •		1,6	32	160
200	...732 •		2,0	32	160
200	...735 •		2,5	32	160
200	...738 •		3,0	32	128
200	...741 •		4,0	32	128
200	...744 •		5,0	32	128
200	...747 •		6,0	32	100
250	...750 •		1,6	32	200
250	...753 •		2,0	32	200
250	...756 •		2,5	32	160
250	...759 •		3,0	32	160
250	...762 •		4,0	32	160
250	...765 •		5,0	32	128
250	...768 •		6,0	32	128
315	...771 •		2,5	40	200
315	...774 •		3,0	40	200
315	...777 •		4,0	40	160
315	...780 •		5,0	40	160
315	...783 •		6,0	40	160

Codurile marcate cu • nu se regasesc in stoc, livrare rapida

Disc de debitat HSS pentru metal

HSS DIN 1838-B

- HSS-DMo5
- Fara gauri suplimentare
- Tratat (63–65 HRC), finisare repetata, fina
- Precizie de fabricatie caneluri conform **DIN 1840,** rectificate
- **DIN 1837-B –** Dinte arcuit, dinti grosieri, pentru materiale cu perete gros si adancime mare de taiere

Dantura forma B

Blank 42 15418...

Suprafata	Cod comanda	Otel <850 N	Otel <1000 N	Otel <1400 N	Otel <42 HRC	Otel <52 HRC	Otel <56 HRC	Otel <62 HRC	Otel >62 HRC	INOX	Ti, aliaje Ti, oteluri speciale	Fonta	Al, nemetale, aliaje nemetale	Cupru, alama, bronz	Emulsii	Ulei	Aer	fara racire
Blank	42 15418...	■													■		◧	

Ø j15 mm	Cod comanda 42 15418...	Blank	Latime j11 mm	Gaura H7 mm	Numar dinti forma B
50	...000		0,5	13	48
50	...003		0,6	13	48
50	...006		0,8	13	40
50	...009		1,0	13	40
50	...012		1,2	13	40
50	...015		1,6	13	32
50	...018		2,0	13	32
50	...021		2,5	13	32
50	...024		3,0	13	24
50	...027		4,0	13	24
50	...030		5,0	13	24
50	...033		6,0	13	20
63	...036		0,5	16	64
63	...039		0,6	16	48
63	...042		0,8	16	48
63	...045		1,0	16	48
63	...048		1,2	16	40
63	...051		1,6	16	40
63	...054		2,0	16	40
63	...057		2,5	16	32
63	...060		3,0	16	32
63	...063		4,0	16	32
63	...066		5,0	16	24
63	...069		6,0	16	24
80	...072		0,5	22	64
80	...075		0,6	22	64
80	...078		0,8	22	64
80	...081		1,0	22	48
80	...084		1,2	22	48
80	...087		1,6	22	48
80	...090		2,0	22	40
80	...093		2,5	22	40
80	...096		3,0	22	40
80	...099		4,0	22	32
80	...102		5,0	22	32
80	...105		6,0	22	32
100	...108		0,5	22	80
100	...111		0,6	22	80
100	...114		0,8	22	64
100	...117		1,0	22	64
100	...120		1,2	22	64
100	...123		1,6	22	48
100	...126		2,0	22	48
100	...129		2,5	22	48

Ø j15 mm	Cod comanda 42 15418...	Blank	Latime j11 mm	Gaura H7 mm	Numar dinti forma B
100	...132		3,0	22	40
100	...135		4,0	22	40
100	...138		5,0	22	40
100	...141		6,0	22	32
125	...144		0,6	22	80
125	...147		0,8	22	80
125	...150		1,0	22	80
125	...153		1,2	22	64
125	...156		1,6	22	64
125	...159		2,0	22	64
125	...162		2,5	22	48
125	...165		3,0	22	48
125	...168		4,0	22	48
125	...171		5,0	22	40
125	...174		6,0	22	40
160	...177 •		1,0	32	80
160	...180 •		1,2	32	80
160	...183 •		1,6	32	80
160	...186 •		2,0	32	64
160	...189 •		2,5	32	64
160	...192 •		3,0	32	64
160	...195 •		4,0	32	48
160	...198 •		5,0	32	48
160	...201 •		6,0	32	48
200	...204 •		1,2	32	100
200	...207 •		1,6	32	80
200	...210 •		2,0	32	80
200	...213 •		2,5	32	80
200	...216 •		3,0	32	64
200	...219 •		4,0	32	64
200	...222 •		5,0	32	64
200	...225 •		6,0	32	48
250	...228 •		1,6	32	100
250	...231 •		2,0	32	100
250	...234 •		2,5	32	80
250	...237 •		3,0	32	80
250	...240 •		4,0	32	80
250	...243 •		5,0	32	64
250	...246 •		6,0	32	64
315	...249 •		2,5	40	100
315	...252 •		3,0	40	100
315	...255 •		4,0	40	80
315	...258 •		5,0	40	80
315	...261 •		6,0	40	80

Cifre ingrosate recomandat | Cifre normale adecvat | ■ recomandat | ◧ adecvat | □ ocazional

Disc de debitat HSS pentru metal

- HSS-DMo5
- Fara gauri suplimentare
- Tratat (63–65 HRC), finisare repetata, fina
- Precizie de fabricatie caneluri conform **DIN 1840,** rectificate

- **DIN 1838-C** – Dinte arcuit cu tais preliminar si final, dinti grosieri, pentru materiale cu perete gros si adancime de taiere medie pana la mare, putere mare de producere span

HSS DIN 1838-C

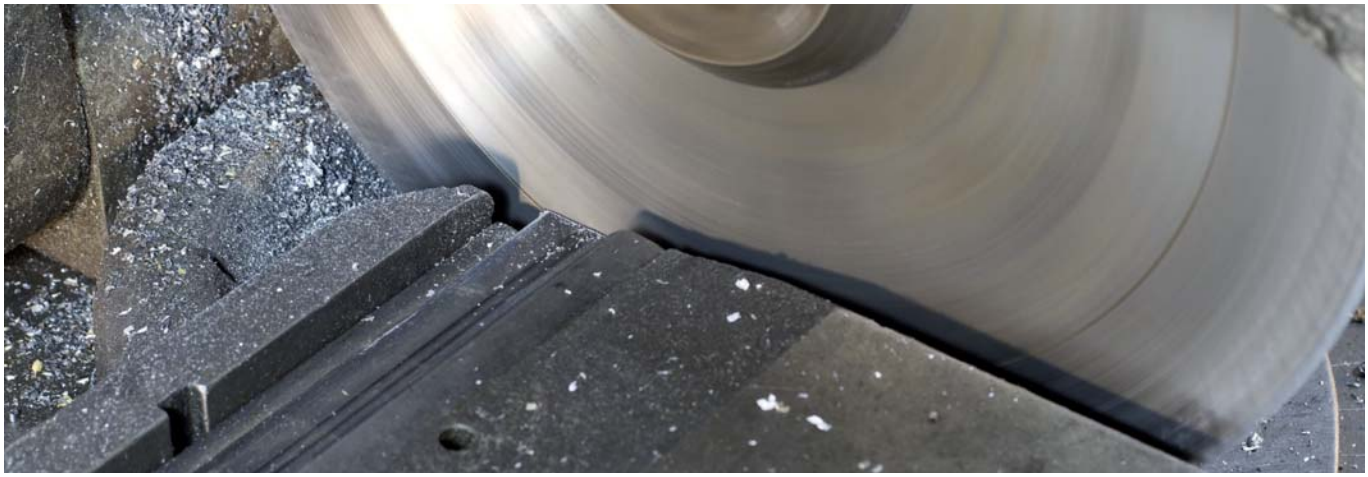
Dantura forma C

Blank 42 15418...

Suprafata	Cod comanda	Otel <850 N	Otel <1000 N	Otel <1400 N	Otel <42 HRC	Otel <52 HRC	Otel <56 HRC	Otel <62 HRC	Otel >62 HRC	INOX	Ti, aliaje Ti, oteluri speciale	Fonta	Al, nemetale, aliaje nemetale	Cupru, alama, bronz	Emulsii	Ulei	Aer	fara racire
Blank	42 15418...	■													■		◧	

Ø j15 mm	Cod comanda 42 15418...	Blank	Latime j11 mm	Gaura H7 mm	Numar dinti forma C
50	...400 •		1,0	13	40
50	...403 •		1,2	13	40
50	...406 •		1,6	13	32
50	...409 •		2,0	13	32
50	...412 •		2,5	13	32
50	...415 •		3,0	13	24
50	...418 •		4,0	13	24
50	...421 •		5,0	13	24
50	...424 •		6,0	13	20
63	...427 •		1,0	16	48
63	...430 •		1,2	16	40
63	...433 •		1,6	16	40
63	...436 •		2,0	16	40
63	...439 •		2,5	16	32
63	...442 •		3,0	16	32
63	...445 •		4,0	16	32
63	...448 •		5,0	16	24
63	...451 •		6,0	16	24
80	...454 •		1,0	22	48
80	...457 •		1,2	22	48
80	...460 •		1,6	22	48
80	...463 •		2,0	22	40
80	...466 •		2,5	22	40
80	...469 •		3,0	22	40
80	...472 •		4,0	22	32
80	...475 •		5,0	22	32
80	...478 •		6,0	22	32
100	...481 •		1,0	22	64
100	...484 •		1,2	22	64
100	...487 •		1,6	22	48
100	...490 •		2,0	22	48
100	...493 •		2,5	22	48
100	...496 •		3,0	22	40
100	...499 •		4,0	22	40
100	...502 •		5,0	22	40
100	...505 •		6,0	22	32
125	...508 •		1,0	22	80

Ø j15 mm	Cod comanda 42 15418...	Blank	Latime j11 mm	Gaura H7 mm	Numar dinti forma C
125	...511 •		1,2	22	64
125	...514 •		1,6	22	64
125	...517 •		2,0	22	64
125	...520 •		2,5	22	48
125	...523 •		3,0	22	48
125	...526 •		4,0	22	48
125	...529 •		5,0	22	40
125	...532 •		6,0	22	40
160	...535 •		1,0	32	80
160	...538 •		1,2	32	80
160	...541 •		1,6	32	80
160	...544 •		2,0	32	64
160	...547 •		2,5	32	64
160	...550 •		3,0	32	64
160	...553 •		4,0	32	48
160	...556 •		5,0	32	48
160	...559 •		6,0	32	48
200	...562 •		1,6	32	80
200	...565 •		2,0	32	80
200	...568 •		2,5	32	80
200	...571 •		3,0	32	64
200	...574 •		4,0	32	64
200	...577 •		5,0	32	64
200	...580 •		6,0	32	48
250	...583 •		1,6	32	100
250	...586 •		2,0	32	100
250	...589 •		2,5	32	80
250	...592 •		3,0	32	80
250	...595 •		4,0	32	80
250	...598 •		5,0	32	64
250	...601 •		6,0	32	64
315	...604 •		2,5	40	100
315	...607 •		3,0	40	100
315	...610 •		4,0	40	80
315	...613 •		5,0	40	80
315	...616 •		6,0	40	80

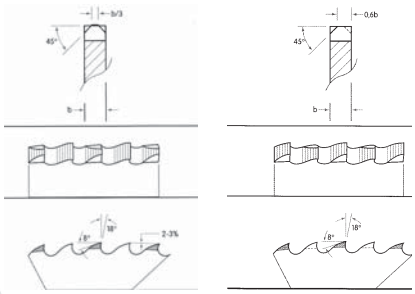


Codurile marcate cu • nu se regasesc in stoc, livrare rapida

forum Disc de debitat pentru metal

- Executie standard cu gauri de fixare combinate pentru multe modele de utilaje

Forma dinte:
BW = Dantura arcuita pozitionata alternativ pana la centrare 4 mm
HZ = Dantura arcuita cu debitare preliminara si finala pentru toate danturile mai mari de peste 4 mm



Trat. abur 42 15416...

- HSS DMos5
- Tratat cu abur
- Unghi deschidere 18°
- Unghi liber 8°

HSS-DMo5

Trat. abur 42 15417...

- HSS Co5
- Tratat cu aburi, aliaj cobalt
- Unghi deschidere 12°
- Unghi liber 6°

HSS Co5

★ Pentru utilizare in conditii extreme de lucru si cresterea duratei de utilizare.

Trat. abur
42 15416...–42 15417...

TiN 42 15418...

- HSS DMos5
- Unghi deschidere 18°
- Unghi liber 8°
- Pentru utilizare pe utilaje de debitat automate cu sistem de racire

HSS-DMo5

★ De preferat de utilizat pentru debitare continua/in serie datorita stratificarii rezistente la uzura si caracteristicilor mai bune de glisare.
Viteza de taiere: 40–120 m/min. Avansuri mai mari la crestere simultana si durata de utilizare.

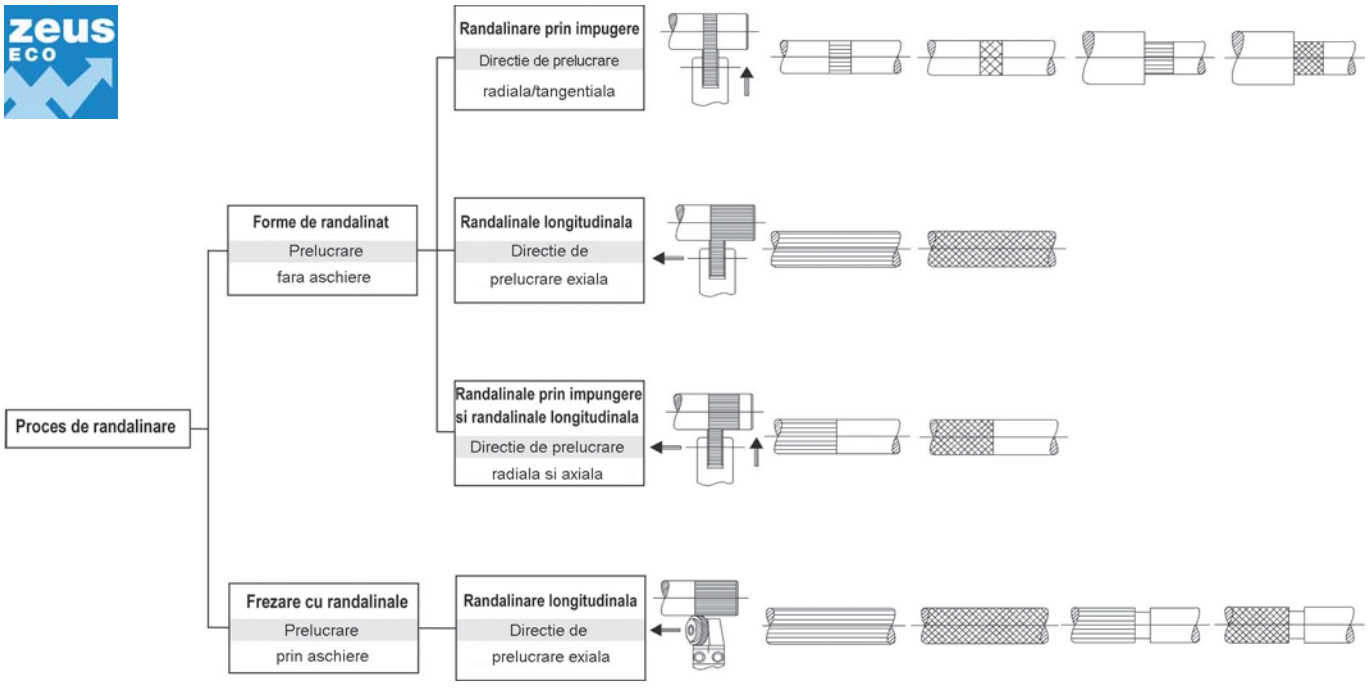
TiN 42 15418...

Suprafata	Cod comanda	Otel <850 N	Otel <1000 N	Otel <1400 N	Otel <42 HRC	Otel <52 HRC	Otel <56 HRC	Otel <62 HRC	Otel >62 HRC	INOX	Ti, aliaje Ti, oteluri speciale	Fonta	Al, nemetale, aliaje nemetale	Cupru, alama, bronz	Emulsii	Ulei	Aer	fara racire
Tratat abur	42 15416...	■													■		◧	
Tratat abur	42 15417...	◧								■					■		◧	
TiN	42 15418...	■	◧												■		◧	

Dimensiuni mm	forum Cod comanda 42 15416...	Trat. abur	forum Cod comanda 42 15417...	Trat. abur	forum Cod comanda 42 15418...	TiN	Numar NL/Ø sectiune mm	Dantura
225 x 2,0 x 32	...010		...010		–		2/8,5/45 + 4/9/50 + 2/12/64	120 HZ
225 x 2,0 x 32	...013		...013		–		2/8,5/45 + 4/9/50 + 2/12/64	180 BW
250 x 2,0 x 32	...016		...016		...700		2/8,5/45 + 4/9/50 + 2/12/64	128 HZ
250 x 2,0 x 32	...019		...019		...703		2/8,5/45 + 4/9/50 + 2/12/64	200 BW
275 x 2,0 x 32	...022		...022		...706		2/8,5/45 + 4/9/50 + 2/12/64	144 HZ
275 x 2,0 x 32	...025		...025		...709		2/8,5/45 + 4/9/50 + 2/12/64	220 BW
275 x 2,5 x 40	...028		...028		...712		2/8/55 + 4/12/64	110 HZ
275 x 2,5 x 40	...031		...031		...715		2/8/55 + 4/12/64	144 HZ
275 x 2,5 x 40	...034		...034		...718		2/8/55 + 4/12/64	180 HZ
275 x 2,5 x 40	...037		...037		...721		2/8/55 + 4/12/64	220 BW
300 x 2,5 x 32	...040		...040		...724		2/8,5/45 + 4/9/50 + 2/12/64	120 HZ
300 x 2,5 x 32	...043		...043		...727		2/8,5/45 + 4/9/50 + 2/12/64	160 HZ
300 x 2,5 x 32	...046		...046		...730		2/8,5/45 + 4/9/50 + 2/12/64	240 BW
300 x 2,5 x 40	...049		...049		...733		2/8/55 + 4/12/64	120 HZ
300 x 2,5 x 40	...052		...052		...736		2/8/55 + 4/12/64	160 HZ
300 x 2,5 x 40	...055		...055		...739		2/8/55 + 4/12/64	240 BW
315 x 2,5 x 32	...058		...058		...742		2/8,5/45 + 4/9/50 + 2/12/64	120 HZ
315 x 2,5 x 32	...061		...061		...745		2/8,5/45 + 4/9/50 + 2/12/64	160 HZ
315 x 2,5 x 32	...064		...064		...748		2/8,5/45 + 4/9/50 + 2/12/64	250 BW
315 x 3,0 x 40	...067		...067		...751		2/8/55 + 4/12/64	120 HZ
315 x 3,0 x 40	...070		...070		...754		2/8/55 + 4/12/64	160 HZ
315 x 3,0 x 40	...073		...073		...757		2/8/55 + 4/12/64	250 BW
350 x 3,0 x 40	...076		...076		–		2/8/55 + 4/12/64	110 HZ
350 x 3,0 x 40	...079		...079		–		2/8/55 + 4/12/64	140 HZ
350 x 3,0 x 40	...082		...082		–		2/8/55 + 4/12/64	180 HZ
400 x 3,5 x 50	...085		...085		–		4/15/80 + 4/15/85	100 HZ
400 x 3,5 x 50	...088		...088		–		4/15/80 + 4/15/85	140 HZ
400 x 3,5 x 50	...091		...091		–		4/15/80 + 4/15/85	180 HZ
450 x 4,0 x 50	...094		...094		–		4/15/80 + 4/15/85	100 HZ
450 x 4,0 x 50	...097		...097		–		4/15/80 + 4/15/85	140 HZ

Caracteristici ale metodei de randalinare

	Utilizare	Proprietati	Manipulare
Forme de randalinat	▪ Prelucrarea de materiale cu deformare la rece ▪ Randalinarea pieselor cu perete subtire este problematica ▪ Domeniu mare de utilizare ▪ Se pot efectua toate formele si profilele de randalinare ▪ Pentru randalinare frontala si interioara ▪ Randalinare posibila pana la margine ▪ Dispozitivul poate fi asezat in orice pozitie pe piesa	▪ Prin indepartarea materialului se mareste diametrul exterior al piesei ▪ Suprafata se poate mari ▪ Solicitare mai mare a utilajului decat la frezare	▪ Pregatirea piesei in general nu este necesara ▪ Manipulare foarte usoara a dispozitivelor
Frezare cu randalinare	▪ Prelucrarea posibila la aproape toate materialele ▪ Se pot prelucra piese cu perete subtire ▪ Calitate superioara de randalinare ▪ Domeniu limitat de utilizare ▪ Producerea numai a profilelor RAA si RGE este posibila ▪ Prelucrare posibila numai de piese cilindrice in directie de prelucrare axiala ▪ Pentru pozitionarea dispozitivului pe partea centrala a piesei este necesara o punctie	▪ Fara schimbari semnificative a diametrului exterior al piesei ▪ Densitate scazuta a suprafetei ▪ Precizie mare si calitate buna a suprafetei dispozitivului de randalinat ▪ Solicitare scazuta a utilajului	▪ Reglarea de precizie a piesei si reglarea fina sunt necesare ▪ Este necesara pregatirea de precizie a piesei



Codurile marcate cu • nu se regasesc in stoc, livrare rapida

Suport de randalinare

i Pagina 2/108

- Pentru randalinare pe strunguri automate / conventionale (randalinare longitudinala RAA, RBL si RBR)
- Utilizare pentru toate modelele si profilele de randalinare, respectiv inscriptionare

Livrare: Fara rola de randalinare.
Nota: Inaltimea varfului trebuie reglata.

Model	Cod comanda 42 15901...	Domeniu de lucru Ø mm	Coada mm	Lungime totala mm	Randalina necesara mm
830-16U250806	...010	15–200	16 x 16	130,5	20/25 x 8 x 6

42 15901...

Suport de randalinare

i Pagina 2/108

- Pentru randalinare la strunguri automate / conventionale
- Pentru toate randalinarile pieselor conform **DIN 82:** RAA, RGE 30° si RGE 45°

Role de randalinare:

RAA	2 bucati AA
RGE 30°	1 bucata BL 30°/1 bucata BR 30°
RGE 45°	1 bucata BL 45°/1 bucata BR 45°

Livrare: Fara role de randalinare.

Nota: Inaltimea varfului trebuie reglata.

Model	Cod comanda 42 15902...	Domeniu de lucru Ø mm	Coada mm	Lungime totala mm	Randalina necesara mm
841-20M200806	...015	10–80	20 x 20	130	20 x 8 x 6

42 15902...

Set suporturi de randalinare

i Pagina 2/108

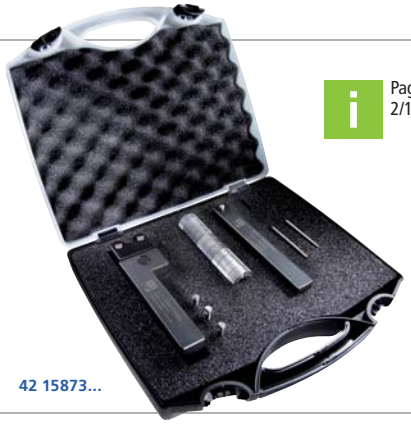
Set compus din:
1 dispozitiv de randalinare (cod comanda 42 15901 010)
1 dispozitiv de randalinare (cod comanda 42 15902 015)

Rola de randalinare:
3 x AA (2 x 0,8/1 x 1,0)
3 x BL 30° (1 x 0,8/1 x 1,0/1 x 1,2)
3 x BR 30° (1 x 0,8/1 x 1,0/1 x 1,2)
1 x AA (1 x 0,8)
3 stifturi de rezerva
1 instructiuni de randalinare

Livrare: In cutie de plastic.

Model	Cod comanda 42 15873...
800–20	...200

Accesorii si piese de rezerva livrabile la cerere.

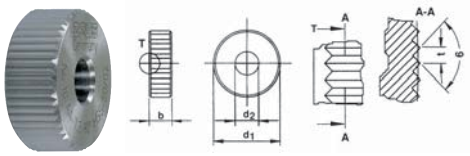


42 15873...

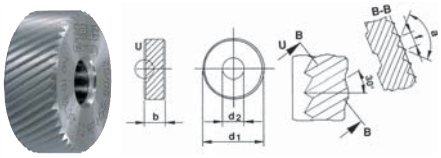
Randalina

- PM
- Dinti frezati, cu 2 tesituri
- Partea plana si gaura rectificata
- Duritate HRC 62–64

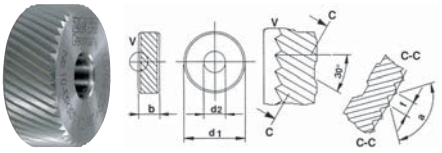
42 15867 112–125 ▪ **Forma AA** ax paralel (drept)



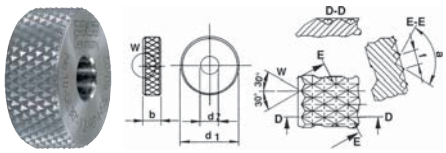
42 15868 1125–124 ▪ **Forma BL** spirala stanga (30°)



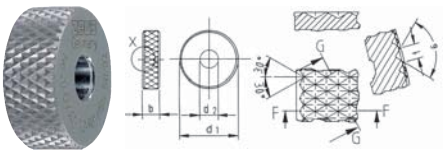
42 15869... ▪ **Forma BR** spirala dreapta (30°)



42 15867 212–224 ▪ **Forma GE** Varfuri ascutite (30°)



42 15868 215–218 ▪ **Forma GV** Varfuri adancite (30°)



Randalina d_1 x latime b x gaura d_2 mm	Cod comanda 42 15867... Forma AA	Cod comanda 42 15868... Forma BL	Cod comanda 42 15869... Forma BR	Cod comanda 42 15867... Forma GE	Cod comanda 42 15868... Forma GV	Striatii mm
20 x 8 x 6	...112	...112	...112	...212	–	0,6
20 x 8 x 6	...115	...115	...115	...215	...215	0,8
20 x 8 x 6	...118	...118	...118	...218	...218	1,0
20 x 8 x 6	...121	...121	...121	...221	–	1,2
20 x 8 x 6	...124	...124	...124	...224	–	1,5

forum Cutit de strung, DIN 4964, forma A, rotund

- HSS Co10
- Duritate cca. 63–68 HRC
- Toleranta h8
- Pentru gravare, gaurire, strunjire

HSS Co10 | DIN 4964

42 15840...

Ø h mm	forum Cod comanda 42 15840...	Lungime totala mm
3	...010	63
4	...013	63
4	...016	80
4	...019	100
5	...022	80
5	...025	100
6	...028	80
6	...031	100

Ø h mm	forum Cod comanda 42 15840...	Lungime totala mm
8	...034	80
8	...037	100
8	...040	125
8	...043	160
10	...046	100
10	...049	125
10	...052	160
10	...055	200

Ø h mm	forum Cod comanda 42 15840...	Lungime totala mm
12	...058	125
12	...061	160
12	...064	200
16	...067	160
16	...070	200
20	...073	160
20	...076	200

forum Cutit de strung, DIN 4964, forma B, 4 canturi

- HSS Co10
- Duritate cca. 63–68 HRC
- Pentru gravare, gaurire, strunjire

HSS Co10 | DIN 4964

42 15841...

h x h mm	forum Cod comanda 42 15841...	Lungime totala mm
4 x 4	...010	80
5 x 5	...013	80
6 x 6	...016	80
6 x 6	...019	100
8 x 8	...022	63
8 x 8	...025	80
8 x 8	...028	100
8 x 8	...031	125
8 x 8	...034	160
8 x 8	...037	200
10 x 10	...040	63

h x h mm	forum Cod comanda 42 15841...	Lungime totala mm
10 x 10	...043	80
10 x 10	...046	100
10 x 10	...049	125
10 x 10	...052	160
10 x 10	...055	200
12 x 12	...058	63
12 x 12	...061	80
12 x 12	...064	100
12 x 12	...067	125
12 x 12	...070	160
12 x 12	...073	200

h x h mm	forum Cod comanda 42 15841...	Lungime totala mm
16 x 16	...076	100
16 x 16	...079	125
16 x 16	...082	160
16 x 16	...085	200
18 x 18	...088	200
20 x 20	...091	160
20 x 20	...094	200
25 x 25	...097	160
25 x 25	...100	200

forum Cutit de strung, DIN 4964, forma D, plat

- HSS Co10
- Duritate cca. 63–68 HRC
- Pentru gravare, gaurire, strunjire

HSS Co10 | DIN 4964

42 15842...

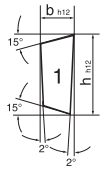
h x b mm	forum Cod comanda 42 15842...	Lungime totala mm
8 x 4	...010	100
16 x 4	...013	80
16 x 4	...016	100
16 x 4	...019	160
16 x 4	...022	200
10 x 5	...025	100
10 x 5	...028	160
10 x 6	...031	100

h x b mm	forum Cod comanda 42 15842...	Lungime totala mm
10 x 6	...034	160
12 x 6	...037	160
12 x 6	...040	200
25 x 6	...043	160
25 x 6	...046	200
12 x 8	...049	160
12 x 8	...052	200
16 x 10	...055	100

h x b mm	forum Cod comanda 42 15842...	Lungime totala mm
16 x 10	...058	160
16 x 10	...061	200
20 x 5	...064	200
20 x 12	...067	160
20 x 12	...070	200
25 x 12	...073	200

forum Cutit de strung, norma de productie, forma L 1, forma trapezoidala

- HSS Co10
- Duritate cca. 63–68 HRC
- Toleranta h12
- Pentru debavurare, gavare etc.



HSS Co10 | Norma de productie

42 15843...

h x b = h12 mm	forum Cod comanda 42 15843...	Lungime totala mm
12 x 3	...010	85
12 x 3	...013	120
12 x 3	...016	160
12 x 5	...019	120
12 x 5	...022	160

h x b = h12 mm	forum Cod comanda 42 15843...	Lungime totala mm
16 x 4	...025	120
16 x 4	...028	160
16 x 4	...031	200
18 x 4	...034	160
18 x 4	...037	200

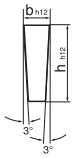
h x b = h12 mm	forum Cod comanda 42 15843...	Lungime totala mm
20 x 3	...040	140
20 x 3	...043	200
25 x 6	...046	160
25 x 6	...049	200

Codurile marcate cu • nu se regasesc in stoc, livrare rapida

forum Cutit de strung, DIN 4964, forma E, forma trapezoidala

HSS Co10 | DIN 4964

- HSS Co10
- Duritate cca. 63–68 HRC
- Toleranta h12
- Pentru debavurare, gravare etc.



42 15844...

h x b = h12 mm	forum Cod comanda 42 15844...	Lungime totala mm
12 x 3	...010	80
12 x 3	...013	100
12 x 3	...016	125

h x b = h12 mm	forum Cod comanda 42 15844...	Lungime totala mm
16 x 4	...019	100
16 x 4	...022	160
16 x 4	...025	200

h x b = h12 mm	forum Cod comanda 42 15844...	Lungime totala mm
20 x 5	...028	160
25 x 6	...031	200

- WILKE Bara rotunda din carbura/bara de gravat

Carbura K10/K20 | Norma de productie

- Carbura K10/K20
- Norma de productie
- Rectificare rotunda de precizie (rectificare suprafata plana, toleranta 0,02–0,05 mm)
- Toleranta h6

42 15846...
- Bara rotunda din carbura
- Pentru strunjire, gravare, copiere

42 15846...

42 15847...
- Bara de gravat din carbura, forma A, rectificata pe o parte
- Pentru strunjirea formelor, gravare, copiere si executare contururi

42 15847...

Ø = h6 mm	- WILKE Cod comanda Bara rotunda 42 15846...	- WILKE Cod comanda Bara de gravat 42 15847...	Lungime totala mm	Lungime parte activa mm
2,0	...010	...010	50	3,5
2,5	...013	...013	50	3,7
3,0	...016	...016	50	4,5
3,0	...019	...019	75	4,5
4,0	...022	...022	50	6
4,0	...025	...025	75	6
5,0	...028	...028	75	7,5
6,0	...031	...031	75	9

Ø = h6 mm	- WILKE Cod comanda Bara rotunda 42 15846...	- WILKE Cod comanda Bara de gravat 42 15847...	Lungime totala mm	Lungime parte activa mm
6,0	...034	...034	100	9
8,0	...037	...037	75	12
8,0	...040	...040	100	12
10,0	...043	...043	75	15
10,0	...046	...046	100	15
12,0	...049	...049	75	18
12,0	...052	...052	100	18
16,0	...055	...055	100	24

- WILKE Bara semirotunda din carbura

Carbura K10/K20 | Norma de productie

- Carbura K10/K20
- Norma de productie
- Toleranta h7
- Pentru gravare, copiere, utilizare universala

42 15848...

Ø = h7 mm	- WILKE Cod comanda Bara semirotunda 42 15848...	Lungime totala mm
3	...010	50
4	...013	50
5	...016	50

Ø = h7 mm	- WILKE Cod comanda Bara semirotunda 42 15848...	Lungime totala mm
8	...019	50
8	...022	75
10	...025	75

Ø = h7 mm	- WILKE Cod comanda Bara semirotunda 42 15848...	Lungime totala mm
12	...028	75

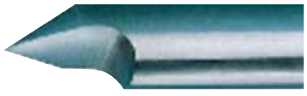
Bara de gravat din carbura/bara de gravat HSS-E

– la cerere –

Forma B 100°

Forma C

Forma E 15°



Forma D 60°

INFO

Cutit de strung cu carbura

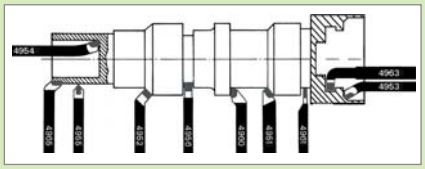
- Conform **DIN 4971** pana la **DIN 4981** respectiv conform normei de productie 263/282 si 283
- Toate cozile din otel au duritate cca. 750 N/mm² cu suprafete de pozitionare frezate plan
- Toate cutitele de strung sunt prevazute cu placute blazate din carbura

- Toleranta lungime totala: max. ± 5 %
- **Material/placute de taiere: tipuri de carbura** domeniu ISO K 10/20 si P 25/30

- Pentru operatiuni generale de strunjire – tipuri de carbura

- **K 10/20** se recomanda utilizarea la materialele din fier cu span scurt (de ex. fonta pana la 220 HB) si metale neferoase (ca si cupru, alama si metale usoare)
- **P 25/30** este recomandat pentru otel, otel turnat, materiale din fier cu span lung si fonta maleabila

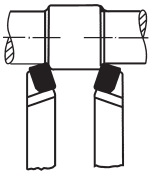
- **Toate cutitele de strung sunt livrabile la cerere si cu placute din carbura P 10, P 20, P 40, M10/20**



forum DIN 4971 ISO 1, cutit de strung drept

Carbura | DIN 4971

42 15701... ▪ Tip de carbura K 10/20 dreapta
42 15702... ▪ Tip de carbura K 10/20 stanga
42 15703... ▪ Tip carbura P 25/30 dreapta
42 15704... ▪ Tip carbura P 25/30 stanga



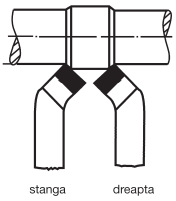
42 15701... + 42 15703...

Coada■ mm	forum Cod comanda 42 15701...	forum Cod comanda 42 15702...	forum Cod comanda 42 15703...	forum Cod comanda 42 15704...	Lungime totala mm
10 x 10	...013	...013	...013	...013	90
12 x 12	...016	...016	...016	...016	100
16 x 16	...019	...019	...019	...019	110
20 x 20	...022	...022	...022	...022	125
25 x 25	...025	...025	...025	...025	140
32 x 32	...028	...028	...028	...028	170

forum DIN 4972 ISO 2, cutit de strung curbat

Carbura | DIN 4972

42 15705... ▪ Tip de carbura K 10/20 dreapta
42 15706... ▪ Tip de carbura K 10/20 stanga
42 15707... ▪ Tip carbura P 25/30 dreapta
42 15708... ▪ Tip carbura P 25/30 stanga



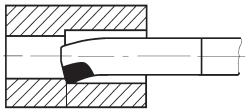
42 15705... + 42 15707...

Coada■ mm	forum Cod comanda 42 15705...	forum Cod comanda 42 15706...	forum Cod comanda 42 15707...	forum Cod comanda 42 15708...	Lungime totala mm
10 x 10	...013	...013	...013	...013	90
12 x 12	...016	...016	...016	...016	100
16 x 16	...019	...019	...019	...019	110
20 x 20	...022	...022	...022	...022	125
25 x 25	...025	...025	...025	...025	140
32 x 32	...028	...028	...028	...028	170

forum DIN 4973 ISO 8, cutit pentru strunjire interioara

Carbura | DIN 4973

42 15709... ▪ Tip de carbura K 10/20 dreapta
42 15710... ▪ Tip carbura P 25/30 dreapta



42 15709... – 42 15710...

Coada■ mm	forum Cod comanda 42 15709...	forum Cod comanda 42 15710...	Lungime totala mm	Ø minim gaura mm
8 x 8	...010	...010	125	14
10 x 10	...013	...013	150	18
12 x 12	...016	...016	180	21
16 x 16	...019	...019	210	27

Coada■ mm	forum Cod comanda 42 15709...	forum Cod comanda 42 15710...	Lungime totala mm	Ø minim gaura mm
20 x 20	...022	...022	250	34
25 x 25	...025	...025	300	43
32 x 32	...028	...028	355	52

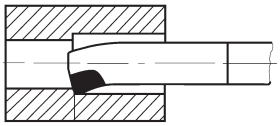
Codurile marcate cu • nu se regasesc in stoc, livrare rapida

forum DIN 4974 ISO 9, cutit de strung unghi interior

Carbura | DIN 4974

42 15711... ▪ Tip de carbura K 10/20 dreapta

42 15712... ▪ Tip carbura P 25/30 dreapta



42 15711... – 42 15712...

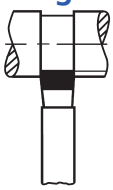
Coada ■ mm	forum Cod comanda 42 15711...	forum Cod comanda 42 15712...	Lungime totala mm	Ø minim gaura mm
8 x 8	...010	...010	125	14
10 x 10	...013	...013	150	18
12 x 12	...016	...016	180	21
16 x 16	...019	...019	210	27
20 x 20	...022	...022	250	34
25 x 25	...025	...025	300	43
32 x 32	...028	...028	355	52

forum DIN 4975 ISO 10, cutit de strung ascutit

Carbura | DIN 4975

42 15713... ▪ Tip carbura K 10/20, drept

42 15714... ▪ Tip carbura P 25/30, drept



drept

42 15713... – 42 15714...

Coada ■ mm	forum Cod comanda 42 15713...	forum Cod comanda 42 15714...	Lungime totala mm
16 x 10	...019	...019	110
20 x 12	...022	...022	125

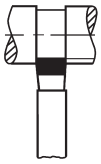
Coada ■ mm	forum Cod comanda 42 15713...	forum Cod comanda 42 15714...	Lungime totala mm
25 x 16	...025	...025	140
32 x 20	...028	...028	170

forum DIN 4976 ISO 4, cutit de strung lat

Carbura | DIN 4976

42 15715... ▪ Tip carbura K 10/20, drept

42 15716... ▪ Tip carbura P 25/30, drept



drept

42 15715... – 42 15716...

Coada ■ mm	forum Cod comanda 42 15715...	forum Cod comanda 42 15716...	Lungime totala mm
10 x 10	...013	...013	90
12 x 12	...016	...016	100
16 x 16	...019	...019	110

Coada ■ mm	forum Cod comanda 42 15715...	forum Cod comanda 42 15716...	Lungime totala mm
20 x 20	...022	...022	125
25 x 25	...025	...025	140
32 x 32	...028	...028	170

forum DIN 4977 ISO 5, cutit de strung frontal retras

Carbura | DIN 4977

42 15717... ▪ Tip de carbura K 10/20 dreapta

42 15718... ▪ Tip de carbura K 10/20 stanga

42 15719... ▪ Tip carbura P 25/30 dreapta

42 15720... ▪ Tip carbura P 25/30 stanga

42 15717... + 42 15719...

Coada ■ mm	forum Cod comanda 42 15717...	forum Cod comanda 42 15718...	forum Cod comanda 42 15719...	forum Cod comanda 42 15720...	Lungime totala mm
16 x 16	...019	...019	...019	...019	110
20 x 20	...022	...022	...022	...022	125
25 x 25	...025	...025	...025	...025	140
32 x 32	...028	...028	...028	...028	170

forum DIN 4978 ISO 3, cutit de strung unghi retras

Carbura | DIN 4978

- 42 15721... ▪ Tip de carbura K 10/20 dreapta
- 42 15722... ▪ Tip de carbura K 10/20 stanga
- 42 15723... ▪ Tip carbura P 25/30 dreapta
- 42 15724... ▪ Tip carbura P 25/30 stanga

42 15721... + 42 15723...

Coada■ mm	forum Cod comanda 42 15721...	forum Cod comanda 42 15722...	forum Cod comanda 42 15723...	forum Cod comanda 42 15724...	Lungime totala mm
16 x 10	...019	...019	...019	...019	110
20 x 12	...022	...022	...022	...022	125
25 x 16	...025	...025	...025	...025	140
32 x 20	...028	...028	...028	...028	170

forum DIN 4980 ISO 6, cutit de strung lateral retras

Carbura | DIN 4980

- 42 15725... ▪ Tip de carbura K 10/20 dreapta
- 42 15726... ▪ Tip de carbura K 10/20 stanga
- 42 15727... ▪ Tip carbura P 25/30 dreapta
- 42 15728... ▪ Tip carbura P 25/30 stanga

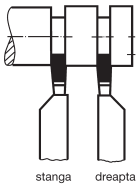
42 15725... + 42 15727...

Coada■ mm	forum Cod comanda 42 15725...	forum Cod comanda 42 15726...	forum Cod comanda 42 15727...	forum Cod comanda 42 15728...	Lungime totala mm
10 x 10	...013	...013	...013	...013	90
12 x 12	...016	...016	...016	...016	100
16 x 16	...019	...019	...019	...019	110
20 x 20	...022	...022	...022	...022	125
25 x 25	...025	...025	...025	...025	140
32 x 32	...028	...028	...028	...028	170

forum DIN 4981 ISO 7, cutit de strung pentru retezat

Carbura | DIN 4981

- 42 15729... ▪ Tip de carbura K 10/20 dreapta
- 42 15730... ▪ Tip de carbura K 10/20 stanga
- 42 15731... ▪ Tip carbura P 25/30 dreapta
- 42 15732... ▪ Tip carbura P 25/30 stanga



42 15729... + 42 15731...

Coada■ mm	forum Cod comanda 42 15729...	forum Cod comanda 42 15730...	forum Cod comanda 42 15731...	forum Cod comanda 42 15732...	Lungime totala mm	Latime tais mm
12 x 8	...016	...016	...016	...016	100	3
16 x 10	...019	...019	...019	...019	110	4
20 x 12	...022	...022	...022	...022	125	5
25 x 16	...025	...025	...025	...025	140	6
32 x 20	...028	...028	...028	...028	170	8

Codurile marcate cu • nu se regasesc in stoc, livrare rapida

forum Bara pentru caneluri, norma de productie

Carbura | Norma de productie

- Norma de productie 263

42 15737... ▪ Tip de carbura K 10/20 dreapta

42 15738... ▪ Tip carbura P 25/30 dreapta

42 15737... – 42 15738...

Coada ■ mm	forum Cod comanda 42 15737...	forum Cod comanda 42 15738...	Lungime totala mm	Ø minim gaura mm	Latime tais mm
10 x 10	...013	...013	140	20	3
12 x 12	...016	...016	160	22	4
16 x 16	...019	...019	180	25	5
20 x 20	...022	...022	210	32	6
25 x 25	...025	...025	250	40	8
32 x 32	...028	...028	300	–	10

forum Cutit de strung pentru filet exterior, norma de productie, 60°

Carbura | Norma de productie

- Norma de productie 282

42 15733... ▪ Tip de carbura K 10/20 dreapta

42 15734... ▪ Tip carbura P 25/30 dreapta

42 15733... – 42 15734...

Coada ■ mm	forum Cod comanda 42 15733...	forum Cod comanda 42 15734...	Lungime totala mm
10 x 10	...013	...013	100
12 x 12	...016	...016	110
16 x 16	...019	...019	125
20 x 20	...022	...022	140
25 x 25	...025	...025	160
32 x 32	...028	...028	180

forum Cutit de strung pentru filet interior, norma de productie, 60°

Carbura | Norma de productie

- Norma de productie 283

42 15735... ▪ Tip de carbura K 10/20 dreapta

42 15736... ▪ Tip carbura P 25/30 dreapta

42 15735... – 42 15736...

Coada ■ mm	forum Cod comanda 42 15735...	forum Cod comanda 42 15736...	Lungime totala mm	Ø minim gaura mm
10 x 10	...013	...013	140	24
12 x 12	...016	...016	160	30
16 x 16	–	...019	180	36
16 x 16	...019	–	80	36
20 x 20	...022	...022	210	45
25 x 25	...025	...025	250	55
32 x 32	...028	...028	300	70

forum Suport pentru cutite de strung

- Pentru fixarea cutitelor de strung cu coada rotunda
- Adancimile de gaurire pot fi adaptate exact cu acesti suporti
- Cu canelura in sens invers, astfel incat cutitele de strung sunt bine fixate, chiar si la presiune redusa

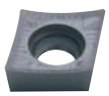
42 15845...

Pentru coada Ø mm	forum Cod comanda 42 15845...	inaltime/ latime x lungime mm
6	...010	10 x 70
8	...013	12 x 80
10	...016	14 x 85

Pentru coada Ø mm	forum Cod comanda 42 15845...	inaltime/ latime x lungime mm
12	...019	16 x 90
16	...022	20 x 100
20	...025	25 x 110

					P Otel	M VA/INOX	K GG	N Metale neferoase	
Freza plana 45° cu racire interioara									
	Nr. comanda 15981 010–15981 060	Dimensiune Ø 40–125 mm	Placuta amovibila SEHT 1204... SEHW 1204...	Pagina 2/121	v_c 120–200 f_z 0.2–0.4	v_c 120–180 f_z 0.2–0.4	v_c 120–180 f_z 0.2–0.5	v_c 200–350 f_z 0.2–0.4	●
Cap cutit colt 90° cu racire interioara									
	Nr. comanda 15982 310–15982 350	Dimensiune Ø 40–100 mm	Placuta amovibila APKT 1003... APHX 1003...	Pagina 2/121	v_c 100–200 f_z 0.08–0.15	v_c 100–140 f_z 0.08–0.15	v_c 100–130 f_z 0.08–0.15	v_c 180–400 f_z 0.08–0.15	●
Freza canal 90° cu racire interioara									
	Nr. comanda 15982 610–15982 650	Dimensiune Ø 25–40 mm	Placuta amovibila APKT 1604... APHX 1604...	Pagina 2/123	v_c 110–170 f_z 0.1–0.15	v_c 110–140 f_z 0.1–0.15	v_c 100–120 f_z 0.1–0.15	v_c 140–400 f_z 0.1–0.15	●
Cap cutit colt 90° cu racire interioara									
	Nr. comanda 15982 710–15982 750	Dimensiune Ø 40–100 mm	Placuta amovibila APKT 1604... APHX 1604...	Pagina 2/123	v_c 120–200 f_z 0.15–0.3	v_c 120–180 f_z 0.15–0.3	v_c 120–180 f_z 0.15–0.4	v_c 200–350 f_z 0.15–0.4	●
Freza de copiere cu racire interioara									
	Nr. comanda 15983 110–15983 180	Dimensiune Ø 15–25 mm	Placuta amovibila RDHX 0702/1003/12T3 RDLT 1003/12T3...	Pagina 2/124	v_c 100–200 f_z 0.08–0.15	v_c 80–180 f_z 0.08–0.15	v_c 100–200 f_z 0.08–0.15	v_c 180–350 f_z 0.08–0.15	●
	15983 210–15983 260	Ø 42–125 mm	RDHX 1003/12T3/1604 RDLT 1003/12T3/1604	2/125	v_c 100–200 f_z 0.08–0.2	v_c 80–180 f_z 0.08–0.2	v_c 100–200 f_z 0.08–0.2	v_c 180–350 f_z 0.08–0.2	●
Freza de tesire si centrare 45° cu racire interioara									
	Nr. comanda 15985 310	Dimensiune Ø 0–20 mm	Placuta amovibila TCMX 16T3... TCGX 16T3...	Pagina 2/126	v_c 120–180 f_z 0.05–0.2	v_c 100–160 f_z 0.05–0.25	v_c 100–180 f_z 0.05–0.25	v_c 180–350 f_z 0.05–0.25	●
Adancitor frezare 15°, 30°, 45°, 60°, 75° cu racire interioara									
	Nr. comanda 15985 411–15985 420	Dimensiune Ø 34–53 mm	Placuta amovibila TCMT 1102...	Pagina 2/127	v_c 120–180 f_z 0.1–0.25	v_c 100–160 f_z 0.1–0.25	v_c 100–180 f_z 0.1–0.25	v_c 180–350 f_z 0.1–0.25	●
	15985 423–15985 432	Ø 32–50 mm	TCMT 16T3...	2/127					●
	15985 435–15985 450	Ø 16–32,5 mm		2/127					●
	15985 453–15985 468	Ø 16–35,2 mm		2/127					●
	15985 471–15985 486	Ø 22–35 mm		2/127					●
Freza 45° cu racire interioara									
	Nr. comanda 15985 610–15985 650	Dimensiune Ø 2–28 mm	Placuta amovibila CPMT 05T1... SPLT 0603... SCMT 09T3... CCMT 09T3...	Pagina 2/128	v_c 120–180 f_z 0.1–0.25	v_c 100–160 f_z 0.1–0.25	v_c 100–180 f_z 0.1–0.25	v_c 180–350 f_z 0.1–0.25	●

● = cu racire interioara

	Nr. comanda	Descriere	P Otel		M VA/INOX		K GG		N Metale neferoase	
	42 15982 980	APHX 160412 FR Alu KTE20					●	●	●	●
	42 15982 965	APKT 160412 PDER PTV28	●	●	●	●				
	42 15982 970	APKT 160416 PDER PTV28	●	●	●	●				
	42 15982 975	APKT 160424 PDER PTV28	●	●	●	●				
	42 15986 525	CCGT 060204 Alu KTE20					●	●	●	●
	42 15986 565	CCGT 09T304 Alu KTE20					●	●	●	●

Codurile marcate cu • nu se regasesc in stoc, livrare rapida

Nr. comanda	Descriere	P Otel		M VA/INOX		K GG		N Metale neferoase	
42 15986 510	CCMT 060204 WM MTM10	●	●			●			
42 15986 515	CCMT 060204 WM PTT20	●	●	●	●				
42 15986 520	CCMT 060204 WM PTT35	●	●	●	●	●			
42 15986 530	CCMT 060208 WM MTM10	●	●			●			
42 15986 535	CCMT 060208 WM PTT20	●	●	●	●				
42 15986 540	CCMT 060208 WM PTT35	●	●	●	●	●			
42 15986 550	CCMT 09T304 WM MTM10	●	●			●			
42 15986 555	CCMT 09T304 WM PTT20	●	●	●	●				
42 15986 560	CCMT 09T304 WM PTT35	●	●	●	●	●			
42 15985 710	CPMT 05T102 PTT35	●	●	●	●	●			
42 15985 715	CPMT 05T104 PTT35	●	●	●	●	●			
42 15983 711	RDHX 0702 MOT KTE20						●	●	
42 15983 714	RDHX 0702 MOT PTT35	●	●	●	●	●			
42 15983 717	RDHX 0702 MOT PTE35	●	●	●	●				
42 15983 720	RDHX 1003 MOT KTE20					●	●	●	●
42 15983 723	RDHX 1003 MOT PTT35	●	●	●	●	●			
42 15983 726	RDHX 1003 MOT PTE35	●	●	●	●				
42 15983 729	RDHX 12T3 MOT KTE20					●	●	●	●
42 15983 732	RDHX 12T3 MOT PTT35	●	●	●	●	●			
42 15983 735	RDHX 12T3 MOT PTE35	●	●	●	●				
42 15983 738	RDHX 1604 MOT KTE20					●	●	●	●
42 15983 741	RDHX 1604 MOT PTT35	●	●	●	●	●			
42 15983 744	RDHX 1604 MOT PTE35	●	●	●	●				
42 15983 747	RDLT 1003 MOS KTE20					●	●	●	●
42 15983 750	RDLT 1003 MOS PTT35	●	●	●	●	●			
42 15983 753	RDLT 1003 MOS PTE35	●	●	●	●				
42 15983 756	RDLT 12T3 MOS KTE20					●	●	●	●
42 15983 759	RDLT 12T3 MOS PTT35	●	●	●	●	●			
42 15983 762	RDLT 12T3 MOS PTE35	●	●	●	●				
42 15983 765	RDLT 1604 MOS KTE20					●	●	●	●
42 15983 768	RDLT 1604 MOS PTT35	●	●	●	●	●			
42 15983 771	RDLT 1604 MOS PTE35	●	●	●	●				
42 15985 745	SCGT 09T304 Alu KTE20					●	●	●	●
42 15985 795	SCGT 120408 Alu KTE20					●	●	●	●

Nr. comanda	Descriere	P Otel		M VA/INOX		K GG		N Metale neferoase	
42 15985 730	SCMT 09T304 WM MTM10	•	•			•			
42 15985 735	SCMT 09T304 WM PTT20	•	•			•			
42 15985 740	SCMT 09T304 WM PTT35	•	•	•	•	•			
42 15985 750	SCMT 09T308 WM MTM10	•	•			•			
42 15985 755	SCMT 09T308 WM PTT20	•	•	•	•				
42 15985 760	SCMT 09T308 WM PTT35	•	•	•	•	•			
42 15985 765	SCMT 120404 WM MTM10	•	•			•			
42 15985 770	SCMT 120404 WM PTT20	•	•	•	•				
42 15985 775	SCMT 120404 WM PTT35	•	•	•	•	•			
42 15985 780	SCMT 120408 WM MTM10	•	•			•			
42 15985 785	SCMT 120408 WM PTT20	•	•	•	•				
42 15985 790	SCMT 120408 WM PTT35	•	•	•	•	•			
42 15985 250	SDHT 09T3AE PTT35	•	•	•	•	•			
42 15985 255	SDHT 09T3AE PTE35	•	•	•	•				
42 15981 110	SEHT 1204AF PTT35	•	•	•	•	•			
42 15981 115	SEHT 1204AF PTE35	•	•	•	•				
42 15981 120	SEHT 1204AF Alu KTE20					•	•	•	•
42 15981 125	SEHW 1204AF PTT35	•	•	•	•	•			
42 15981 130	SEHW 1204AF PTE35	•	•	•	•				
42 15985 210	SPLT 060304 PTT35	•	•	•	•	•			
42 15985 215	SPLT 060304 PTE35	•	•	•	•				
42 15985 220	SPLT 0603AD PTT35	•	•	•	•	•			
42 15985 225	SPLT 0603AD PTE35	•	•	•	•				
42 15985 525	TCGT 110204 Alu KTE20					•	•	•	•
42 15985 565	TCGT 16T304 Alu KTE20					•	•	•	•
42 15985 360	TCGX 16T304 Alu KTE20					•	•	•	•
42 15985 510	TCMT 110204 WM MTM10	•	•			•			
42 15985 515	TCMT 110204 WM PTT20	•	•			•			
42 15985 520	TCMT 110204 WM PTT35	•	•	•	•	•			
42 15985 530	TCMT 110208 WM MTM10	•	•			•			
42 15985 535	TCMT 110208 WM PTT20	•	•			•			
42 15985 540	TCMT 110208 WM PTT35	•	•	•	•	•			
42 15985 550	TCMT 16T304 WM MTM10	•	•			•			

Codurile marcate cu • nu se regasesc in stoc, livrare rapida

Nr. comanda	Descriere	P Otel		M VA/INOX		K GG		N Metale neferoase	
42 15985 555	TCMT 16T304 WM PTT20	●	●	●	●				
42 15985 560	TCMT 16T304 WM PTT35	●	●	●	●	●			
42 15985 570	TCMT 16T308 WM MTM10	●	●			●			
42 15985 575	TCMT 16T308 WM PTT20	●	●	●	●				
42 15985 580	TCMT 16T308 WM PTT35	●	●	●	●	●			
42 15985 350	TCMX 16T308 ZR PTE35	●	●	●	●				
42 15987 610	WCMT 030208 WM PTT35	●	●	●	●	●			
42 15987 620	WCMT 040208 WM PTT35	●	●	●	●	●			
42 15987 630	WCMT 050308 WM PTT35	●	●	●	●	●			
42 15987 640	WCMT 06T308 WM PTT35	●	●	●	●	●			
42 15987 650	WCMT 080408 WM PTT35	●	●	●	●	●			
42 15987 660	WCMT 080412 WM PTT35	●	●	●	●	●			

Viteza de taiere - rezistenta la uzura

Avans- rezistenta

Domeniu de utilizare	Stratificat cu carbura				
P = otel	MTM10	PTT20	PTV28	PTE35	PTT35
10					
20					
30					
40					
50					
M = otel inoxidabil					
10					
20		PTT20	PTV28	PTE35	PTT35
30					
40					
50					
K = Fonta					
10					
20	MTM10	KTE20			PTT35
30					
40					
50					
N = materiale neferoase					
10		KTE20			
20					
30					
40					
50					
S = materiale aliaj ridicat					
10					
20		PTT20	PTV28	PTE35	PTT35
30					
40					
50					

Stratificat cu carbura

PTT20
TiN-Al2O3-TiCN
Model extrem de rezistent la uzura pentru taiere continua, pentru otel si fonta gri la viteze de taiere foarte mari **(straturi multiple).**

PTE35
TiAlN (PVD)
Model foarte rezistent pentru prelucrare mediu umed si uscat, foarte bun in conditii grele, cat si la oteluri inoxidabile si oteluri de scule **(P30/P40).**

PTT35
TiN-Al2O3-TiCN
Model rezistent utilizabil si la frezare mediu umed la viteze medii de taiere, foarte bun in conditii grele si la oteluri inoxidabile **(P30/P40 –M20/M30 – straturi multiple).**

KTE20
TiAlN
Special pentru aluminiu, metale neferoase si materiale plastice **(K10/K20).**

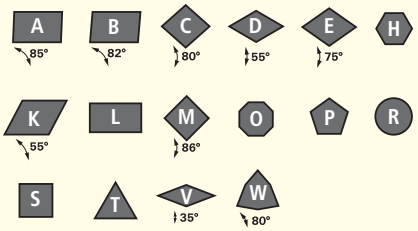
MTM10
TiN-Al2O3-TiCN
Model extrem de rezistent la uzura pentru taiere continua, pentru otel si fonta gri la viteze de taiere foarte mari **(straturi multiple).**

PTV28
TiAlN (PVD)
Model universal pentru mai multe domenii, pentru otel si prelucrare VA la viteze de taiere medii si mari **(P20–45).**

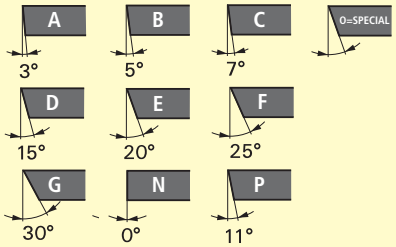
Denumire ISO – placute amovibile

A	P	K	T	16	04	PD	E	R	-	
Forma de taiere a placutelor amovibile	Unghi liber a placutelor amovibile	Toleranta	Model placute amovibile	Lungime cant de taiere	Grosime placuta	Placute amovibile cu tais plan/ raza colturi	Executie cant de taiere (Date optionale)	Directia de taiere (Date optionale)		Denumire interna

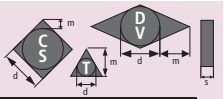
Forma placuta amovibila



Unghi liber a placutelor amovibile

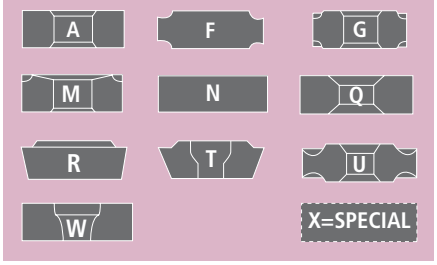


Tolerante

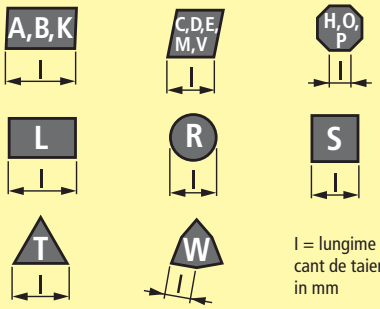


Tol.-Clasa	Toleranta ± mm m	s	d
A	0,005	0,025	0,025
E	0,025	0,025	0,025
F	0,005	0,025	0,013
G	0,025	0,13	0,025
H	0,013	0,025	0,013
J	0,005	0,025	0,05–0,15
K	0,013	0,025	0,05–0,15
M	0,08–0,20	0,13	0,05–0,15
U	0,13–0,38	0,13	0,08–0,25

Model placute amovibile

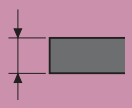


Lungime cant de taiere

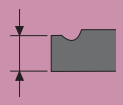


l = lungime cant de taiere in mm

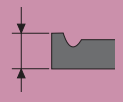
Grosime placuta



01 = 1,59 mm
T1 = 1,98 mm
02 = 2,38 mm
03 = 3,18 mm



T3 = 3,97 mm
04 = 4,76 mm
05 = 5,56 mm
06 = 6,35 mm



07 = 7,94 mm
08 = 8,00 mm
09 = 9,52 mm

Placute amovibile cu tais plan/raza colt

1. Litera

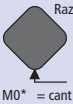
A = 45°
D = 60°
E = 75°
F = 85°
P = 90°

Z = special

2. Litera

A = 3°
B = 5°
C = 7°
D = 15°
E = 20°
F = 25°
G = 30°
N = 0°
P = 11°

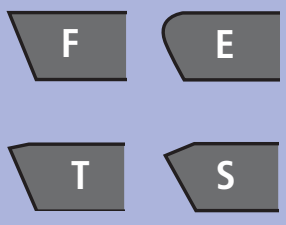
Z = special



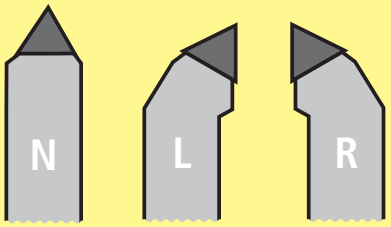
Raza colturi mm

M0* = cant rotund de taiere
00 = colturi ascutite
01 = 0,1
02 = 0,2
04 = 0,4
08 = 0,8
12 = 1,2 etc.

Executie canturi de taiere



Directia de taiere

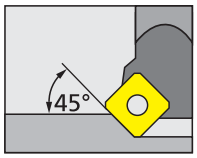


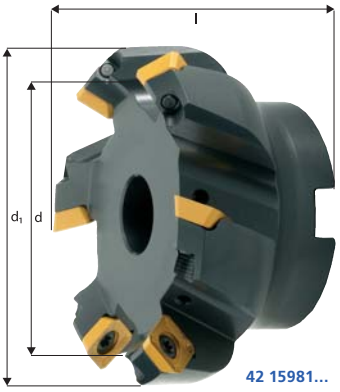
Codurile marcate cu • nu se regasesc in stoc, livrare rapida

Freza frontala 45° cu racire interioara

- Taiere usoara, fara vibratii datorita geometriei de taiere pozitive, extrem de stabila
- Pentru operatiuni de rectificare si degrosare, utilizabile universal

Livrare: Fara placute amovibile, fara surubelnita.





42 15981...

Ø d mm	Cod comanda 42 15981...	Numar taisuri	Ø gaura de prindere mm	Dimensiuni Ø d_1 mm	Dimensiuni l mm	Adancime de taiere a_p mm	Placuta amovibila
40	...010	3	16	53	40	6	SEHT/SEHW 1204...
50	...020	4	22	63	48	6	SEHT/SEHW 1204...
63	...030	5	22	76	48	6	SEHT/SEHW 1204...
80	...040	6	27	93	50	6	SEHT/SEHW 1204...
100	...050	6	32	113	50	6	SEHT/SEHW 1204...
125	...060	7	40	138	63	6	SEHT/SEHW 1204...

Accesorii pentru freza frontala 45° cu racire interioara

Executie	Cod comanda 42 15980...
Surub TORX® pentru WSP	...031*

* Ambalare 10 bucati.

Accesorii optionale

Surubelnite gasiti la pagina 6/174

42 15980...

Placute amovibile ISO

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SEHT PTT35

SEHT PTE35

SEHT Alu KTE20

SEHW PTT35

SEHW PTE35

42 15981...

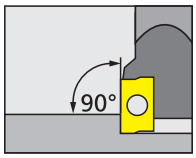
Descriere	Cod comanda 42 15981...	P Otel	M Inox	K Fonta	N Alu	Sinterizat de precizie	Rectificat
SEHT 1204AF PTT35	...110*	•	•	•	–	•	–
SEHT 1204AF PTE35	...115*	•	•	–	–	•	–
SEHT 1204AF Alu KTE20	...120*	–	–	•	•	–	•
SEHW 1204AF PTT35	...125*	•	•	•	–	•	–
SEHW 1204AF PTE35	...130*	•	•	–	–	•	–

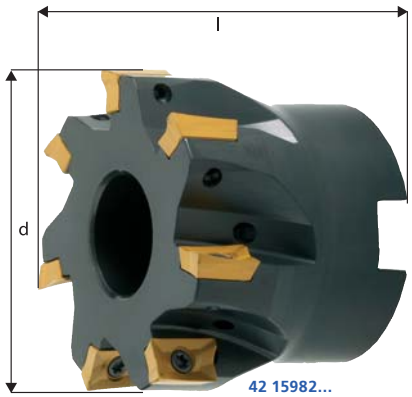
* Ambalare 10 bucati.

Capete de frezare 90° cu racire interioara

- Pentru frezare caneluri si colturi, utilizare universala

Livrare: Fara placute amovibile, fara surubelnita.





42 15982...

Ø d mm	Cod comanda 42 15982...	Numar taisuri	Ø gaura de prindere mm	Dimensiuni l mm	Adancime de taiere a_p mm	Placuta amovibila
40	...310	6	22	40	10	APKT/APHX1003...
50	...320	7	22	40	10	APKT/APHX1003...
63	...330	8	22	40	10	APKT/APHX1003...
80	...340	11	27	50	10	APKT/APHX1003...
100	...350	13	32	50	10	APKT/APHX1003...

Wiha Torque TR moment de rotatie in maner

- Maner ergonomic, multicomponent
- Transmisie optima de forta
- Precizie declansare ± 6 %
- Verificare individuala cu protocol de verificare
- Recunoastere individuala cu numar de identificare
- Flexibil si economic datorita lamelor interschimbabile

Clichet cu dinti fini, comutabil (72 dinti) cu unghi de comutare 5°

Maner ergonomic tip pistol pentru ghidare optima si transmisie maxima axiala a fortei

Dispozitivele de reglare a momentului de rotatie sunt integrate in maner

Semnal clar auditiv si tactil de declansare

Moment de rotatie de deschidere cu ~30 % mai mare decat momentul de rotatie de strangere

Wiha Torque TR

Utilizatorul primeste un semnal acustic si tactil la declansarea momentului de rotatie. Precizia de declansare este, conform cerintelor DIN EN ISO 6789, ± 6 % din valoarea reglata pe scala. Pentru a evita deteriorarea surubului sau a lamei la destrangere, dispozitivele sunt dotate pe langa limitarea momentului de rotatie cu un limitator al momentului de rotatie de deschidere spre stanga. Acesta este cu 30 % mai mare decat momentul de rotatie de inchidere.

INFO

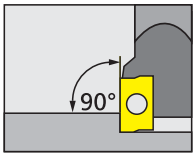
Codurile marcate cu • nu se regasesc in stoc, livrare rapida

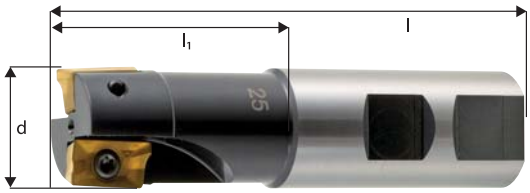
Freza cu coada, 90° cu racire interioara

- Coada DIN 1835-B
- Pentru frezare de caneluri si colturi, utilizare universala

Livrare: fara placute amovibile, fara surubelnita.

Accesorii suplimentare
Surubelnite gasiti la pagina 6/175





42 15982...

Ø d mm	Cod comanda 42 15982...	Numar taisuri	Ø coada mm	Dimensiuni l mm	Dimensiuni l_1 mm	Adancime de taiere a_p mm	Placuta amovibila
25	...610	2	25	100	44	17	APKT/APHX1604...
25	...620	2	25	200	60	17	APKT/APHX1604...
32	...630	3	32	110	50	17	APKT/APHX1604...
32	...640	3	32	200	60	17	APKT/APHX1604...
40	...650	4	32	115	45	17	APKT/APHX1604...

Placute amovibile ISO

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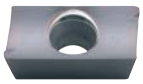
APKT PTV28


APHX Alu KTE20
42 15982...

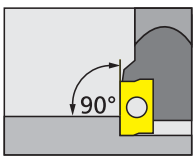
Descriere	Cod comanda 42 15982...	P Otel	M Inox	K Fonta	N Alu	Raza colt	Sinterizat de precizie	Rectificat
APKT 160412PDER PTV28	...965*	•	•	–	–	1,2	•	–
APKT 160416PDER PTV28	...970*	•	•	–	–	1,6	•	–
APKT 160424PDER PTV28	...975*	•	•	–	–	2,4	•	–
APHX 160412FR Alu KTE20	...980*	–	–	•	•	1,2	–	•

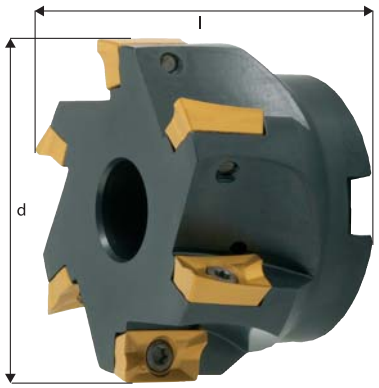
* Ambalare 10 bucati.

Capete de frezare 90° cu racire interioara

- Pentru frezare colturi pentru adancimi mari de taiere, utilizare universala

Livrare: Fara placute amovibile, fara surubelnita.





42 15982...

Ø d mm	Cod comanda 42 15982...	Numar taisuri	Ø gaura de prindere mm	Dimensiuni l mm	Adancime de taiere a_p mm	Placuta amovibila
40	...710	4	16	40	17	APKT/APHX1604...
50	...720	5	22	40	17	APKT/APHX1604...
63	...730	6	22	40	17	APKT/APHX1604...
80	...740	7	27	50	17	APKT/APHX1604...
100	...750	8	32	50	17	APKT/APHX1604...

Placute amovibile ISO

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APKT PTV28

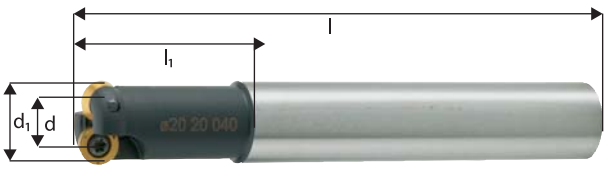
APHX Alu KTE20
42 15982...

Descriere	Cod comanda 42 15982...	P Otel	M Inox	K Fonta	N Alu	Raza colt	Sinterizat de precizie	Rectificat
APKT 160412PDER PTV28	...965*	•	•	–	–	1,2	•	–
APKT 160416PDER PTV28	...970*	•	•	–	–	1,6	•	–
APKT 160424PDER PTV28	...975*	•	•	–	–	2,4	•	–
APHX 160412FR Alu KTE20	...980*	–	–	•	•	1,2	–	•

* Ambalare 10 bucati.

Freza de copiere cu racire interioara

- Pentru patrundere oblica si axiala, utilizare universala



42 15983...

Ø d_1 mm	Cod comanda 42 15983...	Numar taisuri	Dimensiuni Ø d mm	Ø coada mm	Dimensiuni l mm	Dimensiuni l_1 mm	Adancime de taiere a_p mm	Placuta amovibila
15	...110	2	8	16	140	40	3,5	RDHX/RDLT 0702...
15	...120	2	8	20	180	80	3,5	RDHX/RDLT 0702...
15	...130	2	8	25	220	120	3,5	RDHX/RDLT 0702...
20	...140	2	10	20	140	40	5	RDHX/RDLT 1003...
20	...150	2	10	25	180	80	5	RDHX/RDLT 1003...
20	...160	2	10	25	220	120	5	RDHX/RDLT 1003...
25	...170	2	13	25	200	100	6	RDHX/RDLT 12T3...
25	...180	2	13	25	250	150	6	RDHX/RDLT 12T3...

Accesorii pentru freza copiere cu racire interioara

Executie	Cod comanda 42 15980...
Surub de strangere pentru Ø d_1 25 mm	...070*
Surub TORX® pentru Ø d_1 15 mm	...019*

* Ambalare 10 bucati.

Accesorii optionale

Surubelnite dinamometrice gasiti la pagina 6/105

42 15980 019

Placute amovibile ISO, rotunde

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RDHX KTE20

RDHX PTT35

RDHX PTE35

RDLT PTT35

RDLT KTE20
42 15983...

Descriere	Cod comanda 42 15983...	P Otel	M Inox	K Fonta	N Alu	Sinterizat de precizie	Rectificat
RDHX 0702 MOT KTE20	...711*	–	–	•	•	–	•
RDHX 0702 MOT PTT35	...714*	•	•	•	–	•	–
RDHX 0702 MOT PTE35	...717*	•	•	–	–	•	–
RDHX 1003 MOT KTE20	...720*	–	–	•	•	–	•
RDHX 1003 MOT PTT35	...723*	•	•	•	–	•	–
RDHX 1003 MOT PTE35	...726*	•	•	–	–	•	–
RDHX 12T3 MOT KTE20	...729*	–	–	•	•	–	•
RDHX 12T3 MOT PTT35	...732*	•	•	•	–	•	–
RDHX 12T3 MOT PTE35	...735*	•	•	–	–	•	–
RDLT 1003 MOS KTE20	...747*	–	–	•	•	–	•
RDLT 1003 MOS PTT35	...750*	•	•	•	–	•	–
RDLT 1003 MOS PTE35	...753*	•	•	–	–	•	–
RDLT 12T3 MOS KTE20	...756*	–	–	•	•	–	•
RDLT 12T3 MOS PTT35	...759*	•	•	•	–	•	–
RDLT 12T3 MOS PTE35	...762*	•	•	–	–	–	•

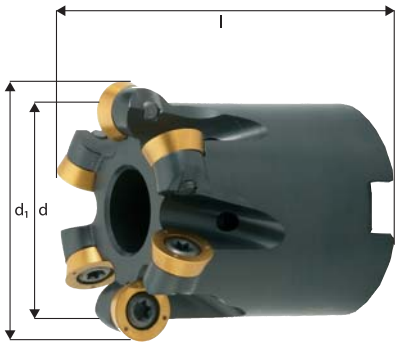
* Ambalare 10 bucati.

Codurile marcate cu • nu se regasesc in stoc, livrare rapida

Freza de copiere cu racire interioara

- Pentru patrundere oblica si axiala, utilizare universala

Livrare: Fara placute amovibile, fara surubelnita.



42 15983...

Ø d_1 mm	Cod comanda 42 15983...	Numar taisuri	Dimensiuni Ø d mm	Ø gaura de prindere mm	Dimensiuni l mm	Adancime de taiere ap mm	Placuta amovibila
42	...210	6	32	16	44	5	RDHX/RDLT 1003...
52	...220	5	40	22	50	6	RDHX/RDLT 12T3...
66	...230	6	54	27	50	6	RDHX/RDLT 12T3...
80	...240	7	68	27	50	6	RDHX/RDLT 12T3...
100	...250	7	84	32	55	8	RDHX/RDLT 1604...
125	...260	8	109	40	55	8	RDHX/RDLT 1604...

* Fara racire interioara.

Accesorii pentru freza copiere cu racire interioara

Executie	Cod comanda 42 15980...
Surub TORX® pentru Ø D_1 42–80 mm	...019*
Surub TORX® pentru Ø D_1 100 + 125 mm	...028*
Surub de strangere pentru Ø D_1 52–80 mm	...070*
Saiba pentru Ø D_1 100 + 125 mm	...073*

* Ambalare 10 bucati.

42 15980 019 + 028

42 15980 070

42 15980 073

Placute amovibile ISO, rotunde

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RDHX KTE20

RDHX PTT35

RDHX PTE35

RDL PTT35

RDLT PTE35
42 15983...

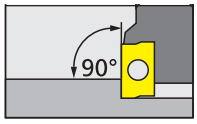
Descriere	Cod comanda 42 15983...	P Otel	M Inox	K Fonta	N Alu	Sinterizat de precizie	Rectificat
RDHX 1003 MOT KTE20	...720*	–	–	•	•	–	•
RDHX 1003 MOT PTT35	...723*	•	•	•	–	•	–
RDHX 1003 MOT PTE35	...726*	•	•	–	–	•	–
RDHX 12T3 MOT KTE20	...729*	–	–	•	•	–	•
RDHX 12T3 MOT PTT35	...732*	•	•	•	–	•	–
RDHX 12T3 MOT PTE35	...735*	•	•	–	–	•	–
RDHX 1604 MOT KTE20	...738*	–	–	•	•	•	–
RDHX 1604 MOT PTT35	...741*	•	•	•	–	•	–
RDHX 1604 MOT PTE35	...744*	•	•	–	–	•	–
RDLT 1003 MOS KTE20	...747*	–	–	•	•	–	•
RDLT 1003 MOS PTT35	...750*	•	•	•	–	•	–
RDLT 1003 MOS PTE35	...753*	•	•	–	–	•	–
RDLT 12T3 MOS KTE20	...756*	–	–	•	•	–	•
RDLT 12T3 MOS PTT35	...759*	•	•	•	–	•	–
RDLT 12T3 MOS PTE35	...762*	•	•	–	–	–	•
RDLT 1604 MOS KTE20	...765*	–	–	•	•	•	–
RDLT 1604 MOS PTT35	...768*	•	•	•	–	•	–
RDLT 1604 MOS PTE35	...771*	•	•	–	–	•	–

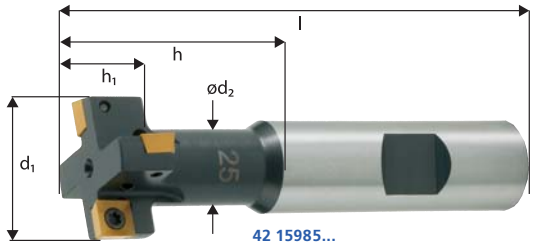
* Ambalare 10 bucati.

Freza caneluri T cu racire interioara

- Coada DIN 1835-B
- Pentru frezarea de caneluri T

Livrare: fara placute amovibile, fara surubelnita.





42 15985...

Ø d_1 mm	Cod comanda 42 15985...	z_c*	Numar taisuri	Dimensiuni Ø d_2 mm	Dimensiuni l mm	Ø coada mm	Dimensiuni h mm	Dimensiuni h_1 mm	Placuta amovibila
25	...110	2	4	13	82	16	31	11	SPLT0603...
32	...120	2	4	17	88	20	38	14	SDHT09T3...
40	...130	2	4	21	108	25	50	17	SDHT09T3...

* Numar efectiv de dinti pentru calculul avansului.

Accesorii pentru freza caneluri T cu racire interioara

Executie	Cod comanda 42 15980...
Surub TORX® pentru Ø D_1 32 + 40 mm	...019*

* Ambalare 10 bucati.

42 15980...

Placute amovibile ISO

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SPLT PTT35

SDHT PTT35

SPLT PTE35

SDHT PTE35

42 15985...

Descriere	Cod comanda 42 15985...	P Otel	M Inox	K Fonta	N Alu	Raza colt	Sinterizat de precizie	Rectificat
SPLT 060304 PTT35	...210*	•	•	•	–	0,4	•	–
SPLT 060304 PTE35	...215*	•	•	–	–	0,4	•	–
SDHT 09T3AE PTT35	...250*	•	•	•	–	–	•	–
SDHT 09T3AE PTE35	...255*	•	•	–	–	–	•	–

* Ambalare 10 bucati.

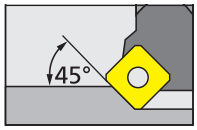
Freza de fatetare si centruire 45° cu racire interioara

- Coada DIN 1835-B
- Pentru centruire, fatetare si caneluri V

Livrare: Fara placute amovibile, fara surubelnita.

Accesorii optionale

Surubelnite dinamometrice gasiti la pagina 6/105



42 15985...

Ø min./max. mm	Cod comanda 42 15985...	Numar taisuri	Ø coada mm	Dimensiuni l_1 mm	Dimensiuni l_2 mm	Placuta amovibila
0–20	...310	1	20	115	40	TCGX/TCMX 16T3

Placute amovibile ISO

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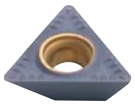
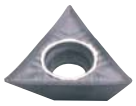


TCMX ZR PTE35



TCGX Alu KTE20

42 15985...

Descriere	Cod comanda 42 15985...	P Otel	M Inox	K Fonta	N Alu	Raza colt	Sinterizat de precizie	Rectificat
TCMX 16T308 ZR PTE35	...350*	•	•	•	–	0,8	•	–
TCGX 16T304 Alu KTE20	...360*	–	–	–	•	0,4	–	•

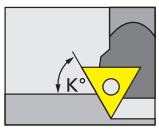
* Ambalare 10 bucati.

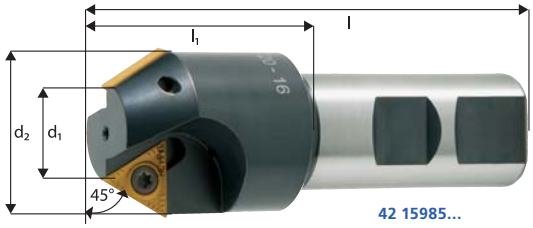
Codurile marcate cu • nu se regasesc in stoc, livrare rapida

Freza pentru tesire 15°, 30°, 45°, 60°, 75° cu racire interioara

- Coada DIN 1835-B
- Pentru frezare tesituri si canturi, pentru gauri mici

Livrare: Fara placute amovibile, fara surubelnita.





42 15985...

Unghi °	Cod comanda 42 15985...	Ø D min./max. d_2 mm	Ø D min./max. d_1 mm	Numar taisuri	Ø coada mm	Dimensiuni l mm	Dimensiuni l_1 mm	Placuta amovibila
15	...411	34	16	3	20	85	30	TCMT1102...
15	...414	53	25	3	25	85	30	TCMT16T3...
15	...417	34	16*	3	20	200	30	TCMT1102...
15	...420	53	25*	3	25	200	30	TCMT16T3...
30	...423	32	16	3	20	85	30	TCMT1102...
30	...426	50	25	3	25	85	30	TCMT16T3...
30	...429	32	16*	3	20	200	30	TCMT1102...
30	...432	50	25*	3	25	200	30	TCMT16T3...
45	...435	16	1,2	1	12	70	20	TCMT1102...
45	...438	21	6,2	2	20	90	35	TCMT1102...
45	...441	32,5	10,4	2	25	95	39	TCMT16T3...
45	...444	16	1,2*	1	12	200	20	TCMT1102...
45	...447	21	6,2*	2	20	200	35	TCMT1102...
45	...450	32,5	10,4*	2	25	200	39	TCMT16T3...
60	...453	16	5,4	1	12	70	20	TCMT1102...
60	...456	26	15,8	2	20	90	35	TCMT1102...
60	...459	35,5	20	2	25	95	39	TCMT16T3...
60	...462	16	5,4*	1	12	200	20	TCMT1102...
60	...465	26	15,8*	2	20	200	35	TCMT1102...
60	...468	35,5	20*	2	25	200	39	TCMT16T3...
75	...471	22	17	2	20	85	30	TCMT1102...
75	...474	27	22	2	20	85	30	TCMT1102...
75	...477	35	27	2	25	85	30	TCMT16T3...
75	...480	22	17*	2	20	200	30	TCMT1102...
75	...483	27	22*	2	20	200	30	TCMT1102...
75	...486	35	27*	2	25	200	30	TCMT16T3...

* Fara racire interioara.

Placute amovibile ISO

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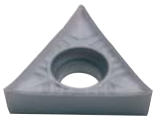
TCMT PTT20
TCMT PTT35

TCMT MTM1010



TCGT Alu–KTE20
42 15985...

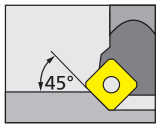
Descriere	Cod comanda 42 15985...	P Otel	M Inox	K Fonta	N Alu	Raza colt	Sinterizat de precizie	Rectificat
TCMT 110204 WM MTM10	...510*	•	–	•	–	0,4	•	–
TCMT 110204 WM PTT20	...515*	•	–	•	–	0,4	•	–
TCMT 110204 WM PTT35	...520*	•	•	•	–	0,4	•	–
TCGT 110204 Alu KTE20	...525*	–	–	•	•	0,4	–	•
TCMT 110208 WM MTM10	...530*	•	–	•	–	0,8	•	–
TCMT 110208 WM PTT20	...535*	•	–	•	–	0,8	•	–
TCMT 110208 WM PTT35	...540*	•	•	•	–	0,8	•	–
TCMT 16T304 WM MTM10	...550*	•	–	•	–	0,4	•	–
TCMT 16T304 WM PTT20	...555*	•	•	–	–	0,4	•	–
TCMT 16T304 WM PTT35	...560*	•	•	•	–	0,4	•	–
TCGT 16T304 Alu KTE20	...565*	–	–	•	•	0,4	–	•
TCMT 16T308 WM MTM10	...570*	•	–	•	–	0,8	•	–
TCMT 16T308 WM PTT20	...575*	•	•	–	–	0,8	•	–
TCMT 16T308 WM PTT35	...580*	•	•	•	–	0,8	•	–

* Ambalare 10 bucati.

Freza de fatetat 45° cu racire interioara

- Coada DIN 1835-B
- Pentru frezarea de tesituri, adanciturii, debavurare, debavurare spre inainte si inapoi

Livrare: Fara placute amovibile, fara surubelnita.



42 15985...

Ø d_1 min./max. d_2 mm	Cod comanda 42 15985...	Numar taisuri	Ø coada mm	Dimensiuni l mm	Placuta amovibila
2*°	...610	1	12	80	CPMT 05T1...
5	...615	1	12	80	SPLT 0603...
11	...620	2	12	80	SPLT 0603...
12	...625	1	16	100	SCMT/SCGT 09T3...
16	...630	2	16	100	SCMT/SCGT 09T3...
28	...635	3	25	100	SCMT/SCGT 09T3...
12*	...640	1	16	200	SCMT/SCGT 09T3...
16*	...645	2	16	200	SCMT/SCGT 09T3...
28*	...650	3	25	200	SCMT/SCGT 09T3...

* Fara racire interioara.
° Doar adancitor spre inainte.

Accesorii pentru freze de fatetat 45° cu racire interioara

Executie	Cod comanda 42 15980...
Surub TORX® pentru WSP CPMT 05T1...	...004*

* Ambalare 10 bucati.

Accesorii optionale

Surubelnite dinamometrica gasiti la pagina 6/109

42 15980...

Placute amovibile ISO

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SPLT PTT35

CPMT PTT35

SCMT MTM 10

SCGT Alu KTE20

SPLT PTE35

SCMT PTT20
42 15985...

Descriere	Cod comanda 42 15985...	P Otel	M Inox	K Fonta	N Alu	Raza colt	Sinterizat de precizie	Rectificat
CPMT 05T102 PTT35	...710*	•	•	•	–	0,2	•	–
CPMT 05T104 PTT35	...715*	•	•	•	–	0,4	•	–
SPLT 060304 PTT35	...210*	•	•	•	–	0,4	•	–
SPLT 060304 PTE35	...215*	•	•	–	–	0,4	•	–
SPLT 0603AD PTT35	...220*	•	•	•	–	–	•	–
SPLT 0603AD PTE35	...225*	•	•	–	–	–	•	–
SCMT 09T304 WM MTM10	...730*	•	–	•	–	0,4	•	–
SCMT 09T304 WM PTT20	...735*	•	–	•	–	0,4	•	–
SCMT 09T304 WM PTT35	...740*	•	•	•	–	0,4	•	–
SCGT 09T304 Alu KTE20	...745*	–	–	•	•	0,4	–	•
SCMT 09T308 WM MTM10	...750*	•	–	•	–	0,8	•	–
SCMT 09T308 WM PTT20	...755*	•	–	•	–	0,8	•	–
SCMT 09T308 WM PTT35	...760*	•	•	•	–	0,8	•	–

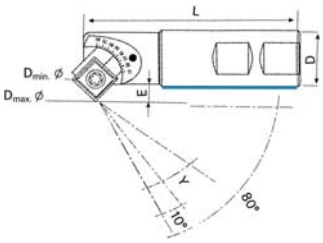
* Ambalare 10 bucati.

Codurile marcate cu • nu se regasesc in stoc, livrare rapida

Freza de fatetat 10° pana la 80° cu racire interioara

- Coada DIN 1835-B
- Pentru debavurare si tesire

Livrare: Fara placute amovibile, fara surubelnita.



42 15986...

Ø D mm	Cod comanda 42 15986...	Ø D min.	Ø D max.	Dimensiuni Y° Dimensiuni Y°	E	L	Numar taisuri	Placuta amovibila
25	...210	7,5	30,0	10	2,7	100	1	SCMT/SCGT 1204...
		10,0	32,0	20	3,6	100		
		13,0	32,5	30	4,3	100		
		16,5	33,5	40	4,5	100		
		17,5	33,5	45	4,6	100		
		19,0	33,5	50	4,6	100		
		22,0	33,5	60	4,3	100		
		24,5	33,5	70	3,8	100		
		27,0	31,0	80	3,0	100		

Accesorii pentru freza de fatetat 10 pana la 80° cu racire interioara

42 15980 034

42 15980 058

Executie	Cod comanda 42 15980...
Surub TORX® pentru WSP	...034*
Caseta	...058*

* Ambalare 10 bucati.

Accesorii optionale

TORX®-Surubelnite gasiti la pagina 6/130

Placute amovibile ISO

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SCMT PTT20
SCMT PTT35

SCMT MTM10

SCGT KTE20
42 15985...

Descriere	Cod comanda 42 15985...	P Otel	M Inox	K Fonta	N Alu	Raza colt	Sinterizat de precizie	Rectificat
SCMT 120404 WM MTM10	...765*	•	–	•	–	0,4	•	–
SCMT 120404 WM PTT20	...770*	•	•	–	–	0,4	•	–
SCMT 120404 WM PTT35	...775*	•	•	•	–	0,4	•	–
SCMT 120408 WM MTM10	...780*	•	–	•	–	0,8	•	–
SCMT 120408 WM PTT20	...785*	•	•	–	–	0,8	•	–
SCMT 120408 WM PTT35	...790*	•	•	•	–	0,8	•	–
SCGT 120408 Alu KTE20	...795*	–	–	•	•	0,8	–	•

* Ambalare 10 bucati.

Burghie cu placute amovibile cu racire interioara 3 x D

Nr. comanda	Dimensiune	Placuta amovibila	P Otel	M VA/INOX	K GG	
15987 210–470	Ø 16–57 mm	WCMT 0302...	v_c 120–180 f_z 0.01–0.35	v_c 90–120 f_z 0.01–0.3	v_c 100–250 f_z 0.01–0.35	●
		WCMT 0402...				
		WCMT 0503...				
		WCMT 06T3...				
		WCMT 0804...				

• = cu racire interioara

Date de taiere recomandate

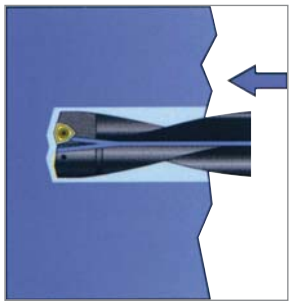
Material	Avans f_z (mm/n) Ø 16–17	Ø 18–23	Ø 24–30	Ø 31–48	> Ø 48	Viteza de taiere (m/min)
Otel nealiat	0,05–0,15	0,08–0,15	0,08–0,20	0,10–0,25	0,10–0,30	120–180
Otel aliat	0,05–0,10	0,08–0,15	0,08–0,15	0,10–0,18	0,10–0,20	100–150
Otel inalt aliat	0,05–0,10	0,08–0,15	0,08–0,15	0,10–0,18	0,10–0,20	100–150
Otel inoxidabil	0,05–0,10	0,08–0,15	0,08–0,15	0,10–0,20	0,10–0,25	90–120
Fonta gri	0,05–0,10	0,08–0,15	0,08–0,20	0,10–0,25	0,10–0,25	100–250

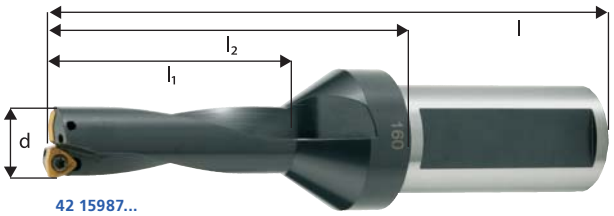
MAIER Burghie cu placute amovibile cu racire interioara

DIN 1835-B

- Coada DIN 1835-B
- Adancime de utilizare 3 x d
- Utilizare orizontala si verticala, stationar respectiv rotativ

Livrare: Fara placute amovibile, fara surubelnita.





42 15987...

Ø d mm	MAIER Cod comanda 42 15987...	Dimensiuni l_1 mm	Dimensiuni l_2 mm	Dimensiuni l mm	Ø coada h6 mm	Numar taisuri	Placuta amovibila
16,0	...210	49	80	134	25	2	WCMT0302...
16,5	...220	50,5	81,5	135,5	25	2	WCMT0302...
17,0	...215	52	83	137	25	2	WCMT0302...
17,5	...225	54,5	84,5	138,5	25	2	WCMT0302...
18,0	...230	56	86	140	25	2	WCMT0302...
18,5	...235	57,5	87,5	141,5	25	2	WCMT0302...
19,0	...240	59	89	143	25	2	WCMT0302...
19,5	...245	60,5	90,5	144,5	25	2	WCMT0302...
20,0	...250	62	92	146	25	2	WCMT0302...
20,5	...255	63,5	93,5	147,5	25	2	WCMT0302...
21,0	...260	65	95	149	25	2	WCMT0402...
21,5	...265	66,5	96,5	150,5	25	2	WCMT0402...
22,0	...270	68	98	152	25	2	WCMT0402...
22,5	...275	69,5	99,5	153,5	25	2	WCMT0402...
23,0	...280	71	101	155	25	2	WCMT0402...
23,5	...285	72,5	102,5	156,5	25	2	WCMT0402...
24,0	...290	74	104	158	25	2	WCMT0402...
24,5	...295	75,5	105,5	159,5	25	2	WCMT0402...
25,0	...300	77	107	161	25	2	WCMT0402...
25,5	...305	78,5	108,5	162,5	25	2	WCMT0402...
26,0	...310	80	110	164	25	2	WCMT0503...
26,5	...315	80,5	111,5	165,5	25	2	WCMT0503...

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Codurile marcate cu • nu se regasesc in stoc, livrare rapida

Continuarea de la pagina 2/130

Ø d mm	Cod comanda 42 15987...	Dimensiuni l_1 mm	Dimensiuni l_2 mm	Dimensiuni l mm	Ø coada h6 mm	Numar taisuri	Placuta amovibila
27,0	...320	83	113	167	25	2	WCMT0503...
28,0	...325	86	116	171	25	2	WCMT0503...
29,0	...330	89	119	173	25	2	WCMT0503...
30,0	...335	92	122	180	32	2	WCMT0503...
31,0	...340	95	125	183	32	2	WCMT06T3...
32,0	...345	98	128	186	32	2	WCMT06T3...
33,0	...350	101	131	189	32	2	WCMT06T3...
34,0	...355	104	134	192	32	2	WCMT06T3...
35,0	...360	107	137	195	32	2	WCMT06T3...
36,0	...365	110	140	198	32	2	WCMT06T3...
37,0	...370	113	143	201	32	2	WCMT06T3...
38,0	...375	116	146	204	32	2	WCMT06T3...
39,0	...380	119	149	207	32	2	WCMT06T3...
40,0	...390	122	152	210	32	2	WCMT06T3...
41,0	...385	125	155	213	32	2	WCMT06T3...
42,0	...395	128	158	216	32	2	WCMT0804...
43,0	...400	131	161	219	32	2	WCMT0804...
44,0	...405	134	164	222	32	2	WCMT0804...
45,0	...410	137	172	240	40	2	WCMT0804...
46,0	...415	140	175	243	40	2	WCMT0804...
47,0	...420	143	178	246	40	2	WCMT0804...
48,0	...425	146	181	249	40	2	WCMT0804...
49,0	...430	149	184	252	40	2	WCMT0804...
50,0	...435	152	187	255	40	2	WCMT0804...
51,0	...440	155	190	258	40	2	WCMT0804...
52,0	...445	158	193	261	40	2	WCMT0804...
53,0	...450	161	196	264	40	2	WCMT0804...
54,0	...455	164	199	267	40	2	WCMT0804...
55,0	...460	167	202	270	40	2	WCMT0804...
56,0	...465	170	205	273	40	2	WCMT0804...
57,0	...470	173	208	276	40	2	WCMT0804...

Accesorii pentru burghie cu placute amovibile, cu racire interioara

42 15980...

Executie	Cod comanda 42 15980...
Surub TORX® pentru portscula Ø D mm 16–20,5 mm	...010*
Surub TORX® pentru portscula Ø D mm 26–30 mm	...016*
Surub TORX® pentru portscula Ø D 31–41 mm	...019*
Surub TORX® pentru portscula Ø D 42–57 mm	...025*

* Ambalare 10 bucati.

Accesorii optionale

Surubelnite dinamometrice gasiti la pagina 6/105

Placute amovibile pentru burgiu ISO

WCMT WM PTT35
42 15987...

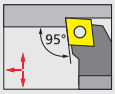
i Pagina 2/119

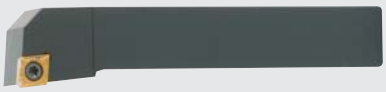
Descriere	Cod comanda 42 15987...	P Otel	M Inox	K Fonta	Raza colt	Sinterizat de precizie	Rectificat
WCMT 030208 WM PTT35	...610*	•	•	•	0,8	•	–
WCMT 040208 WM PTT35	...620*	•	•	•	0,8	•	–
WCMT 050308 WM PTT35	...630*	•	•	•	0,8	•	–
WCMT 06T308 WM PTT35	...640*	•	•	•	0,8	•	–
WCMT 080408 WM PTT35	...650*	•	•	•	0,8	•	–
WCMT 080412 WM PTT35	...660*	•	•	•	1,2	•	–

* Ambalare 10 bucati.

Prelucrare exterioara

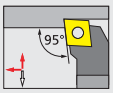
Suport fixare 95° pentru placute amovibile 7° pozitiv

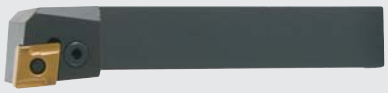




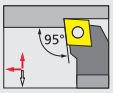
Nr. comanda	Model	Placute amovibile	Pagina
42 15991 100 – 42 15991 115	SCLCR/L	CCMT/CCGT 09T3...	2/141

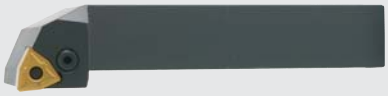
Suport fixare 95° pentru placute amovibile 0° negativ





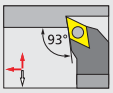
Nr. comanda	Model	Placute amovibile	Pagina
42 15991 130 – 42 15991 145	PCLNR/L	CNMG 1204...	2/142

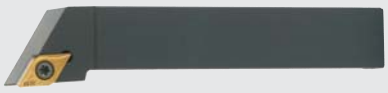




Nr. comanda	Model	Placute amovibile	Pagina
42 15991 160 – 42 15991 175	PWLNR/L	WNMG 0804...	2/143

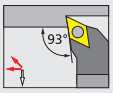
Suport fixare 93° pentru placute amovibile 7° pozitiv

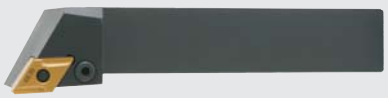




Nr. comanda	Model	Placute amovibile	Pagina
42 15991 190 – 42 15991 215	SDJCR/L	DCMT/DCGT 11T3...	2/145

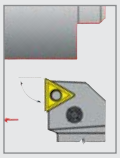
Suport fixare 93° pentru placute amovibile 0° negativ





Nr. comanda	Model	Placute amovibile	Pagina
42 15991 230 – 42 15991 245	PDJNR/L	DNMG 1506...	2/146

Suport fixare 90° pentru placute amovibile 0° negativ



Nr. comanda	Model	Placute amovibile	Pagina
42 15991 260 – 42 15991 275	PTGNR/L	TNMG 1604...	2/148

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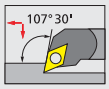
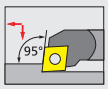
Prelucrare interioara

Bara 107,5° pentru placuta amovibila 7° pozitiv, racire interioara



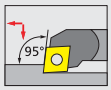
Nr. comanda	Model	Placute amovibile	Pagina
42 15991 400 – 42 15991 445	A..-SDQCR/L	DCMT/DCGT 07/11T3...	2/149
42 15991 450 – 42 15991 455	Set-SDQCR/L	DCMT/DCGT 0702...	

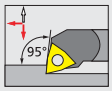
Bara 95° pentru placuta amovibila 7° pozitiv, racire interioara

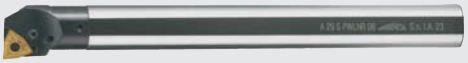


Nr. comanda	Model	Placute amovibile	Pagina
42 15991 460 – 42 15991 515	A..-SCLCR/L	CCMT/CCGT 06/09T3...	2/151
42 15991 530 – 42 15991 540	Set-SCLCR/L	CCMT/CCGT 0602...	

Bara 95° pentru placuta amovibila 0° negativ, racire interioara

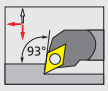


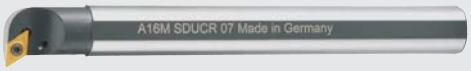




Nr. comanda	Model	Placute amovibile	Pagina
42 15991 560 – 42 15991 575	A...-PCLNR/L	CNMG 1204...	2/153
42 15991 590 – 42 15991 605	A...-PWLNR/L	WNMG 0804...	2/155

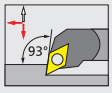
Bara 93° pentru placuta amovibila 7° pozitiv, racire interioara

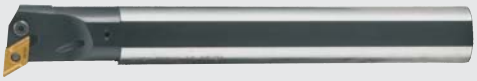




Nr. comanda	Model	Placute amovibile	Pagina
42 15991 630 – 42 15991 675	A...-SDUCR/L	DCMT/DCGT 07/11T3...	2/157
42 15991 700 – 42 15991 710	Set-SDUCR/L	DCMT/DCGT 0702...	

Bara 93° pentru placuta amovibila 0° negativ, racire interioara





Nr. comanda	Model	Placute amovibile	Pagina
42 15991 800 – 42 15991 805	A...-PDUNR/L	DNMG 1506...	2/159

Geometrie trepte span

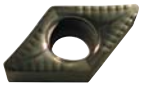
Nr. comanda 42 15992...	Descriere Placute amovibile ISO 7° pozitiv	AL	F	M	R	R/L-EC	WM
...004*	CCGT 060202 AL N 5020	●					
...010*	CCGT 060204 AL N 5020	●					
...034*	CCMT 060202 M PMK 5025			●			
...040*	CCMT 060204 F PMK 5025		●				
...046*	CCMT 060204 M PMK 5025			●			
...052*	CCMT 060208 M PMK 5025			●			
...058*	CCMT 09T304 F PMK 5025		●				
...064*	CCMT 09T304 M PMK 5025			●			
...067*	CCMT 09T304 M U 5035			●			
...070*	CCMT 09T308 F PMK 5025		●				
...076*	CCMT 09T308 M PMK 5025			●			
...079*	CCMT 09T308 M U 5035			●			
...204*	DCGT 070202 AL N 5020	●					
...210*	DCGT 070204 AL N 5020	●					
...213*	DCGT 11T302 AL KNH 5010	●					
...216*	DCGT 11T302 AL N 5020	●					
...219*	DCGT 11T304 AL KNH 5010	●					
...222*	DCGT 11T304 AL N 5020	●					
...234*	DCMT 070204 F PMK 5025		●				
...237*	DCMT 070204 M PMK 5025			●			
...243*	DCMT 11T304 F PMK 5025		●				
...246*	DCMT 11T304 M PMK 5025			●			
...249*	DCMT 11T304 M U 5035			●			
...252*	DCMT 11T308 F PMK 5025		●				
...255*	DCMT 11T308 M PMK 5025			●			
...258*	DCMT 11T308 M U 5035			●			

AL

F

M

AL



F

M

Nr. comanda 42 15993...	Descriere Placute amovibile ISO 0° pozitiv	AL	F	M	R	R/L-EC	WM
...001*	CNMG 120404 F PK 5015		●				
...004*	CNMG 120404 F PMK 5025		●				
...007*	CNMG 120408 F PK 5015		●				
...010*	CNMG 120408 F PMK 5025		●				
...013*	CNMG 120408 M PK 5015			●			
...016*	CNMG 120408 R PK 5015				●		
...019*	CNMG 120408 M PMK 5025			●			
...022*	CNMG 120408 R PMK 5025				●		
...025*	CNMG 120408 M PMK 5040			●			
...028*	CNMG 120408 R PMK 5040				●		
...031*	CNMG 120412 M PMK 5025			●			
...034*	CNMG 120412 R PMK 5025				●		
...037*	CNMG 120404 L-EC PMK 5025					●	
...040*	CNMG 120404 L-EC U 5035					●	
...043*	CNMG 120408 L-EC PMK 5025					●	
...046*	CNMG 120408 L-EC U 5035					●	
...049*	CNMG 120404 R-EC PMK 5025					●	
...052*	CNMG 120404 R-EC U 5035					●	
...055*	CNMG 120408 R-EC PMK 5025					●	
...058*	CNMG 120408 R-EC U 5035					●	
...061*	CNMG 120408 WM PMK 5025						●
...064*	CNMG 120412 R PK 5015				●		

F

M

R

R-EC

WM

* Ambalare 10 bucati.

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Geometrie trepte span

Nr. comanda 42 15993...	Descriere Placute amovibile ISO 0° pozitiv	AL	F	M	R	R/L-EC	WM
	F						
...201*	DNMG 150604 F PK 5015		●				
...204*	DNMG 150604 F PMK 5025		●				
	R-EC						
...207*	DNMG 150604 R-EC PMK 5025					●	
...210*	DNMG 150604 R-EC U 5035					●	
...213*	DNMG 150604 L-EC PMK 5025					●	
...216*	DNMG 150604 L-EC U 5035					●	
	F						
...219*	DNMG 150608 F PK 5015		●				
...222*	DNMG 150608 F PMK 5025		●				
	M						
...225*	DNMG 150608 M PK 5015			●			
...228*	DNMG 150608 M PMK 5025			●			
	R						
...231*	DNMG 150608 R PK 5015				●		
...234*	DNMG 150608 R PMK 5030				●		
	R-EC						
...237*	DNMG 150608 R-EC PMK 5025					●	
...240*	DNMG 150608 R-EC U 5035					●	
...243*	DNMG 150608 L-EC PMK 5025					●	
...246*	DNMG 150608 L-EC U 5035					●	
	M						
...249*	DNMG 150612 M PMK 5025			●			
	R						
...252*	DNMG 150612 R PMK 5030				●		
	F						
...301*	TNMG 160404 F PK 5015		●				
...304*	TNMG 160404 F PMK 5025		●				
	F						
...307*	TNMG 160404 F U 5035		●				
	M						
...310*	TNMG 160408 M PK 5015			●			
...313*	TNMG 160408 M PMK 5025			●			
	M						
...316*	TNMG 160408 M PMK 5040			●			
	F						
...401*	WNMG 080404 F PK 5015		●				
...404*	WNMG 080404 F PMK 5025		●				
	F						
...413*	WNMG 080408 F PK 5015		●				
...416*	WNMG 080408 F PMK 5025		●				
	M						
...419*	WNMG 080408 M PK 5015			●			
...422*	WNMG 080408 M PMK 5025			●			
	R						
...425*	WNMG 080408 R PK 5015				●		
...428*	WNMG 080408 R PMK 5025				●		
	R-EC						
...431*	WNMG 080408 R-EC U 5025					●	
...434*	WNMG 080408 L-EC U 5025					●	
	WM						
...443*	WNMG 080408 WM PK 5015						●
...446*	WNMG 080408 WM PMK 5025						●
...449*	WNMG 080412 M PK 5015			●			
...452*	WNMG 080412 M PMK 5025			●			
...455*	WNMG 080412 R PK 5015				●		
...458*	WNMG 080412 R PMK 5025				●		
...461*	WNMG 080412 WM PK 5015						●
...464*	WNMG 080412 WM PMK 5025						●

* Ambalare 10 bucati.

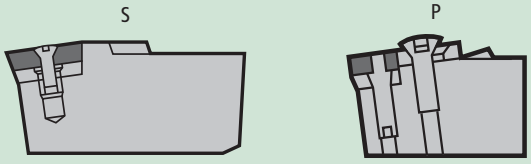
Forma si utilizare placute amovibile

Forma placute amovibile			
CCGT, DCGT, VCGT	NE-prelucrare stratificata NE-prelucrare nestratificata	AL	Geometrie pentru placute amovibile pozitive, special pentru prelucrarea de aliaje alu, plastic si aliaje cupru. Unghi span rectificat. Placute amovibile cu polisare luciu puternic pentru evitarea acumularilor.
CCMT, DCMT, VCMT CNMG, DNMG, TNMG, WNMG	Finisare	F	Geometrie pentru finisare de otel, fonta si materiale inoxidabile.
CCMT, DCMT, VCMT CNMG, DNMG, TNMG, WNMG	Prelucrare medie	M	Geometrie pentru prelucrare medie, utilizare multilaterala. Prima alegere pentru prelucrare finala de piese din fonta si forjate cu adaos mic.
CNMG, DNMG, TNMG, WNMG	Degrosare	R	Geometrie pentru degrosare in domeniul de prelucrare bruta si medie, recomandat pentru avansuri si adancimi de taiere mari.
CNMG, DNMG, WNMG	Degrosare-rectificare	R/L-EC	Geometrie pentru degrosare si rectificare si prelucrare medie de oteluri carbon, oteluri inoxidabile si aliaje pe baza de Ni, Co, Fe si Ti . Recomandat in special pentru piese lungi, subtiri (axuri) la putere mica de taiere (fara oscilatii).
CNMG, WNMG	Prelucrare medie	WM	= Wiper mediu. Geometrie pentru finalizare pana la prelucrarea medie in domeniul otel si fonta. Avans dublu fata de intrerupatorul de span F- si o presiune mai mare de taiere de 15–20 %.

Denumire ISO-suport de fixare exterior

P	W	L	N	R
Sistem de fixare	Forma de taiere a placu-telor amovibile	Model piesa	Unghi liber a placutelor amovibile	Directia de taiere

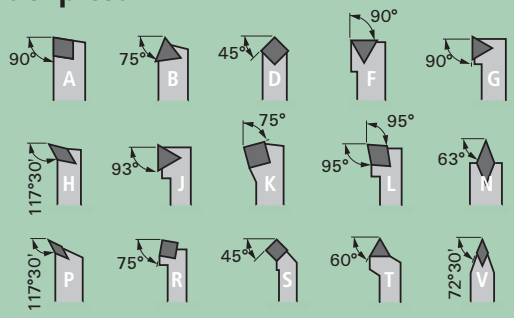
Sistem de fixare



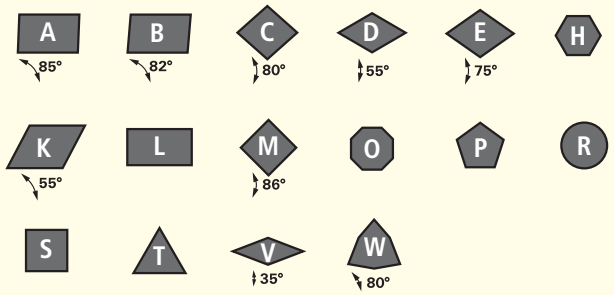
Surub

Parghie pin/ ghiara sau cu articulatie

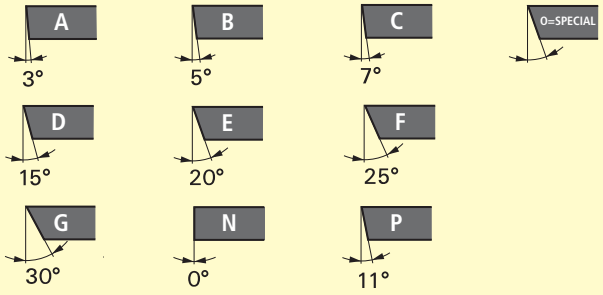
Model piesa



Forma de taiere a placutelor amovibile

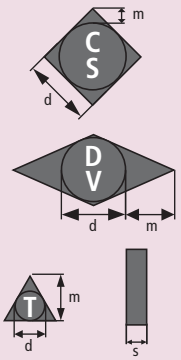


Unghi liber placute amovibile

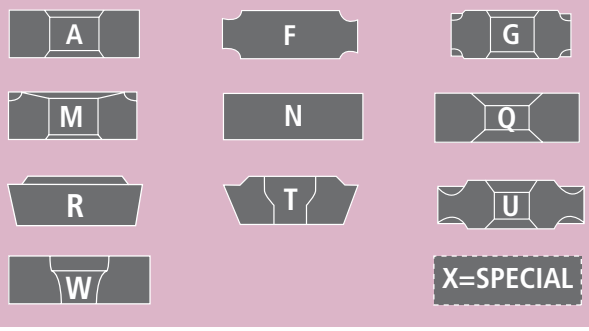


Tolerante

Tol.-Clasa	Toleranta ± mm m	s	d
A	0,005	0,025	0,025
E	0,025	0,025	0,025
F	0,005	0,025	0,013
G	0,025	0,13	0,025
H	0,013	0,025	0,013
J	0,005	0,025	0,05–0,15
K	0,013	0,025	0,05–0,15
M	0,08–0,20	0,13	0,05–0,15
U	0,13–0,38	0,13	0,08–0,25



Model placute amovibile



Denumire ISO – placute amovibile

W	N	M	G	08
Forma de taiere a placu-telor amovibile	Unghi liber a placutelor amovibile	Toleranta	Model placute amovibile	Lungime cant de taiere

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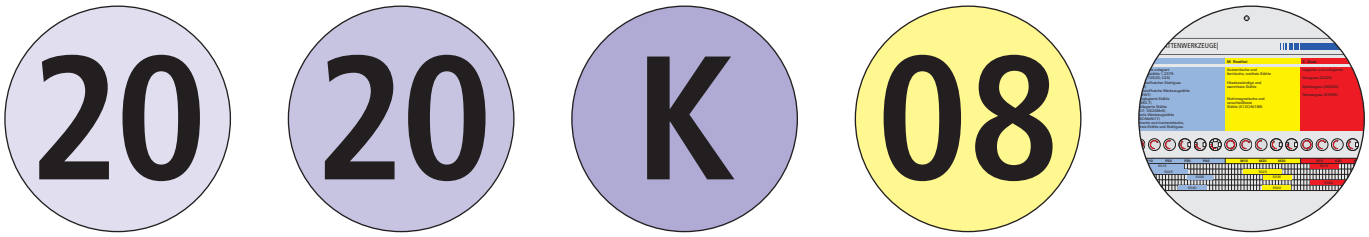
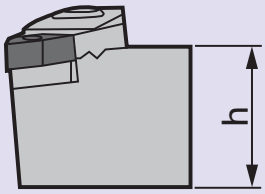
Denumire ISO-suport de fixare exterior

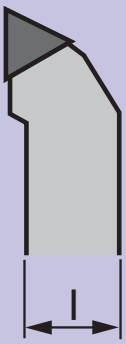


Inaltime | Latime coada | Lungime dispozitiv | Lungime cant de taiere | Denumire interna

Inaltime coada
12 = 12 mm
25 = 25 mm
32 = 32 mm
etc.

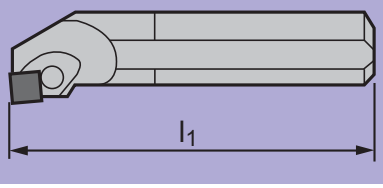


Latime coada
12 = 12 mm
25 = 25 mm
32 = 32 mm
etc.

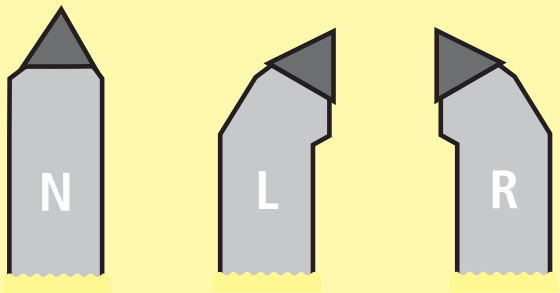


Lungime dispozitiv

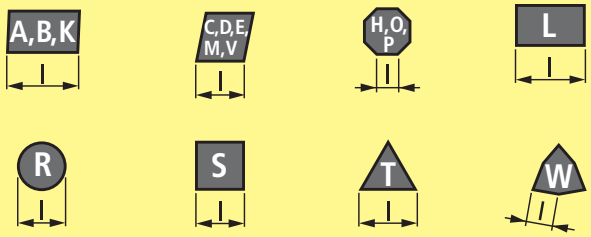
K = 125 mm	P = 170 mm	T = 300 mm
L = 140 mm	Q = 180 mml	U = 350 mm
M = 150 mm	R = 200 mm	V = 400 mm
N = 160 mm	S = 250 mm	



Directia de taiere

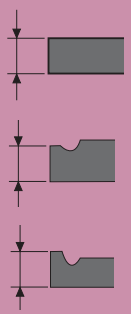


Lungime cant de taiere



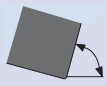
l = lungime cant de taiere

Grosime placuta



01 = 1,59 mm	
T1 = 1,98 mm	
02 = 2,38 mm	
03 = 3,18 mm	
T3 = 3,97 mm	
04 = 4,76 mm	
05 = 5,56 mm	
06 = 6,35 mm	
07 = 7,94 mm	
08 = 8,00 mm	
09 = 9,52 mm	

Placute amovibile cu tais plan/ raza colturi

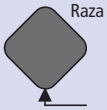


1. Litera

A = 45°	
D = 60°	
E = 75°	
F = 85°	
P = 90°	
Z = special	

2. Litera

A = 3°	F = 25°
B = 5°	G = 30°
C = 7°	N = 0°
D = 15°	P = 11°
E = 20°	
	Z = special

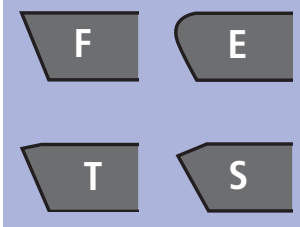


Raza colturi mm

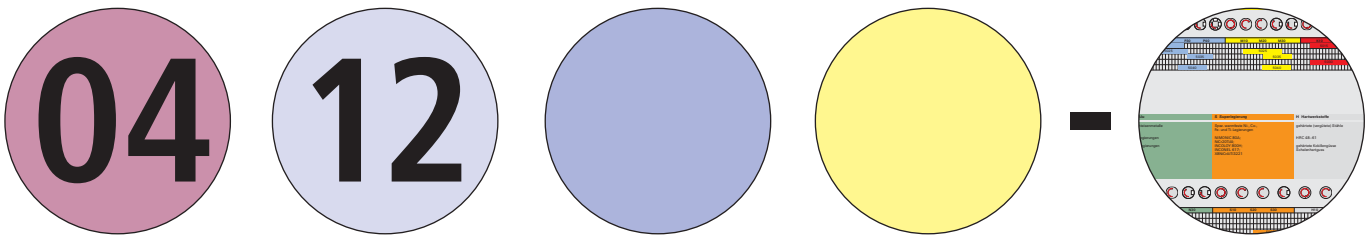
M0*	= cant de taiere rotund
00	= colturi ascutite
01	= 0,1
02	= 0,2
04	= 0,4
08	= 0,8
12	= 1,2 etc.

* milimetru-executie

Executie canturi de taiere



Denumire ISO – placute amovibile



Grosime placuta | Placute amovibile cu tais plan/ raza colturi | Executie cant de taiere (Date optionale) | Directia de taiere (Date optionale) | Denumire interna

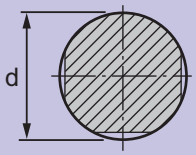
Denumire ISO-suport fixare interior

A	25	R	-	S	D
Executie coada	Diametru coada	Lungime dispozitiv		Sistem de fixare	Forma de taiere a placu-telor amovibile

Executie coada

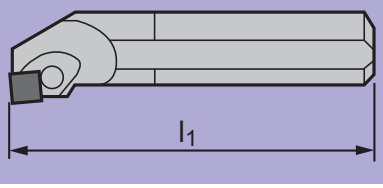
A = otel cu canal de racire
S = otel plin

Diametru coada

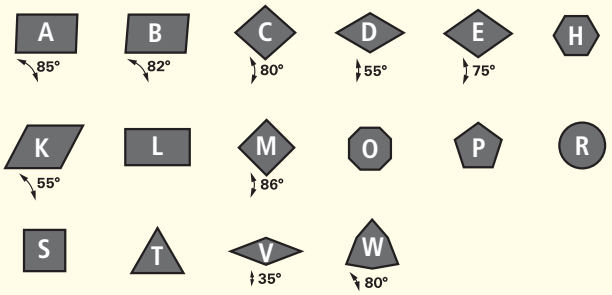


Lungime dispozitiv

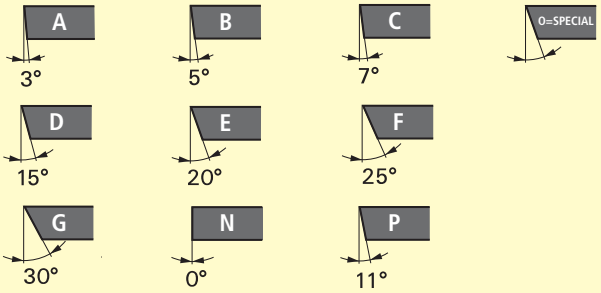
K = 125 mm
L = 140 mm
M = 150 mm
N = 160 mm
P = 170 mm
Q = 180 mm
R = 200 mm
S = 250 mm
T = 300 mm
U = 350 mm
V = 400 mm



Forma de taiere a placutelor amovibile

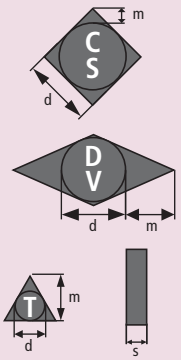


Unghi liber placute amovibile

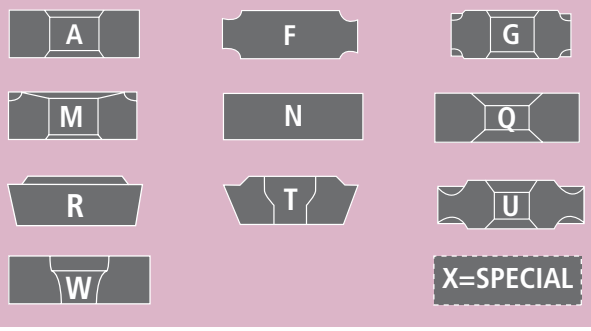


Tolerante

Tol.-Clasa	Toleranta ± mm m	s	d
A	0,005	0,025	0,025
E	0,025	0,025	0,025
F	0,005	0,025	0,013
G	0,025	0,13	0,025
H	0,013	0,025	0,013
J	0,005	0,025	0,05–0,15
K	0,013	0,025	0,05–0,15
M	0,08–0,20	0,13	0,05–0,15
U	0,13–0,38	0,13	0,08–0,25



Model placute amovibile

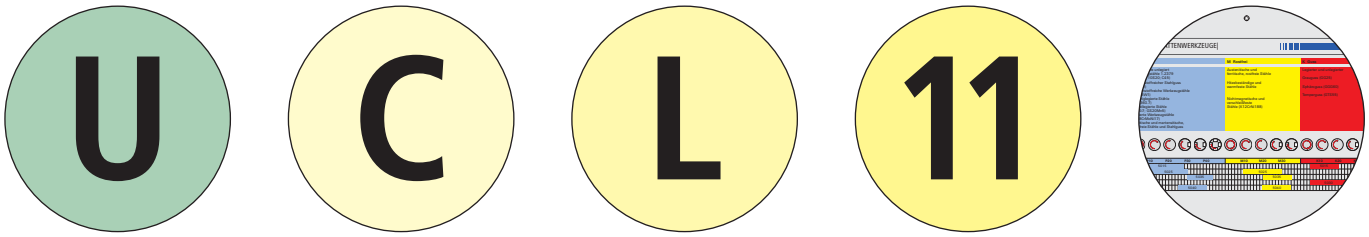


Denumire ISO – placute amovibile

D	C	G	T	11
Forma de taiere a placu-telor amovibile	Unghi liber a placutelor amovibile	Toleranta	Model placute amovibile	Lungime cant de taiere

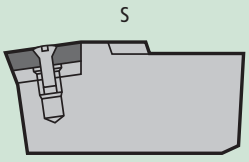
Codurile marcate cu • nu se regasesc in stoc, livrare rapida

Denumire ISO-suport fixare interior

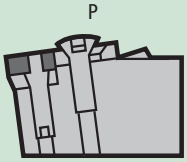


Model piesa | Unghi liber a placutelor amovibile | Directia de taiere | Lungime cant de taiere | Denumire interna

Sistem de fixare

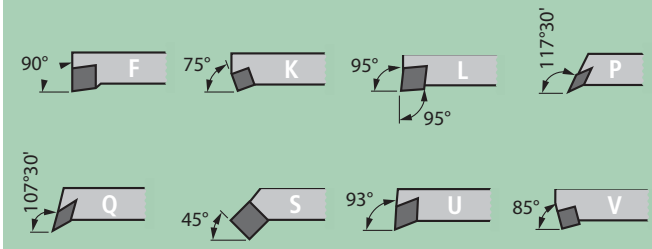


Surub

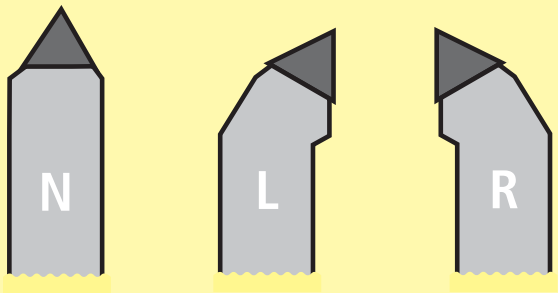


Parghie pin/ ghiara sau cu articulatie

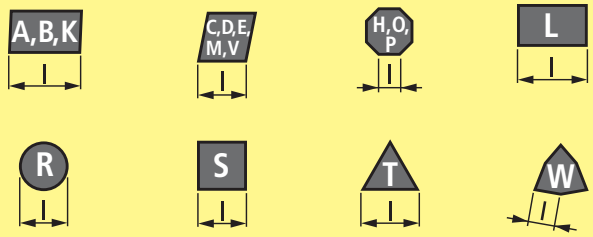
Model piesa



Directia de taiere

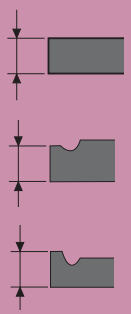


Lungime cant de taiere



l = lungime cant de taiere in mm

Grosime placuta



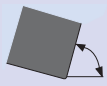
01 = 1,59 mm
T1 = 1,98 mm
02 = 2,38 mm
03 = 3,18 mm

T3 = 3,97 mm
04 = 4,76 mm
05 = 5,56 mm
06 = 6,35 mm

07 = 7,94 mm
08 = 8,00 mm
09 = 9,52 mm

Placute amovibile cu tais plan/ raza colturi

1. Litera



A = 45°
D = 60°
E = 75°
F = 85°
P = 90°

Z = special

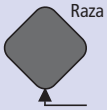
2. Litera

A = 3°
B = 5°
C = 7°
D = 15°
E = 20°

F = 25°
G = 30°
N = 0°
P = 11°

Z = special

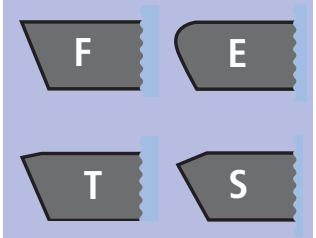
Raza colturi mm



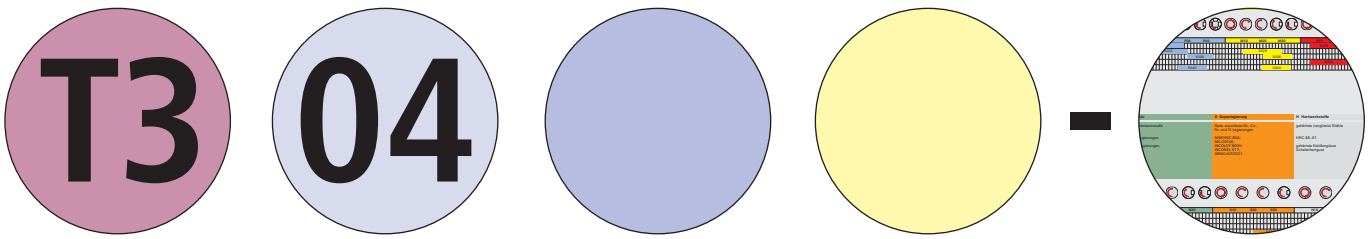
M0* = cant de taiere rotund
00 = colturi ascutite
01 = 0,1
02 = 0,2
04 = 0,4
08 = 0,8
12 = 1,2 etc.

* milimetru-executie

Executie canturi de taiere

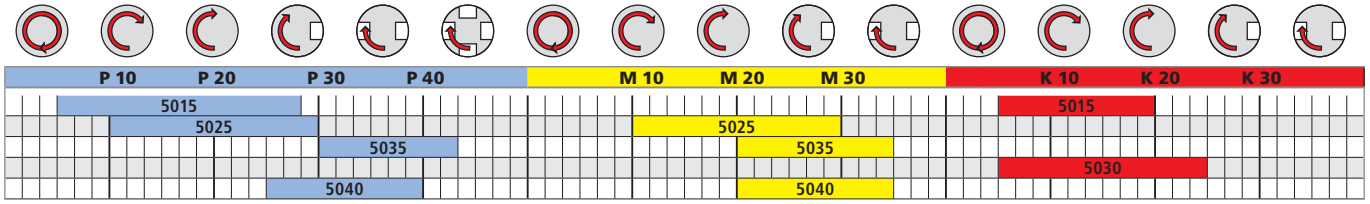


Denumire ISO – placute amovibile

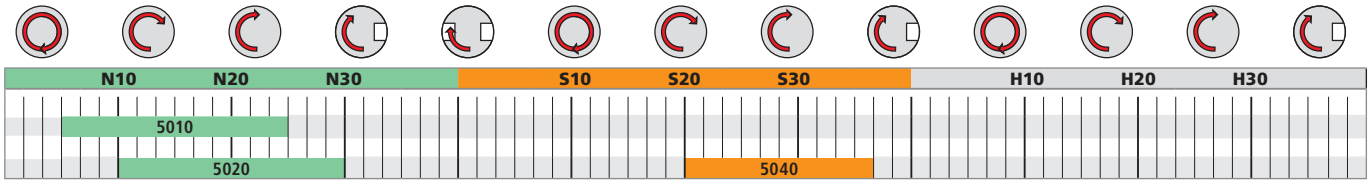


Grosime | Placute amovibile cu tais plan/ raza colturi | Executie cant de taiere (Date optionale) | Directia de taiere (Date optionale) | Denumire interna

P Otel	M Inoxidabil	K Fonta
Oteluri de scule nealiate carbon 1.2379 (St37.1; 10S20; C45) otel turnat cu continut mare de carbon (GS 52) otel de scule cu continut mare de carbon (C105W1) otel aliaj scazut (StE360.7) otel aliaj mediu (60Si7; GS20Mn5) otel aliat de scule (X38CrMoNi17) otel turnat si oteluri inoxidabile, feritice si martensitice	Oteluri inoxidabile austenitice si feritice Oteluri rezistente la temperaturi ridicate Oteluri nemagnetice si rezistente la uzura (X12CrNi188)	Fonta gri aliata si nealiata (GG25) fonta ductila (GGG60) fonta temperata (GTS55)



N Aluminiu	S Superaliaje	H Materiale dure
Metale neferoase aliale aluminiu aliaje Cu	Aliaje specifice rezistente la temperaturi ridicate Ni, Co, Fe si Ti NIMONIC 80A; NiCr20TiAl; INCOLOY 800H; INCONEL 617; X8NiCrAlTi3221	Oteluri tratate HRC 48–61 calite si tratate fonta racita



Rezistenta la uzura

			P	M	K	N	S	H
01		Rectificare si finisare , la viteza mare de taiere, raport excelent span, fara oscilatii.						
10		Strunjire si copiere la viteza mare de taiere, raport bun span la sectiuni span mici si medii.						
20		Strunjire si copiere la viteza medie de taiere, pentru raport mediu pana la usor nefavorabil de span.						
30		Strunjire si planificare la viteza medie de taiere si raport nefavorabil span(intreruperi de taiere).						
40		Strunjire si canelare la viteza de taiere mica pana la medie si conditii de lucru foarte nefavorabile (intrerupere span).						
50		Strunjire si canelare la viteza foarte mica de taiere, conditii de prelucrare extrem de nefavoranile (intreruperi puternice de taiere).						

Rezistenta

Sortiment cu carbura, stratificat

5015 (P15–15) Sortiment pentru viteza foarte mare de taiere la operatiuni de strunjire usoare pana la medii. Rezistenta extrem de mare la uzura datorita stratului K. Utilizare alternativa posibila si la fonta.

5025 (P25–25) Sortiment pentru strunjirea de materiale din otel si oteluri cu span usor, inoxidabile, chiar si la taiere intrerupta. Acest sortiment pentru diverse domenii se caracterizeaza prin rezistenta mare la uzura si proprietati de rezistenta excelente cu un spectru mare de utilizari.

5035 (P35–35) Sortiment care permite prin interactiunea unui metal extrem de rezistent si a unui strat CVD performanta maxima la taieri puternic intrerupte. Recomandat pentru strunjirea de otel si otel turnat cat si la oteluri inoxidabile, la viteze de taiere medii si joase.

5040 (P35–35) Sortiment principal pentru strunjire de oteluri austenitice si inoxidabile la viteze de taiere medii si mari. Utilizare diversificata pentru superaliaje.

5010 (M10–10) Sortiment ideal pentru prelucrarea de materiale din aluminiu si metale neferoase. Recomandat datorita stratului de CVD-TiAlN de asemenea pentru rectificare de oteluri inoxidabile si fonta gri.

5030 (K15) Sortiment de fonta pentru strunjire in domeniul K5. Optim pentru prelucrarea de materiale GG si GGG. Viteze de taiere de pana la 400 m/min posibile la materiale GG.

Sortiment cu carbura, nestratificat

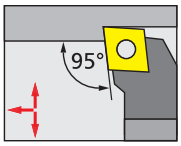
5020 (K10) Sortiment cu carbura clasic pentru materiale cu span scurt, sortimente standard pentru gaurire.

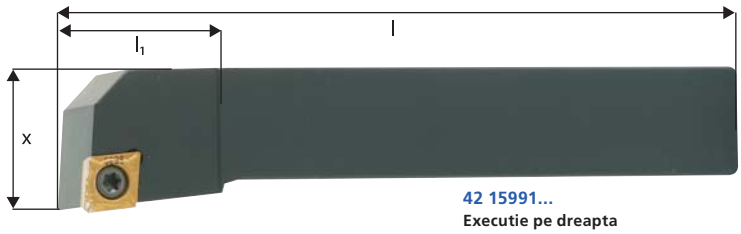
Codurile marcate cu • nu se regasesc in stoc, livrare rapida

Cutit de strunjire ISO 95° SCLCR/L

- Pentru placute amovibile 7° pozitiv
- Cu sistem de insurubare
- Pentru strunjire longitudinala si plana

Livrare: Fara placute amovibile, fara surubelnita.





42 15991...
Executie pe dreapta

Descriere	Cod comanda 42 15991...	Coada ■ mm	Dimensiuni l mm	Dimensiuni l_1 mm	Dimensiuni x mm	Executie	Placuta amovibila
SCLCR 1616 H09	...100	16 x 16	100	29	20	Dreapta	CCMT/CCGT 09T3
SCLCL 1616 H09	...105	16 x 16	100	29	20	Stanga	CCMT/CCGT 09T3
SCLCR 2020 K09	...110	20 x 20	125	29	25	Dreapta	CCMT/CCGT 09T3
SCLCL 2020 H09	...115	20 x 20	125	29	25	Stanga	CCMT/CCGT 09T3

Accesorii pentru cutit de strunjire, ISO 95° SCLCR/L

Executie	Cod comanda 42 15991...
Portplacuta	...013*
Surub portplacuta 6 canturi	...040*
Surub pentru parghie	...028*

* Ambalare 10 bucati.

Accesorii optionale

Imbus gasiti
la pagina 6/118

42 15991 013

42 15991 040

42 15991 028

Placuta amovibila ISO

F

M

i Pagina 2/134

Descriere	Cod comanda 42 15992...	Viteza de taiere Avans Adancime de taiere	P Otel	M Inox	K Fonta	N Alu	S Aliaj special	Raza colt
CCMT 09T304 F PMK 5025	...058*	Vc mm/min. f mm/U. ap/mm	140–210 0,15–0,25 0,5–3	80–125 0,15–0,19 0,5–2,3	130–195 0,15–0,25 0,5–3	– – –	– – –	0,4
CCMT 09T304 M PMK 5025	...064*	Vc mm/min. f mm/U. ap/mm	135–210 0,15–0,3 1–4	80–125 0,15–0,23 1–3	125–195 0,15–0,3 1–4	– – –	– – –	0,4
CCMT 09T304 M U 5035	...067*	Vc mm/min. f mm/U. ap/mm	95–160 0,1–0,3 1–4	55–95 0,1–0,23 1–3	90–150 0,1–0,3 1–4	140–560 0,1–0,3 1–4	– – –	0,4
CCMT 09T308 F PMK 5025	...070*	Vc mm/min. f mm/U. ap/mm	165–240 0,15–0,25 0,8–3	95–140 0,15–0,19 0,8–2,3	155–225 0,15–0,25 0,8–3	– – –	– – –	0,8
CCMT 09T308 M PMK 5025	...076*	Vc mm/min. f mm/U. ap/mm	140–250 0,15–0,4 1–4	80–150 0,15–0,3 1–3	130–235 0,15–0,4 1–4	– – –	– – –	0,8
CCMT 09T308 M U 5035	...079*	Vc mm/min. f mm/U. ap/mm	100–190 0,1–0,4 1–4	60–110 0,1–0,3 1–3	95–180 0,1–0,4 1–4	150–665 0,1–0,4 1–4	– – –	0,8

* Ambalare 10 bucati.

Placuta amovibila ISO

CCMT PTT20
CCMT PTT35

CCMT MTM10

CCGT KTE20
42 15986...

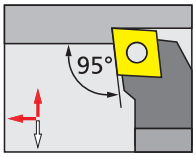
Descriere	Cod comanda 42 15986...	P Otel	M Inox	K Fonta	N Alu	Raza colt	Sinterizat de precizie	Rectificat
CCMT 060204 WM MTM10	...510*	•	–	•	–	0,4	•	–
CCMT 060204 WM PTT20	...515*	•	•	–	–	0,4	•	–
CCMT 060204 WM PTT35	...520*	•	•	•	–	0,4	•	–
CCGT 060204 Alu KTE20	...525*	–	–	•	•	0,4	–	•
CCMT 060208 WM MTM10	...530*	•	–	•	–	0,8	•	–
CCMT 060208 WM PTT20	...535*	•	•	–	–	0,8	•	–
CCMT 060208 WM PTT35	...540*	•	•	•	–	0,8	•	–
CCMT 09T304 WM MTM10	...550*	•	–	•	–	0,4	•	–
CCMT 09T304 WM PTT20	...555*	•	•	–	–	0,4	•	–
CCMT 09T304 WM PTT35	...560*	•	•	•	–	0,4	•	–
CCGT 09T304 Alu KTE20	...565*	–	–	•	•	0,4	–	•

* Ambalare 10 bucati.

Cutit de strunjire, ISO 95° PCLNR/L

- Pentru placute amovibile 0° negativ
- Parghie cu articulatie
- Pentru strunjire longitudinala si plana

Livrare: Fara placute amovibile, fara surubelnita.



42 15991...
Executie pe dreapta

Descriere	Cod comanda 42 15991...	Coada ■ mm	Dimensiuni l mm	Dimensiuni l_1 mm	Dimensiuni x mm	Executie	Placuta amovibila
PCLNR 2020 K12	...130	20 x 20	125	28	25	Dreapta	CNMG 1204...
PCLNL 2020 K12	...135	20 x 20	125	28	25	Stanga	CNMG 1204...
PCLNR 2525 M12	...140	25 x 25	150	33	32	Dreapta	CNMG 1204...
PCLNL 2525 M12	...145	25 x 25	150	33	32	Stanga	CNMG 1204...

Accesorii pentru cutit de strung, ISO 95° PCLNR/L

Executie	Cod comanda 42 15991...
Parghie cu articulatie	...001*
Arc	...010*
Portplacuta	...016*
Surub pentru parghie	...031*

* Ambalare 10 bucati.

42 15991 001

42 15991 016

42 15991 010

42 15991 031

Placuta amovibila ISO

i Pagina 2/134

F

M

R

R-EC

WM
42 15993...

Descriere	Cod comanda 42 15993...	Viteza de taiere Avans Adancime de taiere	P Otel	M Inox	K Fonta	N Alu	S Aliaj special	Raza colt
CNMG 120404 F PK 5015	...001*	VC mm/min. f mm/U. ap/mm	215–300 0,15–0,3 0,5–3	– – –	200–285 0,15–0,3 0,5–3	– – –	– – –	0,4
CNMG 120404 F PMK 5025	...004*	VC mm/min. f mm/U. ap/mm	160–260 0,15–0,3 0,5–3	95–155 0,15–0,23 0,5–2,3	150–245 0,15–0,3 0,5–3	– – –	30–75 0,15–0,18 0,5–1,8	0,4
CNMG 120404R–EC PMK 5025	...049*	VC mm/min. f mm/U. ap/mm	195–280 0,2–0,3 0,8–5	115–165 0,2–0,23 0,8–3,8	185–265 0,2–0,3 0,8–5	– – –	35–80 0,2–0,23 0,8–3	0,4
CNMG 120404R–EC U 5035	...052*	VC mm/min. f mm/U. ap/mm	135–185 0,2–0,3 0,8–5	80–110 0,2–0,23 0,8–3,8	125–175 0,2–0,3 0,8–5	200–645 0,2–0,3 0,8–5	25–55 0,2–0,23 0,8–3	0,4
CNMG 120404L–EC PMK 5025	...037*	VC mm/min. f mm/U. ap/mm	195–280 0,2–0,3 0,8–5	115–165 0,2–0,23 0,8–3,8	185–265 0,2–0,3 0,8–5	– – –	35–80 0,2–0,23 0,8–3	0,4
CNMG 120404L–EC U 5035	...040*	VC mm/min. f mm/U. ap/mm	135–185 0,2–0,3 0,8–5	80–110 0,2–0,23 0,8–3,8	125–175 0,2–0,3 0,8–5	200–645 0,2–0,3 0,8–5	25–55 0,2–0,23 0,8–3	0,4
CNMG 120408 F PK 5015	...007*	VC mm/min. f mm/U. ap/mm	250–340 0,15–0,35 0,8–3	– – –	235–320 0,15–0,35 0,8–3	– – –	– – –	0,8
CNMG 120408 F PMK 5025	...010*	VC mm/min. f mm/U. ap/mm	180–295 0,15–0,35 0,8–3	105–175 0,15–0,26 0,8–2,3	170–280 0,15–0,35 0,8–3	– – –	35–85 0,15–0,21 0,8–1,8	0,8
CNMG 120408 M PK 5015	...013*	VC mm/min. f mm/U. ap/mm	205–330 0,15–0,6 1–6	– –, –	190–310 0,15–0,6 1–6	– – –	– – –	0,8

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Codurile marcate cu • nu se regasesc in stoc, livrare rapida

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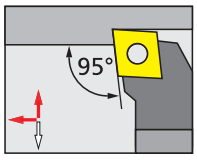
Descriere	Cod comanda 42 15993...	Viteza de taiere / Avans / Adancime de taiere	P Otel	M Inox	K Fonta	N Alu	S Aliaj special	Raza colt
CNMG 120408 M PMK 5025	...019*	VC mm/min. f mm/U. ap/mm	130–295 0,15–0,6 0,8–6	75–175 0,15–0,45 0,8–4,5	120–280 0,15–0,6 0,8–6	– – –	– – –	0,8
CNMG 120408 R PMK 5025	...022*	VC mm/min. f mm/U. ap/mm	145–240 0,25–0,6 2–6	85–140 0,25–0,45 2–4,5	135–225 0,25–0,6 2–6	– – –	– – –	0,8
CNMG 120408 M PMK 5040	...025*	VC mm/min. f mm/U. ap/mm	110–255 0,15–0,6 0,8–6	65–150 0,15–0,45 0,8–4,5	100–240 0,15–0,6 0,8–6	– – –	– – –	0,8
CNMG 120408 R PK 5015	...016*	VC mm/min. f mm/U. ap/mm	225–305 0,25–0,6 2–6	– – –	210–285 0,25–0,6 2–6	– – –	– – –	0,8
CNMG 120408 R PMK 5040	...028*	VC mm/min. f mm/U. ap/mm	125–200 0,25–0,6 2–6	75–120 0,25–0,45 2–4,5	115–190 0,25–0,6 2–6	– – –	– – –	0,8
CNMG 120408R–EC PMK 5025	...055*	VC mm/min. f mm/U. ap/mm	180–330 0,2–0,5 0,8–5	105–195 0,2–0,38 0,8–3,8	170–310 0,2–0,5 0,8–5	– – –	35–95 0,2–0,3 0,8–3	0,8
CNMG 120408R–EC U 5035	...058*	VC mm/min. f mm/U. ap/mm	135–215 0,2–0,5 0,8–5	80–125 0,2–0,38 0,8–3,8	125–200 0,2–0,5 0,8–5	200–750 0,2–0,5 0,8–5	25–60 0,2–0,3 0,8–3	0,8
CNMG 120408L–EC PMK 5025	...043*	VC mm/min. f mm/U. ap/mm	180–330 0,2–0,5 0,8–5	105–195 0,2–0,38 0,8–3,8	170–310 0,2–0,5 0,8–5	– – –	35–95 0,2–0,3 0,8–3	0,8
CNMG 120408L–EC U 5035	...046*	VC mm/min. f mm/U. ap/mm	135–215 0,2–0,5 0,8–5	80–125 0,2–0,38 0,8–0,38	125–200 0,2–0,5 0,8–5	200–750 0,2–0,5 0,8–5	25–60 0,2–0,3 0,8–3	0,8
CNMG 120408 WM PMK 5025	...061*	VC mm/min. f mm/U. ap/mm	135–295 0,15–0,6 0,8–4	– – –	125–280 0,15–0,6 0,8–4	– – –	– – –	0,8
CNMG 120412 M PMK 5025	...031*	VC mm/min. f mm/U. ap/mm	125–285 0,17–0,8 1,2–6	75–170 0,17–0,6 1,2–4,5	115–270 0,17–0,8 1,2–6	– – –	– – –	1,2
CNMG 120412 R PK 5015	...064*	VC mm/min. f mm/U. ap/mm	230–320 0,25–0,7 2–6	– – –	215–300 0,25–0,7 2–6	– – –	– – –	1,2
CNMG 120412 R PMK 5025	...034*	VC mm/min. f mm/U. ap/mm	140–250 0,25–0,7 2–6	80–150 0,25–0,53 2–4,5	130–235 0,25–0,7 2–6	– – –	– – –	1,2

* Ambalare 10 bucati.

Cutit de strunjire ISO 95° PWLNR/L

- Pentru placute amovibile 0° negativ
- Parghie cu articulatie
- Pentru strunjire longitudinala si plana

Livrare: Fara placute amovibile, fara surub-belnita.



42 15991...
Executie pe dreapta

Descriere	Cod comanda 42 15991...	Coada ■ mm	Dimensiuni l mm	Dimensiuni l_1 mm	Dimensiuni x mm	Executie	Placuta amovibila
PWLNR 2020 K08	...160	20 x 20	125	28	25	Dreapta	WNMG 0804...
PWLNL 2020 K08	...165	20 x 20	125	28	25	Stanga	WNMG 0804...
PWLNR 2525 M08	...170	25 x 25	150	33	32	Dreapta	WNMG 0804...
PWLNL 2525 M08	...175	25 x 25	150	33	32	Stanga	WNMG 0804...

Accesorii pentru cutit de strunjire, ISO 95° PWLNR/L

Executie	Cod comanda 42 15991...
Parghie cu articulatie	...001*
Arc	...010*
Portplacuta	...025*
Surub pentru parghie	...031*

* Ambalare 10 bucati.

Accesoriu optional

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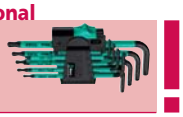

42 15991 001

42 15991 025

42 15991 010

42 15991 031

Placuta amovibila ISO

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M

R

R-EC

WM
42 15993...

Descriere	Cod comanda 42 15993...	Viteza de taiere Avans Adancime de taiere	P Otel	M Inox	K Fonta	N Alu	S Aliaj special	Raza colt
WNMG 080404 F PK 5015	...401*	VC mm/min. f mm/U. ap/mm	215–300 0,15–0,3 0,5–3	– – –	200–285 0,15–0,3 0,5–3	– – –	– – –	0,4
WNMG 080404 F PMK 5030	...404*	VC mm/min. f mm/U. ap/mm	160–260 0,15–0,3 0,5–3	95–165 0,15–0,23 0,5–2,3	150–245 0,15–0,3 0,5–3	– – –	30–75 0,15–0,18 0,5–1,8	0,4
WNMG 080408 F PK 5015	...413*	VC mm/min. f mm/U. ap/mm	250–340 0,15–0,35 0,8–3	– – –	235–320 0,15–0,35 0,8–3	– – –	– – –	0,8
WNMG 080408 F PMK 5025	...416*	VC mm/min. f mm/U. ap/mm	180–295 0,15–0,35 0,8–3	105–175 0,15–0,26 0,8–2,3	170–280 0,15–0,35 0,8–3	– – –	35–85 0,15–0,21 0,8–1,8	0,8
WNMG 080408 M PK 5015	...419*	VC mm/min. f mm/U. ap/mm	205–340 0,15–0,6 0,8–5,6	– – –	190–320 0,15–0,6 0,8–5,6	– – –	– – –	0,8
WNMG 080408 M PMK 5025	...422*	VC mm/min. f mm/U. ap/mm	130–295 0,15–0,6 0,8–5,6	75–175 0,15–0,45 0,8–4,2	120–280 0,15–0,6 0,8–5,6	– – –	– – –	0,8
WNMG 080408 R PK 5015	...425*	VC mm/min. f mm/U. ap/mm	225–305 0,25–0,6 2–5,6	– – –	210–285 0,25–0,6 2–5,6	– – –	– – –	0,8
WNMG 080408 R PMK 5025	...428*	VC mm/min. f mm/U. ap/mm	145–240 0,25–0,6 2–5,6	85–140 0,25–0,45 2–4,2	135–225 0,25–0,6 2–5,6	– – –	– – –	0,8
WNMG 080408 R–EC U 5025	...431*	VC mm/min. f mm/U. ap/mm	135–215 0,2–0,5 0,8–5	80–125 0,2–0,38 0,8–3,8	125–200 0,2–0,5 0,8–5	200–750 0,2–0,5 0,8–5	25–60 0,2–0,3 0,8–3	0,8
WNMG 080408 L–EC U 5025	...434*	VC mm/min. f mm/U. ap/mm	135–215 0,2–0,5 0,8–5	80–125 0,2–0,38 0,8–3,8	125–200 0,2–0,5 0,8–5	200–750 0,2–0,5 0,8–5	25–60 0,2–0,3 0,8–3	0,8
WNMG 080408 WM PK 5015	...443*	VC mm/min. f mm/U. ap/mm	215–340 0,15–0,6 0,8–4	– – –	200–320 0,15–0,6 0,8–4	– – –	– – –	0,8
WNMG 080408 WM PMK 5025	...446*	VC mm/min. f mm/U. ap/mm	135–295 0,15–0,6 0,8–4	– – –	125–280 0,15–0,6 0,8–4	– – –	– – –	0,8
WNMG 080412 M PK 5015	...449*	VC mm/min. f mm/U. ap/mm	205–335 0,17–0,8 1,2–5,6	– – –	190–315 0,17–0,8 1,2–5,6	– – –	– – –	1,2
WNMG 080412 M PMK 5025	...452*	VC mm/min. f mm/U. ap/mm	125–285 0,17–0,8 1,2–5,6	75–170 0,17–0,6 1,2–4,2	115–270 0,17–0,8 1,2–5,6	– – –	– – –	1,2
WNMG 080412 R PK 5015	...455*	VC mm/min. f mm/U. ap/mm	235–320 0,25–0,7 2–5,6	– – –	220–300 0,25–0,7 2–5,6	– – –	– – –	1,2
WNMG 080412 R PMK 5025	...458*	VC mm/min. f mm/U. ap/mm	140–250 0,25–0,7 2–5,6	80–150 0,25–0,53 2–4,2	130–235 0,25–0,7 2–5,6	– – –	– – –	1,2
WNMG 080412 WM PK 5015	...461*	VC mm/min. f mm/U. ap/mm	210–325 0,2–0,9 1,2–4	– – –	195–305 0,2–0,9 1,2–4	– – –	– – –	1,2
WNMG 080412 WM PMK 5025	...464*	VC mm/min. f mm/U. ap/mm	125–265 0,2–0,9 1,2–4	– – –	115–250 0,2–0,9 1,2–4	– – –	– – –	1,2

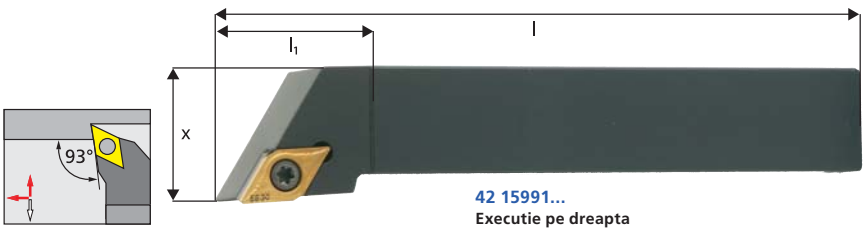
* Ambalare 10 bucati.

Codurile marcate cu • nu se regasesc in stoc, livrare rapida

Cutit de strunjire, ISO 93° SDJCR/L

- Pentru placute amovibile 7° pozitiv
- Cu sistem de insurubare
- Pentru strunjire longitudinala si copiere

Livrare: Fara placute amovibile, fara surubelnita.



42 15991...
Executie pe dreapta

Descriere	Cod comanda 42 15991...	Coada ■ mm	Dimensiuni l mm	Dimensiuni l_1 mm	Dimensiuni x mm	Executie	Placuta amovibila
SDJCR 1616 H11	...190	16 x 16	100	29	20	Dreapta	DCMT/DCGT 11T3...
SDJCL 1616 H11	...195	16 x 16	100	29	20	Stanga	DCMT/DCGT 11T3...
SDJCR 2020 K11	...200	20 x 20	125	29	25	Dreapta	DCMT/DCGT 11T3...
SDJCL 2020 K11	...205	20 x 20	125	29	25	Stanga	DCMT/DCGT 11T3...
SDJCR 2525 M11	...210	25 x 25	150	33	32	Dreapta	DCMT/DCGT 11T3...
SDJCL 2525 M11	...215	25 x 25	150	33	32	Stanga	DCMT/DCGT 11T3...

Accesorii pentru cutit de strunjire, ISO 93° SDJCR/L

Executie	Cod comanda 42 15991...
Portplacuta	...019*
Surub pentru parghie	...028*
Surub 6 canturi	...040*

* Ambalare 10 bucati.

Accesorii optionale
Imbus TORX®, cap sferic
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42 15991 019

42 15991 028

42 15991 040

Placuta amovibila ISO

F

M

AL-N
42 15992...

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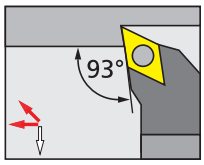
Descriere	Cod comanda 42 15992...	Viteza de taiere / Avans / Adancime de taiere	P Otel	M Inox	K Fonta	N Alu	S Aliaj special	Raza colt
DCGT 11T302 AL KNH 5010	...213*	VC mm/min.	–	–	–	170–680	–	0,2
		f mm/U.	–	–	–	0,06–0,12	–	
		ap/mm	–	–	–	0,3–3,3	–	
DCGT 11T302 AL N 5020	...216*	VC mm/min.	–	–	–	140–575	–	0,2
		f mm/U.	–	–	–	0,06–0,12	–	
		ap/mm	–	–	–	0,3–3,3	–	
DCGT 11T304 AL KNH 5010	...219*	VC mm/min.	–	–	–	140–595	–	0,4
		f mm/U.	–	–	–	0,1–0,24	–	
		ap/mm	–	–	–	0,4–3,3	–	
DCGT 11T304 AL N 5020	...222*	VC mm/min.	–	–	–	120–490	–	0,4
		f mm/U.	–	–	–	0,1–0,24	–	
		ap/mm	–	–	–	0,4–3,3	–	
DCMT 11T304 F PMK 5025	...243*	VC mm/min.	115–170	65–100	105–160	–	–	0,4
		f mm/U.	0,15–0,24	0,15–0,18	0,15–0,24	–	–	
		ap/mm	0,5–3	0,5–2,3	0,5–3	–	–	
DCMT 11T304 M PMK 5025	...246*	VC mm/min.	125–185	75–110	115–175	–	–	0,4
		f mm/U.	0,15–0,24	0,15–0,18	0,15–0,24	–	–	
		ap/mm	0,4–2	0,4–1,5	0,4–2	–	–	
DCMT 11T304 M U 5035	...249*	VC mm/min.	85–150	50–90	80–140	125–525	–	0,4
		f mm/U.	0,08–0,24	0,08–0,18	0,08–0,24	0,08–0,24	–	
		ap/mm	0,4–2	0,4–1,5	0,4–2	0,4–2	–	
DCMT 11T308 F PMK 5025	...252*	VC mm/min.	135–190	80–110	125–180	–	–	0,8
		f mm/U.	0,15–0,25	0,15–0,19	0,15–0,25	–	–	
		ap/mm	0,8–3	0,8–2,3	0,8–3	–	–	
DCMT 11T308 M PMK 5025	...255*	VC mm/min.	110–200	65–120	100–190	–	–	0,8
		f mm/U.	0,15–0,48	0,15–0,36	0,15–0,48	–	–	
		ap/mm	0,8–2	0,8–1,5	0,8–2	–	–	
DCMT 11T308 M U 5035	...258*	VC mm/min.	80–165	45–95	75–155	120–575	–	0,8
		f mm/U.	0,08–0,48	0,08–0,6	0,08–0,48	0,08–0,48	–	
		ap/mm	0,8–2	0,8–1,5	0,8–2	0,8–2	–	

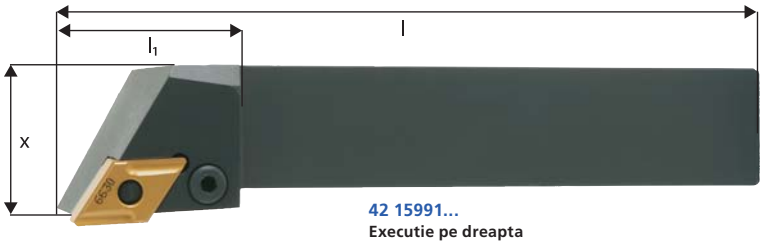
* Ambalare 10 bucati.

Cutit de strunjire, ISO 93° PDJNR/L

- Pentru placute amovibile 0° negativ
- Parghie cu articulatie.
- Pentru strunjire longitudinala si copiere

Livrare: Fara placute amovibile, fara surubelnita.





42 15991...
Executie pe dreapta

Descriere	Cod comanda 42 15991...	Coada ■ mm	Dimensiuni l mm	Dimensiuni l_1 mm	Dimensiuni x mm	Executie	Placuta amovibila
PDJNR 2020 K15	...230	20 x 20	125	35	25	Dreapta	DNMG 1506...
PDJNL 2020 K15	...235	20 x 20	125	35	25	Stanga	DNMG 1506...
PDJNR 2525 M15	...240	25 x 25	150	39	32	Dreapta	DNMG 1506...
PDJNL 2525 M15	...245	25 x 25	150	39	32	Stanga	DNMG 1506...

Accesorii pentru cutit de strunjire, ISO 93° PDJNR/L

Executie	Cod comanda 42 15991...
Parghie cu articulatie	...004*
Arc	...010*
Portplacuta	...022*
Surub pentru parghie	...034*

* Ambalare 10 bucati.

Accesoriu optional
Bit pentru suruburi TORX®
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42 15991 004

42 15991 022

42 15991 010

42 15991 034

Placuta amovibila ISO

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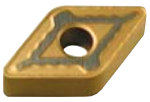
F

M


R

R-EC
42 15993...

Descriere	Cod comanda 42 15993...	Viteza de taiere Avans Adancime de taiere	P Otel	M Inox	K Fonta	N Alu	S Aliaj special	Raza colt
DNMG 150604 F PK 5015	...201*	VC mm/min. f mm/U. ap/mm	180–240 0,15–0,24 0,5–3	– – –	170–225 0,15–0,24 0,5–3	– – –	– – –	0,4
DNMG 150604 F PMK 5015	...204*	VC mm/min. f mm/U. ap/mm	140–210 0,15–0,24 0,5–3	80–125 0,15–0,18 0,5–2,3	130–195 0,15–0,24 0,5–3	– – –	25–60 0,15–0,18 0,5–1,8	0,4
DNMG 150604 R–EC PMK 5025	...207*	VC mm/min. f mm/U. ap/mm	170–220 0,2–0,24 0,8–4,5	100–230 0,2–0,24 0,8–3,4	160–205 0,2–0,24 0,8–4,5	– – –	30–65 0,2–0,24 0,8–2,7	0,4
DNMG 150604 R–EC U 5035	...210*	VC mm/min. f mm/U. ap/mm	120–145 0,2–0,24 0,8–4,5	70–85 0,2–0,24 0,8–3,4	110–135 0,2–0,24 0,8–4,5	180–505 0,2–0,24 0,8–4,5	20–40 0,2–0,24 0,8–2,7	0,4
DNMG 150604 L–EC PMK 5025	...213*	VC mm/min. f mm/U. ap/mm	200–270 0,15–0,35 0,8–3	– – –	190–255 0,15–0,35 0,8–3	– – –	– – –	0,4
DNMG 150604 L–EC U 5035	...216*	VC mm/min. f mm/U. ap/mm	120–145 0,20–0,24 0,8–4,5	70–85 0,2–0,24 0,8–3,4	110–135 0,2–0,24 0,8–4,5	180–505 0,2–0,24 0,8–4,5	20–40 0,2–0,24 0,8–2,7	0,4
DNMG 150608 F PK 5015	...219*	VC mm/min. f mm/U. ap/mm	200–270 0,15–0,35 0,8–3	– – –	190–255 0,15–0,35 0,8–3	– – –	– – –	0,8

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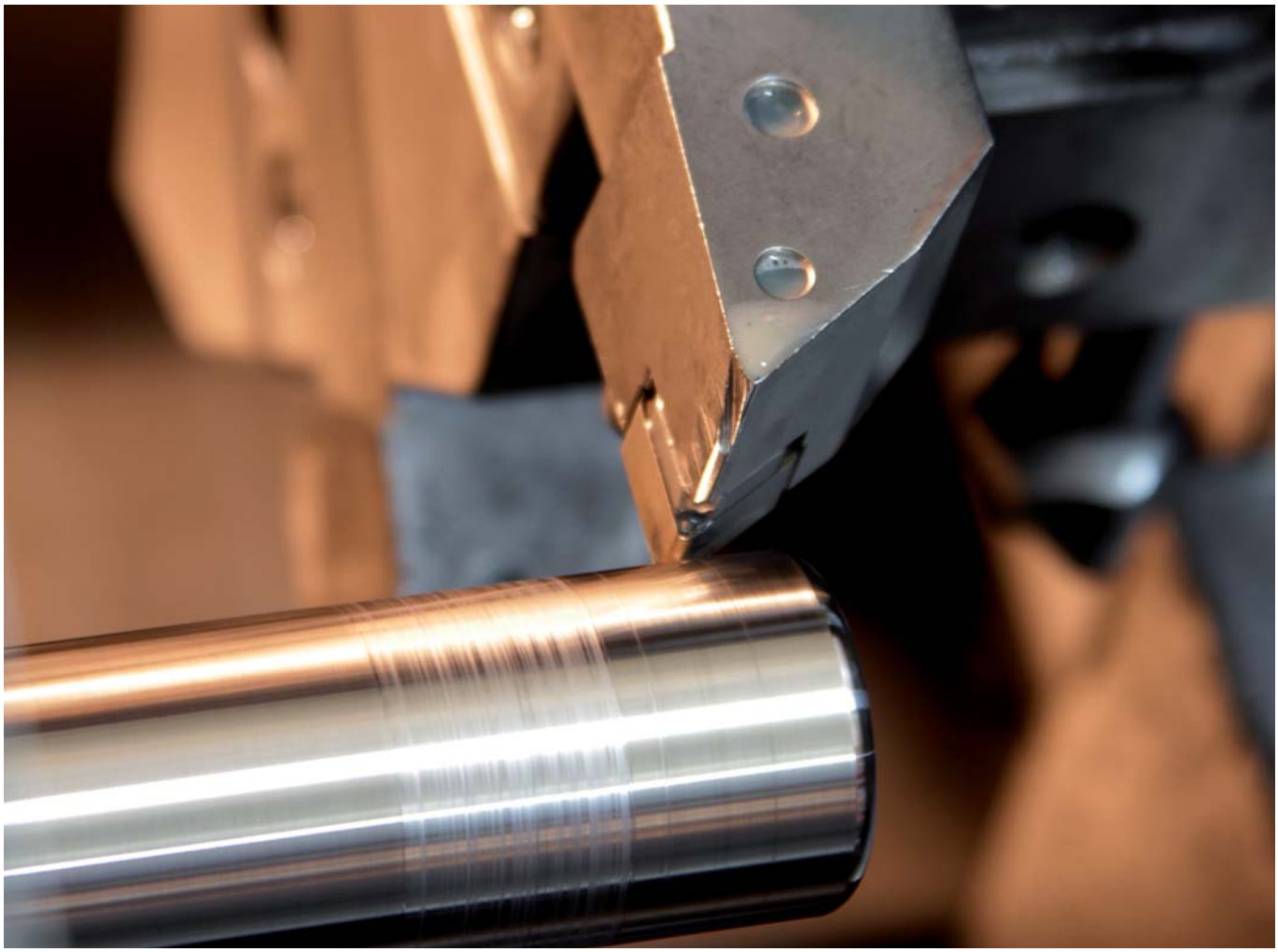
Codurile marcate cu • nu se regasesc in stoc, livrare rapida

Continuarea de la pagina 2/146

Descriere	Cod comanda 42 15993...		Viteza de taiere Avans Adancime de taiere	P Otel	M Inox	K Fonta	N Alu	S Aliaj special	Raza colt
DNMG 150608 F PMK 5025	...222*		VC mm/min. f mm/U. ap/mm	140–235 0,15–0,35 0,8–3	80–140 0,15–0,26 0,8–2,3	130–220 0,15–0,35 0,8–3	– – –	25–70 0,15–0,21 0,8–1,8	0,8
DNMG 150608 M PK 5015	...225*		VC mm/min. f mm/U. ap/mm	175–270 0,15–0,48 0,8–4,5	– – –	165–255 0,15–0,48 0,8–4,5	– – –	– – –	0,8
DNMG 150608 M PMK 5025	...228*		VC mm/min. f mm/U. ap/mm	120–235 0,15–0,48 0,8–4,5	70–140 0,15–0,36 0,8–3,4	110–220 0,15–0,48 0,8–4,5	– – –	– – –	0,8
DNMG 150608 R PK 5015	...231*		VC mm/min. f mm/U. ap/mm	195–245 0,25–0,48 2–4,5	– – –	185–230 0,25–0,48 2–4,5	– – –	– – –	0,8
DNMG 150608 R PMK 5030	...234*		VC mm/min. f mm/U. ap/mm	130–190 0,25–0,48 2–4,5	75–110 0,25–0,36 2–3,4	120–180 0,25–0,48 2–4,5	– – –	– – –	0,8
DNMG 150608 R–EC PMK 5025	...237*		VC mm/min. f mm/U. ap/mm	150–265 0,2–0,48 0,8–4,5	90–155 0,2–0,36 0,8–3,4	140–250 0,2–0,48 0,8–4,5	– – –	30–75 0,2–0,29 0,8–2,7	0,8
DNMG 150608 R–EC U 5035	...240*		VC mm/min. f mm/U. ap/mm	105–175 0,2–0,48 0,8–4,5	60–105 0,2–0,36 0,8–3,4	95–165 0,2–0,48 0,8–4,5	155–610 0,2–0,48 0,8–4,5	20–50 0,2–0,29 0,8–2,7	0,8
DNMG 150608 L–EC PMK 5025	...243*		VC mm/min. f mm/U. ap/mm	150–265 0,2–0,48 0,8–4,5	90–155 0,2–0,36 0,8–3,4	140–250 0,2–0,48 0,8–4,5	– – –	30–75 0,2–0,29 0,8–2,7	0,8
DNMG 150608 L–EC U 5035	...246*		VC mm/min. f mm/U. ap/mm	105–175 0,2–0,48 0,8–4,5	60–105 0,2–0,36 0,8–3,4	95–165 0,2–0,48 0,8–4,5	155–610 0,2–0,48 0,8–4,5	20–50 0,2–0,29 0,8–2,7	0,8
DNMG 150612 M PMK 5025	...249*		VC mm/min. f mm/U. ap/mm	105–225 0,17–0,72 1,2–4,5	60–135 0,17–0,54 1,2–3,4	95–210 0,17–0,72 1,2–4,5	– – –	– – –	1,2
DNMG 150612 R PMK 5030	...252*		VC mm/min. f mm/U. ap/mm	115–200 0,25–0,7 2–4,5	65–120 0,25–0,53 2–3,4	105–190 0,25–0,7 2–4,5	155–610 0,2–0,48 0,8–4,5	– – –	1,2

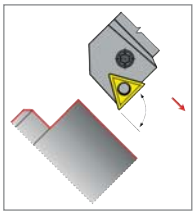
* Ambalare 10 bucati.



Cutit de strunjire ISO 90° PTGNR/L

- Pentru placuta amovibila 0° negativ
- Parghie cu articulatie.
- Pentru strunjire longitudinala

Livrare: Fara placuta amovibila, fara surubelnita.



42 15991...
Executie pe dreapta

Descriere	Cod comanda 42 15991...	Coada ■ mm	Dimensiuni l mm	Dimensiuni l_1 mm	Dimensiuni x mm	Executie	Placuta amovibila
PTGNR 2020 K16	...260	20 x 20	125	32	25	Dreapta	TNMG1604...
PTGNL 2020 K16	...265	20 x 20	125	32	25	Stanga	TNMG1604...
PTGNR 2525 M16	...270	25 x 25	150	32	32	Dreapta	TNMG1604...
PTGNL 2525 M16	...275	25 x 25	150	32	32	Stanga	TNMG1604...

Accesorii pentru cutit de strunjire, ISO 903° PTGNR/L

Executie	Cod comanda 42 15991...
Portplacuta	...043*
Parghie cu articulatie	...046*
Surub pentru parghie	...049*
Arc	...052*

* Ambalare 10 bucati.

Accesoriu optional
Surubelnite dinamometrice gasiti la pagina 6/109

42 15991 043

42 15991 049

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42 15991 052

Placuta amovibila ISO

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F

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42 15993...

Descriere	Cod comanda 42 15993...	Viteza de taiere Avans Adancime de taiere	P Otel	M Inox	K Fonta	N Alu	S Aliaj special	Raza colt
TNMG 160404 F PK 5015	...301*	Vc mm/min. f mm/U. ap/mm	190–255 0,15–0,24 0,5–3	– – –	180–240 0,15–0,24 0,5–3	– – –	– – –	0,4
TNMG 160404 F PMK 5030	...304*	Vc mm/min. f mm/U. ap/mm	150–220 0,15–0,24 0,5–3	90–130 0,15–0,18 0,5–2,3	140–205 0,15–0,24 0,5–3	– – –	30–65 0,15–0,18 0,5–1,8	0,4
TNMG 160404 F U 5035	...307*	Vc mm/min. f mm/U. ap/mm	105–180 0,08–0,24 0,5–3	60–105 0,08–0,18 0,5–2,3	95–170 0,08–0,24 0,5–3	155–630 0,08–0,24 0,5–3	20–50 0,08–0,14 0,5–1,8	0,4
TNMG 160408 M PK 5015	...310*	Vc mm/min. f mm/U. ap/mm	185–290 0,15–0,48 0,8–5	– – –	175–275 0,15–0,48 0,8–5	– – –	– – –	0,8
TNMG 160408 M PMK 5030	...313*	Vc mm/min. f mm/U. ap/mm	125–250 0,15–0,48 0,8–5	75–150 0,15–0,36 0,8–3,8	115–235 0,15–0,48 0,8–5	– – –	– – –	0,8
TNMG 160408 M PMK 5040	...316*	Vc mm/min. f mm/U. ap/mm	105–215 0,15–0,48 0,8–5	60–125 0,15–0,36 0,8–3,8	95–200 0,15–0,48 0,8–5	– – –	– – –	0,8

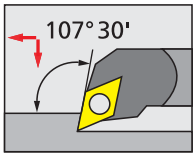
* Ambalare 10 bucati.

Codurile marcate cu • nu se regasesc in stoc, livrare rapida

Bara strunjire ISO 107,5° A..-SDQCR/L cu racire interioara

- Pentru placute amovibile 7° pozitiv
- Cu sistem de insurubare
- Pentru strunjire interioara

Livrare: Fara placute amovibile, fara surubelnita.



42 15991...

Descriere	Cod comanda 42 15991...	Ø coada= dg7 mm	Dimensiuni Ø min. mm	Dimensiuni l mm	Dimensiuni x mm	Executie	Placuta amovibila
A12L SDQCR 07	...400	12	18	140	9	Dreapta	DCMT/DCGT 0702...
A12L SDQCL 07	...405	12	18	140	9	Stanga	DCMT/DCGT 0702...
A16Q SDQCR 07	...410	16	22	180	11	Dreapta	DCMT/DCGT 0702...
A16Q SDQCL 07	...415	16	22	180	11	Stanga	DCMT/DCGT 0702...
A20R SDQCR 11	...430	20	26	200	13	Dreapta	DCMT/DCGT 11T3..
A20R SDQCL 11	...435	20	26	200	13	Stanga	DCMT/DCGT 11T3...
A25R SDQCR 11	...440	25	34	200	17	Dreapta	DCMT/DCGT 11T3...
A25R SDQCL 11	...445	25	34	200	17	Stanga	DCMT/DCGT 11T3...

Livrare: Fara placute amovibile, fara surubelnita.

Descriere continut SET	Cod comanda 42 15991...	Ø coada = dg7	Dimensiuni Ø min. mm	Dimensiuni l mm	Dimensiuni l_1 mm	Dimensiuni x mm	Executie	Placuta amovibila
Executie pe dreapta A0810H SDQCR 07 A1012K SDQCR 07 A1216M SDQCR 07	...450	10 12 16	12,5 15,5 19,5	100 125 150	22 28 36	7 9 11	Dreapta	DCMT/ DCGT 0702...
Executie pe stanga A0810H SDQCL 07 A1012K SDQCL 07 A1216M SDQCL 07	...455	10 12 16	12,5 15,5 19,5	100 125 150	22 28 36	7 9 11	Stanga	DCMT/ DCGT 0702...

42 15991...

Accesorii pentru bara strunjire ISO 107,5° A..-SDQCR/L cu racire interioara

Executie	Cod comanda 42 15991...
Surub TORX® pentru WSP, DCMT/DCGT 0702...	...055*
Surub TORX® pentru WSP, DCMT/DCGT 11T3...	...058*

* Ambalare 10 bucati.

42 15991...

Placuta amovibila ISO

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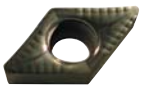


AL-N
42 15992...

Descriere	Cod comanda 42 15992...	Viteza de taiere Avans Adancime de taiere	P Otel	M Inox	K Fonta	N Alu	S Aliaj special	Raza colt
DCGT 070202 AL N 5010	...204*	VC mm/min.	–	–	–	150–575	–	0,2
		f mm/U.	–	–	–	0,06–0,12	–	
		ap/mm	–	–	–	0,3–2,1	–	

Continuarea pe pagina 2/150

Continuarea de la pagina 2/149

Descriere	Cod comanda 42 15992...	Viteza de taiere Avans Adancime de taiere	P Otel	M Inox	K Fonta	N Alu	S Aliaj special	Raza colt
DCGT 070204 AL N 5020	...210*	VC mm/min. f mm/U. ap/mm	– – –	– – –	– – –	125–490 0,1–0,24 0,4–2,1	– – –	0,4
DCGT 11T302 AL KNH 5010	...213*	VC mm/min. f mm/U. ap/mm	– – –	– – –	– – –	170–680 0,06–0,12 0,3–3,3	– – –	0,2
DCGT 11T302 AL N 5020	...216*	VC mm/min. f mm/U. ap/mm	– – –	– – –	– – –	140–575 0,06–0,12 0,3–3,3	– – –	0,2
DCGT 11T304 AL KNH 5010	...219*	VC mm/min. f mm/U. ap/mm	– – –	– – –	– – –	140–595 0,1–0,24 0,4–3,3	– – –	0,4
DCGT 11T304 AL N 5020	...222*	VC mm/min. f mm/U. ap/mm	– – –	– – –	– – –	120–490 0,1–0,24 0,4–3,3	– – –	0,4
DCMT 070204 F PMK 5025	...234*	VC mm/min. f mm/U. ap/mm	120–170 0,15–0,24 0,5–2,1	70–100 0,15–0,18 0,5–1,5	110–160 0,15–0,24 0,5–2,1	– – –	– – –	0,4
DCMT 070204 M PMK 5025	...237*	VC mm/min. f mm/U. ap/mm	125–185 0,15–0,24 0,4–2	90–115 0,09–0,12 0,5–1,6	115–175 0,15–0,24 0,4–2	– – –	– – –	0,4
DCMT 11T304 F PMK 5025	...243*	VC mm/min. f mm/U. ap/mm	115–170 0,15–0,24 0,5–3	65–100 0,15–0,18 0,5–2,3	105–160 0,15–0,24 0,5–3	– – –	– – –	0,4
DCMT 11T304 M PMK 5025	...246*	VC mm/min. f mm/U. ap/mm	125–185 0,15–0,24 0,4–2	75–110 0,15–0,18 0,4–1,5	115–175 0,15–0,24 0,4–2	– – –	– – –	0,4
DCMT 11T304 M U 5035	...249*	VC mm/min. f mm/U. ap/mm	85–150 0,08–0,24 0,4–2	50–90 0,08–0,18 0,4–1,5	80–140 0,08–0,24 0,4–2	125–525 0,08–0,24 0,4–2	– – –	0,4
DCMT 11T308 F PMK 5025	...252*	VC mm/min. f mm/U. ap/mm	135–190 0,15–0,25 0,8–3	80–110 0,15–0,19 0,8–2,3	125–180 0,15–0,25 0,8–3	– – –	– – –	0,8
DCMT 11T308 M PMK 5025	...255*	VC mm/min. f mm/U. ap/mm	110–200 0,15–0,48 0,8–2	65–120 0,15–0,36 0,8–1,5	100–190 0,15–0,48 0,8–2	– – –	– – –	0,8
DCMT 11T308 M U 5035	...258*	VC mm/min. f mm/U. ap/mm	80–165 0,08–0,48 0,8–2	45–95 0,08–0,6 0,8–1,5	75–155 0,08–0,48 0,8–2	120–575 0,08–0,48 0,8–2	– – –	0,8

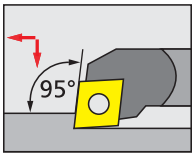
* Ambalare 10 bucati.

Codurile marcate cu • nu se regasesc in stoc, livrare rapida

Bara strunjire ISO 95° A..-SCLCR/L cu racire interioara

- Pentru placute amovibile 7° pozitiv
- Cu sistem de insurubare
- Pentru strunjire interioara

Livrare: Fara placute amovibile, fara surubelnite.



42 15991...

Descriere	Cod comanda 42 15991...	Ø coada = dg7 mm	Dimensiuni Ø min. mm	Dimensiuni l mm	Dimensiuni x mm	Executie	Placuta amovibila
A0608H SCLCL 06	...510	8	8	100	4	Stanga	CCMT/CCGT 0602...
A0608H SCLCR 06	...515	8	8	100	4	Dreapta	CCMT/CCGT 0602...
A08H SCLCL 06	...460	8	12	100	6	Stanga	CCMT/CCGT 0602...
A08H SCLCR 06	...465	8	12	100	6	Dreapta	CCMT/CCGT 0602...
A10K SCLCL 06	...470	10	14	125	7	Stanga	CCMT/CCGT 0602...
A10K SCLCR 06	...475	10	14	125	7	Dreapta	CCMT/CCGT 0602...
A12L SCLCL 06	...480	12	18	140	9	Stanga	CCMT/CCGT 0602...
A12L SCLCR 06	...485	12	18	140	9	Dreapta	CCMT/CCGT 0602...
A16Q SCLCL 09	...490	16	22	180	11	Stanga	CCMT/CCGT 09T3...
A16Q SCLCR 09	...495	16	22	180	11	Dreapta	CCMT/CCGT 09T3...
A20R SCLCL 09	...500	20	26	200	13	Stanga	CCMT/CCGT 09T3...
A20R SCLCR 09	...505	20	26	200	13	Dreapta	CCMT/CCGT 09T3...

Livrare: Fara placute amovibile, fara surubelnita.

Accesoriu optional

Lame schimbabile TORX® gasiti la pagina 6/109

42 15991...

Descriere continut SET	Cod comanda 42 15991...	Ø coada = dg7 mm	Dimensiuni Ø min. mm	Ø coada retrasa mm	Dimensiuni l mm	Lungime retrasa mm	Dimensiuni x mm	Executie	Placuta amovibila
Executie pe dreapta	...530	8	8	6	100	25	4	Dreapta	CCMT/CCGT
A0608H SCLCR 06		10	12	8	110	32	6		0602...
A0810J SCLCR 06		12	14	10	125	38	7		
A1012K SCLCR 06		16	18	12	150	50	9		
A1216M SCLCR 06									
Executie pe stanga	...540	8	8	6	100	25	4	Stanga	CCMT/CCGT
A0608H SCLCL 06		10	12	8	110	32	6		0602...
A0810J SCLCL 06		12	14	10	125	38	7		
A1012K SCLCL 06		16	18	12	150	50	9		
A1216M SCLCL 06									

Accesorii pentru bara strunjire ISO 95° A..-SCLCL/R cu racire interioara

42 15991...

Executie	Cod comanda 42 15991...
Surub TORX® pentru WSP, CCMT/CCGT 0602...	...055*
Surub TORX® pentru WSP CCMT/CCGT 09T3...	...058*

* Ambalare 10 bucati.

Placuta amovibila ISO 7° pozitiv

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F

M

AL-N
42 15992...

Descriere	Cod comanda 42 15992...	Viteza de taiere Avans Adancime de taiere	P Otel	M Inox	K Fonta	N Alu	S Aliaj special	Raza colt
CCGT 060202 AL N 5020	...004*	Vc mm/min.	–	–	–	170–715	–	0,2
		f mm/U.	–	–	–	0,06–0,15	–	
		ap/mm	–	–	–	0,3–3	–	
CCGT 060204 AL N 5020	...010*	Vc mm/min.	–	–	–	135–610	–	0,4
		f mm/U.	–	–	–	0,1–0,3	–	
		ap/mm	–	–	–	0,4–3,5	–	
CCMT 060202 M PMK 5025	...034*	Vc mm/min.	135–210	80–125	125–195	–	–	0,2
		f mm/U.	0,15–0,3	0,15–0,23	0,15–0,3	–	–	
		ap/mm	1–4	1–3	1–4	–	–	
CCMT 060204 F PMK 5025	...040*	Vc mm/min.	140–210	80–125	130–195	–	–	0,4
		f mm/U.	0,15–0,25	0,15–0,19	0,15–0,25	–	–	
		ap/mm	0,5–3	0,5–2,3	0,5–3	–	–	
CCMT 060204 M PMK 5025	...046*	Vc mm/min.	140–250	80–150	130–235	–	–	0,4
		f mm/U.	0,15–0,4	0,15–0,3	0,15–0,4	–	–	
		ap/mm	1–4	1–3	1–4	–	–	
CCMT 060208 M PMK 5025	...052*	Vc mm/min.	140–250	80–150	130–235	–	–	0,8
		f mm/U.	0,15–0,4	0,15–0,3	0,15–0,4	–	–	
		ap/mm	1–4	1–3	1–4	–	–	
CCMT 09T304 F PMK 5025	...058*	Vc mm/min.	140–210	80–125	130–195	–	–	0,4
		f mm/U.	0,15–0,25	0,15–0,19	0,15–0,25	–	–	
		ap/mm	0,5–3	0,5–2,3	0,5–3	–	–	
CCMT 09T304 M PMK 5025	...064*	Vc mm/min.	135–210	80–125	125–195	–	–	0,4
		f mm/U.	0,15–0,3	0,15–0,23	0,15–0,3	–	–	
		ap/mm	1–4	1–3	1–4	–	–	
CCMT 09T304 M U 5035	...067*	Vc mm/min.	95–160	55–95	90–150	140–560	–	0,4
		f mm/U.	0,1–0,3	0,1–0,23	0,1–0,3	0,1–0,3	–	
		ap/mm	1–4	1–3	1–4	1–4	–	
CCMT 09T308 F PMK 5025	...070*	Vc mm/min.	165–240	95–140	155–225	–	–	0,8
		f mm/U.	0,15–0,25	0,15–0,19	0,15–0,25	–	–	
		ap/mm	0,8–3	0,8–2,3	0,8–3	–	–	
CCMT 09T308 M PMK 5025	...076*	Vc mm/min.	140–250	80–150	130–235	–	–	0,8
		f mm/U.	0,15–0,4	0,15–0,3	0,15–0,4	–	–	
		ap/mm	1–4	1–3	1–4	–	–	
CCMT 09T308 M U 5035	...079*	Vc mm/min.	100–190	60–110	95–180	150–665	–	0,8
		f mm/U.	0,1–0,4	0,1–0,3	0,1–0,4	0,1–0,4	–	
		ap/mm	1–4	1–3	1–4	1–4	–	

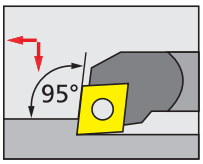
* Ambalare 10 bucati.

Codurile marcate cu • nu se regasesc in stoc, livrare rapida

Bara strunjire ISO 95° A..-PCLNR/L cu racire interioara

- Pentru placute amovibile 0° negativ
- Parghie cu articulatie.
- Pentru strunjire interioara

Livrare: Fara placute amovibile, fara surubelnite.



42 15991...
Executie pe dreapta

Descriere	Cod comanda 42 15991...	Ø coada = dg7 mm	Dimensiuni Ø min. mm	Dimensiuni l mm	Dimensiuni x mm	Executie	Placuta amovibila
A25R PCLNR 12	...560	25	32	200	17	Dreapta	CNMG 1204...
A25R PCLNL 12	...565	25	32	200	17	Stanga	CNMG 1204...
A32S PCLNR 12	...570	32	40	250	22	Dreapta	CNMG 1204...
A32S PCLNL 12	...575	32	40	250	22	Stanga	CNMG 1204...

Accesorii pentru bara strunjire ISO 95° A..-PCLNR/L cu racire interioara

42 15991 001

42 15991 010

42 15991 016

Executie	Cod comanda 42 15991...
Parghie cu articulatie	...001*
Arc	...010*
Portplacuta	...016*

* Ambalare 10 bucati.

Accesoriu optional

Surubelnite dinamometrice gasiti la pagina 6/111

Placuta amovibila ISO

i Pagina 2/134

F

M

R

R-EC

WM
42 15993...

Descriere	Cod comanda 42 15993...	Viteza de taiere Avans Adancime de taiere	P Otel	M Inox	K Fonta	N Alu	S Aliaj special	Raza colt
CNMG 120404 F PK 5015	...001*	VC mm/min. f mm/U. ap/mm	215–300 0,15–0,3 0,5–3	– – –	200–285 0,15–0,3 0,5–3	– – –	– – –	0,4
CNMG 120404 F PMK 5025	...004*	VC mm/min. f mm/U. ap/mm	160–260 0,15–0,3 0,5–3	95–155 0,15–0,23 0,5–2,3	150–245 0,15–0,3 0,5–3	– – –	30–75 0,15–0,18 0,5–1,8	0,4
CNMG 120404R–EC PMK 5025	...049*	VC mm/min. f mm/U. ap/mm	195–280 0,2–0,3 0,8–5	115–165 0,2–0,23 0,8–3,8	185–265 0,2–0,3 0,8–5	– – –	35–80 0,2–0,23 0,8–3	0,4
CNMG 120404R–EC U 5035	...052*	VC mm/min. f mm/U. ap/mm	135–185 0,2–0,3 0,8–5	80–110 0,2–0,23 0,8–3,8	125–175 0,2–0,3 0,8–5	200–645 0,2–0,3 0,8–5	25–55 0,2–0,23 0,8–3	0,4
CNMG 120404L–EC PMK 5025	...037*	VC mm/min. f mm/U. ap/mm	195–280 0,2–0,3 0,8–5	115–165 0,2–0,23 0,8–3,8	185–265 0,2–0,3 0,8–5	– – –	35–80 0,2–0,23 0,8–3	0,4
CNMG 120404L–EC U 5035	...040*	VC mm/min. f mm/U. ap/mm	135–185 0,2–0,3 0,8–5	80–110 0,2–0,23 0,8–3,8	125–175 0,2–0,3 0,8–5	200–645 0,2–0,3 0,8–5	25–55 0,2–0,23 0,8–3	0,4
CNMG 120408 F PK 5015	...007*	VC mm/min. f mm/U. ap/mm	250–340 0,15–0,35 0,8–3	– – –	235–320 0,15–0,35 0,8–3	– – –	– – –	0,8

Continuarea pe pagina2/154

Continuarea de la pagina 2/153

Descriere	Cod comanda 42 15993...		Viteza de taiere Avans Adancime de taiere	P Otel	M Inox	K Fonta	N Alu	S Aliaj special	Raza colt
CNMG 120408 F PMK 5025	...010*		VC mm/min. f mm/U. ap/mm	180–295 0,15–0,35 0,8–3	105–175 0,15–0,26 0,8–2,3	170–280 0,15–0,35 0,8–3	– – –	35–85 0,15–0,21 0,8–1,8	0,8
CNMG 120408 M PK 5015	...013*		VC mm/min. f mm/U. ap/mm	205–330 0,15–0,6 1–6	– –, –	190–310 0,15–0,6 1–6	– – –	– – –	0,8
CNMG 120408 M PMK 5025	...019*		VC mm/min. f mm/U. ap/mm	130–295 0,15–0,6 0,8–6	75–175 0,15–0,45 0,8–4,5	120–280 0,15–0,6 0,8–6	– – –	– – –	0,8
CNMG 120408 R PMK 5025	...022*		VC mm/min. f mm/U. ap/mm	145–240 0,25–0,6 2–6	85–140 0,25–0,45 2–4,5	135–225 0,25–0,6 2–6	– – –	– – –	0,8
CNMG 120408 M PMK 5040	...025*		VC mm/min. f mm/U. ap/mm	110–255 0,15–0,6 0,8–6	65–150 0,15–0,45 0,8–4,5	100–240 0,15–0,6 0,8–6	– – –	– – –	0,8
CNMG 120408 R PK 5015	...016*		VC mm/min. f mm/U. ap/mm	225–305 0,25–0,6 2–6	– – –	210–285 0,25–0,6 2–6	– – –	– – –	0,8
CNMG 120408 R PMK 5040	...028*		VC mm/min. f mm/U. ap/mm	125–200 0,25–0,6 2–6	75–120 0,25–0,45 2–4,5	115–190 0,25–0,6 2–6	– – –	– – –	0,8
CNMG 120408R–EC PMK 5025	...055*		VC mm/min. f mm/U. ap/mm	180–330 0,2–0,5 0,8–5	105–195 0,2–0,38 0,8–3,8	170–310 0,2–0,5 0,8–5	– – –	35–95 0,2–0,3 0,8–3	0,8
CNMG 120408R–EC U 5035	...058*		VC mm/min. f mm/U. ap/mm	135–215 0,2–0,5 0,8–5	80–125 0,2–0,38 0,8–3,8	125–200 0,2–0,5 0,8–5	200–750 0,2–0,5 0,8–5	25–60 0,2–0,3 0,8–3	0,8
CNMG 120408L–EC PMK 5025	...043*		VC mm/min. f mm/U. ap/mm	180–330 0,2–0,5 0,8–5	105–195 0,2–0,38 0,8–3,8	170–310 0,2–0,5 0,8–5	– – –	35–95 0,2–0,3 0,8–3	0,8
CNMG 120408L–EC U 5035	...046*		VC mm/min. f mm/U. ap/mm	135–215 0,2–0,5 0,8–5	80–125 0,2–0,38 0,8–0,38	125–200 0,2–0,5 0,8–5	200–750 0,2–0,5 0,8–5	25–60 0,2–0,3 0,8–3	0,8
CNMG 120408 WM PMK 5025	...061*		VC mm/min. f mm/U. ap/mm	135–295 0,15–0,6 0,8–4	– – –	125–280 0,15–0,6 0,8–4	– – –	– – –	0,8
CNMG 120412 M PMK 5025	...031*		VC mm/min. f mm/U. ap/mm	125–285 0,17–0,8 1,2–6	75–170 0,17–0,6 1,2–4,5	115–270 0,17–0,8 1,2–6	– – –	– – –	1,2
CNMG 120412 R PK 5015	...064*		VC mm/min. f mm/U. ap/mm	230–320 0,25–0,7 2–6	– – –	215–300 0,25–0,7 2–6	– – –	– – –	1,2
CNMG 120412 R PMK 5025	...034*		VC mm/min. f mm/U. ap/mm	140–250 0,25–0,7 2–6	80–150 0,25–0,53 2–4,5	130–235 0,25–0,7 2–6	– – –	– – –	1,2

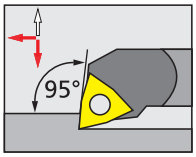
* Ambalare 10 bucati.

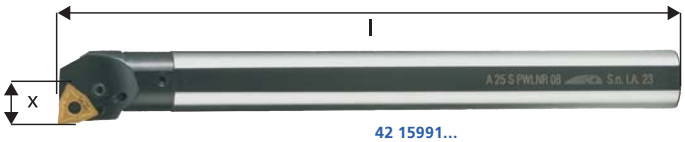
Codurile marcate cu • nu se regasesc in stoc, livrare rapida

Bara strunjire ISO 95° A..-PWLNR/L cu racire interioara

- Pentru placute amovibile 0° negativ
- Parghie cu articulatie.
- Pentru strunjire interioara

Livrare: Fara placute amovibile, fara surubelnite.





42 15991...

Descriere	Cod comanda 42 15991...	Ø coada = dg7 mm	Dimensiuni Ø min. mm	Dimensiuni l mm	Lungime retrasa mm	Dimensiuni x mm	Executie	Placuta amovibila
A25R PWLNR 08	...590	25	32	200	45	17	Dreapta	WNMG 0804...
A25R PWLNL 08	...595	25	32	200	45	17	Stanga	WNMG 0804...
A32S PWLNR 08	...600	32	40	250	60	22	Dreapta	WNMG 0804...
A32S PWLNL 08	...605	32	40	250	60	22	Stanga	WNMG 0804...

Accesorii pentru bara strunjire ISO 95° A..-PWLNR/L cu racire interioara

42 15991 001

42 15991 010

42 15991 025

Executie	Cod comanda 42 15991...
Parghie cu articulatie	...001*
Arc	...010*
Portplacuta	...025*

* Ambalare 10 bucati.

Accesoriu optional
Seturi surubelnite TORX® gasiti la pagina 6/130

Placuta amovibila ISO

i Pagina 2/135

F

M

R

R-EC

WM
42 15993...

Descriere	Cod comanda 42 15993...	Viteza de taiere Avans Adancime de taiere	P Otel	M Inox	K Fonta	N Alu	S Aliaj special	Raza colt
WNMG 080404 F PK 5015	...401*	VC mm/min. f mm/U. ap/mm	215–300 0,15–0,3 0,5–3	– – –	200–285 0,15–0,3 0,5–3	– – –	– – –	0,4
WNMG 080404 F PMK 5030	...404*	VC mm/min. f mm/U. ap/mm	160–260 0,15–0,3 0,5–3	95–165 0,15–0,23 0,5–2,3	150–245 0,15–0,3 0,5–3	– – –	30–75 0,15–0,18 0,5–1,8	0,4
WNMG 080408 F PK 5015	...413*	VC mm/min. f mm/U. ap/mm	250–340 0,15–0,35 0,8–3	– – –	235–320 0,15–0,35 0,8–3	– – –	– – –	0,8
WNMG 080408 F PMK 5025	...416*	VC mm/min. f mm/U. ap/mm	180–295 0,15–0,35 0,8–3	105–175 0,15–0,26 0,8–2,3	170–280 0,15–0,35 0,8–3	– – –	35–85 0,15–0,21 0,8–1,8	0,8
WNMG 080408 M PK 5015	...419*	VC mm/min. f mm/U. ap/mm	205–340 0,15–0,6 0,8–5,6	– – –	190–320 0,15–0,6 0,8–5,6	– – –	– – –	0,8
WNMG 080408 M PMK 5025	...422*	VC mm/min. f mm/U. ap/mm	130–295 0,15–0,6 0,8–5,6	75–175 0,15–0,45 0,8–4,2	120–280 0,15–0,6 0,8–5,6	– – –	– – –	0,8
WNMG 080408 R PK 5015	...425*	VC mm/min. f mm/U. ap/mm	225–305 0,25–0,6 2–5,6	– – –	210–285 0,25–0,6 2–5,6	– – –	– – –	0,8

Continuarea pe pagina2/156

Continuarea de la pagina 2/155

Descriere	Cod comanda 42 15993...	Viteza de taiere Avans Adancime de taiere	P Otel	M Inox	K Fonta	N Alu	S Aliaj special	Raza colt
WNMG 080408 R PMK 5025	...428*	VC mm/min. f mm/U. ap/mm	145–240 0,25–0,6 2–5,6	85–140 0,25–0,45 2–4,2	135–225 0,25–0,6 2–5,6	– – –	– – –	0,8
WNMG 080408 R–EC U 5025	...431*	VC mm/min. f mm/U. ap/mm	135–215 0,2–0,5 0,8–5	80–125 0,2–0,38 0,8–3,8	125–200 0,2–0,5 0,8–5	200–750 0,2–0,5 0,8–5	25–60 0,2–0,3 0,8–3	0,8
WNMG 080408 L–EC U 5025	...434*	VC mm/min. f mm/U. ap/mm	135–215 0,2–0,5 0,8–5	80–125 0,2–0,38 0,8–3,8	125–200 0,2–0,5 0,8–5	200–750 0,2–0,5 0,8–5	25–60 0,2–0,3 0,8–3	0,8
WNMG 080408 WM PK 5015	...443*	VC mm/min. f mm/U. ap/mm	215–340 0,15–0,6 0,8–4	– – –	200–320 0,15–0,6 0,8–4	– – –	– – –	0,8
WNMG 080408 WM PMK 5025	...446*	VC mm/min. f mm/U. ap/mm	135–295 0,15–0,6 0,8–4	– – –	125–280 0,15–0,6 0,8–4	– – –	– – –	0,8
WNMG 080412 M PK 5015	...449*	VC mm/min. f mm/U. ap/mm	205–335 0,17–0,8 1,2–5,6	– – –	190–315 0,17–0,8 1,2–5,6	– – –	– – –	1,2
WNMG 080412 M PMK 5025	...452*	VC mm/min. f mm/U. ap/mm	125–285 0,17–0,8 1,2–5,6	75–170 0,17–0,6 1,2–4,2	115–270 0,17–0,8 1,2–5,6	– – –	– – –	1,2
WNMG 080412 R PK 5015	...455*	VC mm/min. f mm/U. ap/mm	235–320 0,25–0,7 2–5,6	– – –	220–300 0,25–0,7 2–5,6	– – –	– – –	1,2
WNMG 080412 R PMK 5025	...458*	VC mm/min. f mm/U. ap/mm	140–250 0,25–0,7 2–5,6	80–150 0,25–0,53 2–4,2	130–235 0,25–0,7 2–5,6	– – –	– – –	1,2
WNMG 080412 WM PK 5015	...461*	VC mm/min. f mm/U. ap/mm	210–325 0,2–0,9 1,2–4	– – –	195–305 0,2–0,9 1,2–4	– – –	– – –	1,2
WNMG 080412 WM PMK 5025	...464*	VC mm/min. f mm/U. ap/mm	125–265 0,2–0,9 1,2–4	– – –	115–250 0,2–0,9 1,2–4	– – –	– – –	1,2

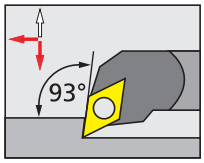
* Ambalare 10 bucati.

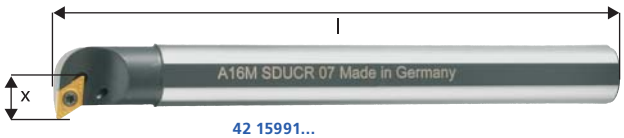
Codurile marcate cu • nu se regasesc in stoc, livrare rapida

Bara strunjire ISO 93° A..-SDUCR/L cu racire interioara

- Pentru placute amovibile 7° pozitiv
- Cu sistem de insurubare
- Pentru strunjire interioara

Livrare: Fara placute amovibile, fara surubelnite.





42 15991...

Descriere	Cod comanda 42 15991...	Ø coada = dg7 mm	Dimensiuni Ø min. mm	Dimensiuni l mm	Dimensiuni x mm	Executie	Placuta amovibila
A10H SDUCR 07	...630	10	13	100	8	Dreapta	DCMT/DCGT 0702...
A10H SDUCL 07	...635	10	13	100	8	Stanga	DCMT/DCGT 0702...
A12L SDUCR 07	...640	12	18	140	9	Dreapta	DCMT/DCGT 0702...
A12L SDUCL 07	...645	12	18	140	9	Stanga	DCMT/DCGT 0702...
A16Q SDUCR 07	...650	16	22	180	11	Dreapta	DCMT/DCGT 0702...
A16Q SDUCL 07	...655	16	22	180	11	Stanga	DCMT/DCGT 0702...
A20R SDUCR 11	...660	20	26	200	13	Dreapta	DCMT/DCGT 11T3...
A20R SDUCL 11	...665	20	26	200	13	Stanga	DCMT/DCGT 11T3...
A25R SDUCR 11	...670	25	34	200	17	Dreapta	DCMT/DCGT 11T3...
A25R SDUCL 11	...675	25	34	200	17	Stanga	DCMT/DCGT 11T3...

Livrare: Fara placute amovibile, fara surubelnita.

Accesoriu optional

Port-biti gasiti la pagina 6/111

42 15991...
Executie pe dreapta

Descriere continut SET	Cod comanda 42 15991...	Ø coada = dg7 mm	Dimensiuni Ø min. mm	Dimensiuni l mm	Lungime retrasa mm	Dimensiuni x mm	Executie	Placuta amovibila
Executie pe dreapta	...700						Dreapta	DCMT/DCGT
A0810H SDUCR 07		10	12,5	100	22	7		0702...
A1012K SDUCR 07		12	15,5	125	28	9		
A1216M SDUCR 07		16	19,5	150	36	11		
Executie pe stanga	...710						Stanga	DCMT/DCGT
A0810H SDUCL 07		10	12,5	100	22	7		0702...
A1012K SDUCL 07		12	15,5	125	28	9		
A1216M SDUCL 07		16	19,5	150	36	11		

Accesorii pentru bara strunjire ISO 93° A..-SDUCR/L cu racire interioara

42 15991...

Executie	Cod comanda 42 15991...
Surub TORX® pentru WSP, DCMT/DCGT 0702...	...055*
Surub TORX® pentru WSP, DCMT/DCGT 11T3...	...058*

* Ambalare 10 bucati.

Placuta amovibila ISO

i Pagina 2/134

F

M

AL-N
42 15992...

Descriere	Cod comanda 42 15992...	Viteza de taiere Avans Adancime de taiere	P Otel	M Inox	K Fonta	N Alu	S Aliaj special	Raza colt
DCGT 070202 AL N 5010	...204*	VC mm/min.	–	–	–	150–575	–	0,2
		f mm/U.	–	–	–	0,06–0,12	–	
		ap/mm	–	–	–	0,3–2,1	–	
DCGT 070204 AL N 5020	...210*	VC mm/min.	–	–	–	125–490	–	0,4
		f mm/U.	–	–	–	0,1–0,24	–	
		ap/mm	–	–	–	0,4–2,1	–	
DCGT 11T302 AL KNH 5010	...213*	VC mm/min.	–	–	–	170–680	–	0,2
		f mm/U.	–	–	–	0,06–0,12	–	
		ap/mm	–	–	–	0,3–3,3	–	
DCGT 11T302 AL N 5020	...216*	VC mm/min.	–	–	–	140–575	–	0,2
		f mm/U.	–	–	–	0,06–0,12	–	
		ap/mm	–	–	–	0,3–3,3	–	
DCGT 11T304 AL KNH 5010	...219*	VC mm/min.	–	–	–	140–595	–	0,4
		f mm/U.	–	–	–	0,1–0,24	–	
		ap/mm	–	–	–	0,4–3,3	–	
DCGT 11T304 AL N 5020	...222*	VC mm/min.	–	–	–	120–490	–	0,4
		f mm/U.	–	–	–	0,1–0,24	–	
		ap/mm	–	–	–	0,4–3,3	–	
DCMT 070204 F PMK 5025	...234*	VC mm/min.	120–170	70–100	110–160	–	–	0,4
		f mm/U.	0,15–0,24	0,15–0,18	0,15–0,24	–	–	
		ap/mm	0,5–2,1	0,5–1,5	0,5–2,1	–	–	
DCMT 070204 M PMK 5025	...237*	VC mm/min.	125–185	90–115	115–175	–	–	0,4
		f mm/U.	0,15–0,24	0,09–0,12	0,15–0,24	–	–	
		ap/mm	0,4–2	0,5–1,6	0,4–2	–	–	
DCMT 11T304 F PMK 5025	...243*	VC mm/min.	115–170	65–100	105–160	–	–	0,4
		f mm/U.	0,15–0,24	0,15–0,18	0,15–0,24	–	–	
		ap/mm	0,5–3	0,5–2,3	0,5–3	–	–	
DCMT 11T304 M PMK 5025	...246*	VC mm/min.	125–185	75–110	115–175	–	–	0,4
		f mm/U.	0,15–0,24	0,15–0,18	0,15–0,24	–	–	
		ap/mm	0,4–2	0,4–1,5	0,4–2	–	–	
DCMT 11T304 M U 5035	...249*	VC mm/min.	85–150	50–90	80–140	125–525	–	0,4
		f mm/U.	0,08–0,24	0,08–0,18	0,08–0,24	0,08–0,24	–	
		ap/mm	0,4–2	0,4–1,5	0,4–2	0,4–2	–	
DCMT 11T308 F PMK 5025	...252*	VC mm/min.	135–190	80–110	125–180	–	–	0,8
		f mm/U.	0,15–0,25	0,15–0,19	0,15–0,25	–	–	
		ap/mm	0,8–3	0,8–2,3	0,8–3	–	–	
DCMT 11T308 M PMK 5025	...255*	VC mm/min.	110–200	65–120	100–190	–	–	0,8
		f mm/U.	0,15–0,48	0,15–0,36	0,15–0,48	–	–	
		ap/mm	0,8–2	0,8–1,5	0,8–2	–	–	
DCMT 11T308 M U 5035	...258*	VC mm/min.	80–165	45–95	75–155	120–575	–	0,8
		f mm/U.	0,08–0,48	0,08–0,6	0,08–0,48	0,08–0,48	–	
		ap/mm	0,8–2	0,8–1,5	0,8–2	0,8–2	–	

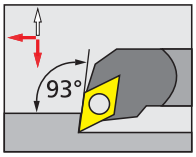
* Ambalare 10 bucati.

Codurile marcate cu • nu se regasesc in stoc, livrare rapida

Bara strunjire ISO 93° A..-PDUNR/L cu racire interioara

- Pentru placute amovibile 0° negativ
- Parghie cu articulatie.
- Pentru strunjire interioara

Livrare: Fara placute amovibile, fara surubelnite.



42 15991...
Executie pe dreapta

Descriere	Cod comanda 42 15991...	Ø coada = dg7 mm	Dimensiuni Ø min. mm	Dimensiuni l mm	Lungime cap mm	Dimensiuni x mm	Executie	Placuta amovibila
A32S PDUNR 15	...800	32	40	250	60	22	Dreapta	DNMG 1506...
A32S PDUNL 15	...805	32	40	250	60	22	Stanga	DNMG 1506...

Accesorii pentru bara strunjire ISO 93° A..-PDUNR/L cu racire interioara

Executie	Cod comanda 42 15991...
Parghie cu articulatie	...004*
Arc	...010*
Portplacuta	...022*
Surub pentru parghie	...034*

* Ambalare 10 bucati.

Accesoriu optional
Seturi surubelnite TORX®
gasiti la pagina 6/182

42 15991 004

42 15991 022

42 15991 010

42 15991 034

Placuta amovibila ISO

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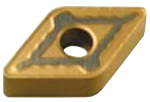
F

M


R

R-EC
42 15993...

Descriere	Cod comanda 42 15993...	Viteza de taiere Avans Adancime de taiere	P Otel	M Inox	K Fonta	N Alu	S Aliaj special	Raza colt
DNMG 150604 F PK 5015	...201	VC mm/min.	180–240	–	170–225	–	–	0,4
		f mm/U.	0,15–0,24	–	0,15–0,24	–	–	
		ap/mm	0,5–3	–	0,5–3	–	–	
DNMG 150604 F PMK 5015	...204	VC mm/min.	140–210	80–125	130–195	–	25–60	0,4
		f mm/U.	0,15–0,24	0,15–0,18	0,15–0,24	–	0,15–0,18	
		ap/mm	0,5–3	0,5–2,3	0,5–3	–	0,5–1,8	
DNMG 150604 R-EC PMK 5025	...207	VC mm/min.	170–220	100–230	160–205	–	30–65	0,4
		f mm/U.	0,2–0,24	0,2–0,24	0,2–0,24	–	0,2–0,24	
		ap/mm	0,8–4,5	0,8–3,4	0,8–4,5	–	0,8–2,7	
DNMG 150604 R-EC U 5035	...210	VC mm/min.	120–145	70–85	110–135	180–505	20–40	0,4
		f mm/U.	0,2–0,24	0,2–0,24	0,2–0,24	0,2–0,24	0,2–0,24	
		ap/mm	0,8–4,5	0,8–3,4	0,8–4,5	0,8–4,5	0,8–2,7	
DNMG 150604 L-EC PMK 5025	...213	VC mm/min.	200–270	–	190–255	–	–	0,4
		f mm/U.	0,15–0,35	–	0,15–0,35	–	–	
		ap/mm	0,8–3	–	0,8–3	–	–	
DNMG 150604 L-EC U 5035	...216	VC mm/min.	120–145	70–85	110–135	180–505	20–40	0,4
		f mm/U.	0,20–0,24	0,2–0,24	0,2–0,24	0,2–0,24	0,2–0,24	
		ap/mm	0,8–4,5	0,8–3,4	0,8–4,5	0,8–4,5	0,8–2,7	
DNMG 150608 F PK 5015	...219	VC mm/min.	200–270	–	190–255	–	–	0,8
		f mm/U.	0,15–0,35	–	0,15–0,35	–	–	
		ap/mm	0,8–3	–	0,8–3	–	–	

Continuarea pe pagina2/160

Continuarea de la pagina 2/159

Descriere	Cod comanda 42 15993...	Viteza de taiere Avans Adancime de taiere	P Otel	M Inox	K Fonta	N Alu	S Aliaj special	Raza colt
DNMG 150608 F PMK 5025	...222	VC mm/min. f mm/U. ap/mm	140–235 0,15–0,35 0,8–3	80–140 0,15–0,26 0,8–2,3	130–220 0,15–0,35 0,8–3	– – –	25–70 0,15–0,21 0,8–1,8	0,8
DNMG 150608 M PK 5015	...225	VC mm/min. f mm/U. ap/mm	175–270 0,15–0,48 0,8–4,5	– – –	165–255 0,15–0,48 0,8–4,5	– – –	– – –	0,8
DNMG 150608 M PMK 5025	...228	VC mm/min. f mm/U. ap/mm	120–235 0,15–0,48 0,8–4,5	70–140 0,15–0,36 0,8–3,4	110–220 0,15–0,48 0,8–4,5	– – –	– – –	0,8
DNMG 150608 R PK 5015	...231	VC mm/min. f mm/U. ap/mm	195–245 0,25–0,48 2–4,5	– – –	185–230 0,25–0,48 2–4,5	– – –	– – –	0,8
DNMG 150608 R PMK 5030	...234	VC mm/min. f mm/U. ap/mm	130–190 0,25–0,48 2–4,5	75–110 0,25–0,36 2–3,4	120–180 0,25–0,48 2–4,5	– – –	– – –	0,8
DNMG 150608 R-EC PMK 5025	...237	VC mm/min. f mm/U. ap/mm	150–265 0,2–0,48 0,8–4,5	90–155 0,2–0,36 0,8–3,4	140–250 0,2–0,48 0,8–4,5	– – –	30–75 0,2–0,29 0,8–2,7	0,8
DNMG 150608 R-EC U 5035	...240	VC mm/min. f mm/U. ap/mm	105–175 0,2–0,48 0,8–4,5	60–105 0,2–0,36 0,8–3,4	95–165 0,2–0,48 0,8–4,5	155–610 0,2–0,48 0,8–4,5	20–50 0,2–0,29 0,8–2,7	0,8
DNMG 150608 L-EC PMK 5025	...243	VC mm/min. f mm/U. ap/mm	150–265 0,2–0,48 0,8–4,5	90–155 0,2–0,36 0,8–3,4	140–250 0,2–0,48 0,8–4,5	– – –	30–75 0,2–0,29 0,8–2,7	0,8
DNMG 150608 L-EC U 5035	...246	VC mm/min. f mm/U. ap/mm	105–175 0,2–0,48 0,8–4,5	60–105 0,2–0,36 0,8–3,4	95–165 0,2–0,48 0,8–4,5	155–610 0,2–0,48 0,8–4,5	20–50 0,2–0,29 0,8–2,7	0,8
DNMG 150612 M PMK 5025	...249	VC mm/min. f mm/U. ap/mm	105–225 0,17–0,72 1,2–4,5	60–135 0,17–0,54 1,2–3,4	95–210 0,17–0,72 1,2–4,5	– – –	– – –	1,2
DNMG 150612 R PMK 5030	...252	VC mm/min. f mm/U. ap/mm	115–200 0,25–0,7 2–4,5	65–120 0,25–0,53 2–3,4	105–190 0,25–0,7 2–4,5	155–610 0,2–0,48 0,8–4,5	– – –	1,2

* Ambalare 10 bucati.

Prelucrare exterioara

Suport fixare 95° pentru placute amovibile 7° pozitiv

Nr. comanda	Model	Placute amovibile	Pagina
42 15994 001 – 42 15994 010	SER/L	16ER/L	2/162

Prelucrare interioara

Bara cu filet ISO 95° pentru placute amovibile 0° negativ

Nr. comanda	Model	Placute amovibile	Pagina
42 15994 301 – 42 15994 334	SIR/L	11IR/L 16IR/L	2/163

Codurile marcate cu • nu se regasesc in stoc, livrare rapida

Denumire – suport fixare

S	E	R	2525	M	16
Sistem de fixare	Mod de prelucrare	Directia	Dimensiune coada	Lungime suport	Dimensiune placa

Sistem de fixare

S = surub

L = parghie cu articulatie

Dimensiune coada

de ex.: 2525
=
25 x 25 mm

de ex.: 0025
=
Ø 25 mm

Lungime suport

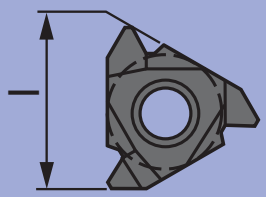
D = 60 mm
F = 80 mm
H = 100 mm
K = 125 mm
L = 140 mm
M= 150 mm

D = 60 mm
F = 80 mm
H = 100 mm
K = 125 mm
L = 140 mm
M= 150 mm

Dimensiune placa

I =

6 22
8 22 U
8 U 27
11 27 U
16

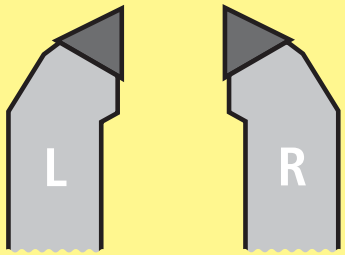


Mod de prelucrare

E = exterior

I = interior

Directia



Pas filet

de ex.:

150 = 1,5 mm

Model filet

ISO = metric
A60 = 60° profil partial (0,5–1,5 mm increment)
G60 = 60° profil partial (1,75–3,0 mm increment)
UN = US Unified Thread
BSW = British Standard Whitworth
NTP = US National Pipe Thread
BSPT = British Standard Pipe Thread
ACME = filet trapezoidal american
Trapez = trapez conform DIN 103
Round = rotund conform DIN 405

Calitate cu carbura

5025 = PVD TiAlN stratificat Calitate granule foarte fine

Denumire – placute de taiere cu filet

16	E	R	150	ISO	5025
Dimensiune placuta	Mod de prelucrare	Directia	Pas filet	Model filet	Calitate cu carbura

Cutit de strunjire filete ISO, prelucrare exterioara

- Cu sistem de insurubare
- Filet exterior: dreapta/stanga

Livrare: surub tensionare, cheie TORX®, portplacuta 1,5°, fara placute amovibile.

42 15994...

Descriere	Cod comanda 42 15994...	Coada mm	Dimensiuni l mm	Dimensiuni h_1 mm	Executie	Placute amovibile
SER 2020 K16	...001	20 x 20	125	20	Dreapta	16ER
SEL 2020 K16	...004	20 x 20	125	20	Stanga	16EL
SER 2525 M16	...007	25 x 25	150	25	Dreapta	16ER
SEL 2525 M16	...010	25 x 25	150	25	Stanga	16EL

Accesorii pentru cutite de strunjire filete, ISO

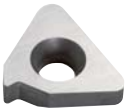
42 15994 607–010

Executie	Cod comanda 42 15994...
Surub de tensionare pentru WSP 16 S16	...607*
Surub de tensionare pentru portplacuta 16 A16	...610*
Portplacuta pentru SER	...613*
Portplacuta pentru SEL	...616*

* Ambalare 10 bucati.

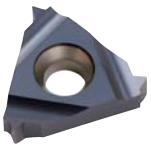
Accesoriu optional
Seturi surbelnite TORX®
gasiti la pagina 6/182

42 15994 613



42 15994 616

Placuta amovibila pentru filete ISO, exterior, 60° metric, profil plin



42 15994...

Descriere	Cod comanda 42 15994...	Viteza de taiere	P Otel	M Inox	K Fonta	N Alu	S Aliaj special	H dur	Increment mm
16 ER 050 ISO 5025	...101*	VC mm/min.	100–140	80–120	90–140	200–350	50–100	30–50	0,50
16 ER 075 ISO 5025	...104*	VC mm/min.	100–140	80–120	90–140	200–350	50–100	30–50	0,75
16 ER 080 ISO 5025	...107*	VC mm/min.	100–140	80–120	90–140	200–350	50–100	30–50	0,80
16 ER 100 ISO 5025	...110*	VC mm/min.	100–140	80–120	90–140	200–350	50–100	30–50	1,00
16 ER 125 ISO 5025	...113*	VC mm/min.	100–140	80–120	90–140	200–350	50–100	30–50	1,25
16 ER 150 ISO 5025	...116*	VC mm/min.	100–140	80–120	90–140	200–350	50–100	30–50	1,50
16 ER 175 ISO 5025	...119*	VC mm/min.	100–140	80–120	90–140	200–350	50–100	30–50	1,75
16 ER 200 ISO 5025	...122*	VC mm/min.	100–140	80–120	90–140	200–350	50–100	30–50	2,00
16 ER 250 ISO 5025	...125*	VC mm/min.	100–140	80–120	90–140	200–350	50–100	30–50	2,50
16 ER 300 ISO 5025	...128*	VC mm/min.	100–140	80–120	90–140	200–350	50–100	30–50	3,00
16 EL 050 ISO 5025	...131*	VC mm/min.	100–140	80–120	90–140	200–350	50–100	30–50	0,50
16 EL 075 ISO 5025	...134*	VC mm/min.	100–140	80–120	90–140	200–350	50–100	30–50	0,75
16 EL 080 ISO 5025	...137*	VC mm/min.	100–140	80–120	90–140	200–350	50–100	30–50	0,80
16 EL 100 ISO 5025	...140*	VC mm/min.	100–140	80–120	90–140	200–350	50–100	30–50	1,00
16 EL 125 ISO 5025	...143*	VC mm/min.	100–140	80–120	90–140	200–350	50–100	30–50	1,25
16 EL 150 ISO 5025	...146*	VC mm/min.	100–140	80–120	90–140	200–350	50–100	30–50	1,50
16 EL 175 ISO 5025	...149*	VC mm/min.	100–140	80–120	90–140	200–350	50–100	30–50	1,75
16 EL 200 ISO 5025	...152*	VC mm/min.	100–140	80–120	90–140	200–350	50–100	30–50	2,00
16 EL 250 ISO 5025	...155*	VC mm/min.	100–140	80–120	90–140	200–350	50–100	30–50	2,50
16 EL 300 ISO 5025	...158*	VC mm/min.	100–140	80–120	90–140	200–350	50–100	30–50	3,00

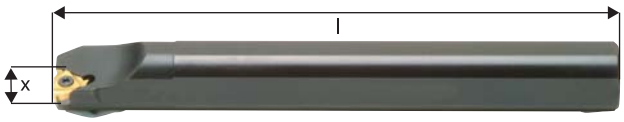
* Ambalare 10 bucati.

Codurile marcate cu • nu se regasesc in stoc, livrare rapida

Bara strunjire ISO

- Cu sistem de insurubare
- Filet interior: dreapta/stanga

Livrare: Surub de tensionare, cheie TORX®, portplacuta 1,5°, fara placute amovibile.



42 15994...

Descriere	Cod comanda 42 15994...	Ø coada mm	Ø coada retrasa mm	Dimensiuni l mm	Lungime cap mm	x mm	Executie	Placuta amovibila
SIR 0010 H 11*	...301	10	10	100	–	7,4	Dreapta	11IR
SIL 0010 H 11*	...304	10	10	100	–	7,4	Stanga	11IL
SIR 0013 L 11*	...307	16	13	140	32	8,9	Dreapta	11IR
SIL 0013 L 11*	...310	16	13	140	32	8,9	Stanga	11IL
SIR 0013 M 16*	...313	16	13	150	32	10,2	Dreapta	16IR
SIL 0013 M 16*	...316	16	13	150	32	10,2	Stanga	16IL
SIR 0016 P 16*	...319	20	16	170	40	11,7	Dreapta	16IR
SIL 0016 P 16*	...322	20	16	170	40	11,7	Stanga	16IL
SIR.0020 P 16	...325	20	20	170	–	13,7	Dreapta	16IR
SIL 0020 P 16	...328	20	20	170	–	13,7	Stanga	16IL
SIR 0025 R 16	...331	25	25	200	–	16,2	Dreapta	16IR
SIL 0025 R 16	...334	25	25	200	–	16,2	Stanga	16IL

* Suport de prindere fara portplacuta.

Accesorii pentru cutite de strunjire filete, ISO

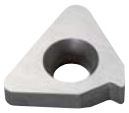
Executie	Cod comanda 42 15994...
Surub de tensionare T8 pentru WSP 11 S11	...601*
Surub de tensionare T10 pentru WSP 16 fara portplacuta S16S	...604*
Surub de tensionare T10 pentru WSP 16 cu portplacuta S16	...607*
Surub de tensionare T10 pentru portplacuta A16	...610*
Portplacuta pentru SIL	...613*
Portplacuta pentru SIR	...616*

* Ambalare 10 bucati.

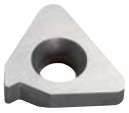
Accesorii optionale

Surubelnite dinamometrica gasiti la pagina 6/109

42 15994 601–610



42 15994 613



42 15994 616

Placa amovibila pentru filete ISO, interior, 60° metric, profil plin

42 15994...

Descriere	Cod comanda 42 15994...	Viteza de taiere	P Otel	M Inox	K Fonta	N Alu	S Aliaj special	H dur	Increment mm
11 IR 050 ISO 5025	...401*	VC mm/min.	100–140	80–120	90–140	200–350	50–100	30–50	0,50
11 IR 075 ISO 5025	...404*	VC mm/min.	100–140	80–120	90–140	200–350	50–100	30–50	0,75
11 IR 080 ISO 5025	...407*	VC mm/min.	100–140	80–120	90–140	200–350	50–100	30–50	0,80
11 IR 100 ISO 5025	...410*	VC mm/min.	100–140	80–120	90–140	200–350	50–100	30–50	1,00
11 IR 125 ISO 5025	...413*	VC mm/min.	100–140	80–120	90–140	200–350	50–100	30–50	1,25
11 IR 150 ISO 5025	...416*	VC mm/min.	100–140	80–120	90–140	200–350	50–100	30–50	1,50
11 IR 175 ISO 5025	...419*	VC mm/min.	100–140	80–120	90–140	200–350	50–100	30–50	1,75
11 IL 050 ISO 5025	...422*	VC mm/min.	100–140	80–120	90–140	200–350	50–100	30–50	0,50
11 IL 075 ISO 5025	...425*	VC mm/min.	100–140	80–120	90–140	200–350	50–100	30–50	0,75
11 IL 080 ISO 5025	...428*	VC mm/min.	100–140	80–120	90–140	200–350	50–100	30–50	0,80
11 IL 100 ISO 5025	...431*	VC mm/min.	100–140	80–120	90–140	200–350	50–100	30–50	1,00
11 IL 125 ISO 5025	...434*	VC mm/min.	100–140	80–120	90–140	200–350	50–100	30–50	1,25
11 IL 150 ISO 5025	...437*	VC mm/min.	100–140	80–120	90–140	200–350	50–100	30–50	1,50
11 IL 175 ISO 5025	...440*	VC mm/min.	100–140	80–120	90–140	200–350	50–100	30–50	1,75
16 IR 075 ISO 5025	...443*	VC mm/min.	100–140	80–120	90–140	200–350	50–100	30–50	0,75
16 IR 080 ISO 5025	...446*	VC mm/min.	100–140	80–120	90–140	200–350	50–100	30–50	0,80

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Continuarea de la pagina 2/163

Descriere	Cod comanda 42 15994...	Viteza de taiere	P Otel	M Inox	K Fonta	N Alu	S Aliaj special	H dur	Increment mm
16 IR 100 ISO 5025	...449*	VC mm/min.	100–140	80–120	90–140	200–350	50–100	30–50	1,00
16 IR 125 ISO 5025	...452*	VC mm/min.	100–140	80–120	90–140	200–350	50–100	30–50	1,25
16 IR 200 ISO 5025	...455*	VC mm/min.	100–140	80–120	90–140	200–350	50–100	30–50	1,50
16 IR 175 ISO 5025	...458*	VC mm/min.	100–140	80–120	90–140	200–350	50–100	30–50	1,75
16 IR 200 ISO 5025	...461*	VC mm/min.	100–140	80–120	90–140	200–350	50–100	30–50	2,00
16 IR 250 ISO 5025	...464*	VC mm/min.	100–140	80–120	90–140	200–350	50–100	30–50	2,50
16 IL 075 ISO 5025	...467*	VC mm/min.	100–140	80–120	90–140	200–350	50–100	30–50	0,75
16 IL 080 ISO 5025	...470*	VC mm/min.	100–140	80–120	90–140	200–350	50–100	30–50	0,80
16 IL 100 ISO 5025	...473*	VC mm/min.	100–140	80–120	90–140	200–350	50–100	30–50	1,00
16 IL 125 ISO 5025	...476*	VC mm/min.	100–140	80–120	90–140	200–350	50–100	30–50	1,25
16 IL 150 ISO 5025	...479*	VC mm/min.	100–140	80–120	90–140	200–350	50–100	30–50	1,50
16 IL 175 ISO 5025	...482*	VC mm/min.	100–140	80–120	90–140	200–350	50–100	30–50	1,75
16 IL 200 ISO 5025	...485*	VC mm/min.	100–140	80–120	90–140	200–350	50–100	30–50	2,00
16 IL 250 ISO 5025	...488*	VC mm/min.	100–140	80–120	90–140	200–350	50–100	30–50	2,50

* Ambalare 10 bucati.

Set filetare ISO-KEG, prelucrare exterioara

- Cu sistem de insurubare
- Prelucrare exterioara: dreapta

Livrare: Cutit de strunjire, Portplacute 1,5°, placute amovibile pentru filete 60° (8 buc. profil plin si 2 buc. profil partial), surub de tensionare, cheie TORX®.

42 15994...

Descriere	Cod comanda 42 15994...	Coada mm	Dimensiuni L mm	Dimensiuni h1 mm	Placute amovibile	
KEG20	...050	20 x 20	125	20	16 ER A60	ISO 5025
					16 ER G60	ISO 5025
					16 ER 0.75	ISO 5025
					16 ER 1.0	ISO 5025
					16 ER 1.25	ISO 5025
					16 ER 1.5	ISO 5025
					16 ER 1.75	ISO 5025
					16 ER 2.0	ISO 5025
					16 ER 2.5	ISO 5025
					16 ER 3.0	ISO 5025

Accesoriu optional

Seturi surubelnite TORX®
gasiti la pagina 6/182

Set filetare ISO-KIG, prelucrare interioara

- Cu sistem de insurubare
- Prelucrare interioara: dreapta

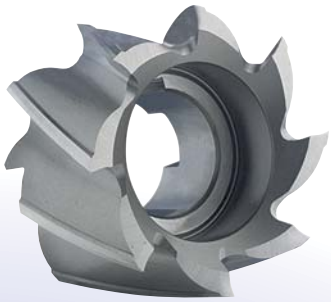
Livrare: Bara strunjire, portplacuta 1,5°, placute amovibile pentru filete 60° (8 bucati, profil plin si 2 bucati profil partial), surub de tensionare, cheie TORX®.

42 15994...

Descriere	Cod comanda 42 15994...	Coada mm	Dimensiuni L mm	Placute amovibile
KIG20	...350	20 x 20	170	16 IR A60
				16 IR G60
				16 IR 0.75 ISO 5025
				16 IR 1.0 ISO 5025
				16 IR 1.25 ISO 5025
				16 IR 1.5 ISO 5025
				16 IR 1.75 ISO 5025
				16 IR 2.0 ISO 5025
				16 IR 2.5 ISO 5025
				16 IR 3.0 ISO 5025

Codurile marcate cu • nu se regasesc in stoc, livrare rapida

Sculele forum calitate superioara – garantata



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