

STAMİNA
CUTTING TOOLS

Kesici Takımlar

2024 | Ürün Kataloğu

STAMINA

CUTTING TOOLS

Stamina Cutting Tools, Türkiye'nin otomotiv sektörünün kalbi ve önemli bir sanayi merkezi olan Bursa'da yer almaktadır. Son 15 yıldır inovasyon ve hassas mühendislik alanındaki öncülüğümüzle ülkenin önde gelen üreticileri arasına yükseldik.

Mühendislik ve pazarlamada 15 yıllık saha tecrübemiz, bizi global anlamda genişlemeye teşvik ediyor. Kendini işine adanmış ekibimiz, müşterilerimizin tüm ihtiyaçlarını karşılamaya, özel çözümler sunmaya ve küresel mücadelemizi sürdürmeye kararlıdır.

Kırılmaz gücümüz, son teknolojiyle donatılmış tesislerimizden, tecrübeli mühendislerimizden ve özverili iş gücümüzden gelmektedir. Bu sayede, en zorlu işleme görevlerinde bile üstün performans, dayanıklılık ve hassasiyet sunan karbür kesici takımlarımız piyasada 1.sırada tercih edilmektedir..

Gücümüzün kaynağı...

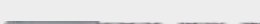
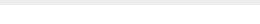
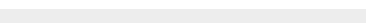
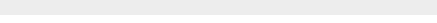
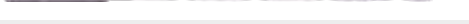
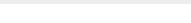
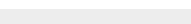
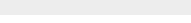
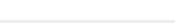
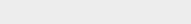
Son teknolojiyle donatılmış tesislerimiz: Kesintisiz üretim ve yüksek kaliteli ürünler için en son teknolojiyi kullanıyoruz.

Tecrübeli mühendislerimiz: Mühendislik ekibimiz, en karmaşık problemleri çözmek ve en yenilikçi çözümleri sunmak için bilgi birikimlerini ve becerilerini kullanıyor.

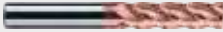
Özverili iş gücümüz: Her çalışanın katkısı, Stamina'nın başarısının anahtarıdır. Üretim hattımızdaki her birey, en yüksek kaliteyi ve müşteri memnuniyetini sağlamak için özveriyle çalışmaktadır.



İçindekiler -1

Seri No	Ürün Fotoğrafı	Açıklama	Kaplama	Ağız Sayısı	Çap Ø	Sayfa
100		Mikro Matkap	60	Z2	1,0 – 2,9	20–21
122		3DX Matkap	53	Z2	3,0 – 20	22–27
124		3DX İçten Soğutmalı Matkap	53	Z2	3,0 – 20	28–33
142		5DX Matkap	53	Z2	3,0 – 20	34–39
144		5DX İçten Soğutmalı Matkap	53	Z2	3,0 – 20	40–45
146		5DX Çift Zırlı Matkap	53	Z2	3,0 – 14	46–47
148		5DX Çift Zırlı İçten Soğutmalı Matkap	53	Z2	3,0 – 14	48–49
158		8DX Çift Zırlı İçten Soğutmalı Matkap	27	Z2	3,0 – 20	50–51
168		12DX Çift Zırlı İçten Soğutmalı Matkap	27	Z2	3,0 – 20	52–53
169		16DX Çift Zırlı İçten Soğutmalı Matkap	27	Z2	4,0 – 12	54–55
171		3DX Matkap Paslanmaz	59	Z2	3,0 – 20	56–61
172		3DX İçten Soğutmalı Matkap Paslanmaz	59	Z2	3,0 – 20	62–67
173		5DX Matkap Paslanmaz	59	Z2	3,0 – 20	68–73
174		5DX İçten Soğutmalı Matkap Paslanmaz	59	Z2	3,0 – 20	74–79
105		5DX Çift Zırlı Rayba Matkap	53	Z2	4,0 – 20	80–81
106		5DX Çift Zırlı Rayba İçten Soğ. Matkap	53	Z2	4,0 – 20	82–83
135		5D Düz Kanallı İçten Soğutmalı Matkap	53	Z2	3,2 – 20	84–87
136		8D Düz Kanallı İçten Soğutmalı Matkap	53	Z2	3,2 – 20	88–91
107		Spot Face Matkap	53	Z2	4,0 – 20	92–93
190		NC Punta Matkap 90°/ 120°	53	Z2	3,0 – 20	94–95
191		Çift Taraflı Punta Matkap	53	Z2	1,0 – 5,0	96–97
200		Mikro Düz Freze	54	Z2	1,0 – 2,5	98–99
224		S Freze	58	Z4	1,0 – 6,0	100–101
242		M Freze	58	Z2	3,0 – 20	102–103
243		M Freze	58	Z3	3,0 – 20	104–105

İçindekiler -2

Seri No	Ürün Fotoğrafı	Açıklama	Kaplama	Ağız Sayısı	Çap Ø	Sayfa
244		M Freze	58	Z4	3,0 – 20	106–107
264		L Freze	54	Z4	3,0 – 20	108–109
274		≥55 HRc M Düz Freze	54	Z4	3,0 – 12	110–111
284		≥55 HRc L Düz Freze	54	Z4	3,0 – 12	112–113
294		≥55 HRc HBD L Düz Freze	54	Z4	3,0 – 12	114–115
276		≥55 HRc M Çok Ağızlı Düz Freze	54	Z6–Z8	6,0 – 20	116–117
286		≥55 HRc L Çok Ağızlı Düz Freze	54	Z6–Z8	6,0 – 20	118–119
291		Sky High Speed HBDQ Freze	54	Z4	4,0 – 12	120–121
292		High Feed Freze	54	Z4	3,0 – 16	122–123
293		High Feed HBD Ø Freze	54	Z4	4,0 – 16	124–127
202		Sivri Pah Kırma Freze 60°/90°/120°	53	Z4	4,0 – 12	128–129
203		Pah Kırma Freze 60°/90°/120°	53	Z4	4,0 – 12	130–131
192		Ön Arka Pah Kırma Freze	53	Z4	3,0 – 12	132–133
212		S Alüminyum Freze		Z2	1,0 – 6,0	134–135
213		S Alüminyum Freze		Z3	1,0 – 6,0	136–137
232		M Alüminyum Freze		Z2	3,0 – 20	138–139
233		M Alüminyum Freze		Z3	3,0 – 20	140–141
252		L Alüminyum Freze		Z2	3,0 – 20	142–143
253		L Alüminyum Freze		Z3	3,0 – 20	144–145
235		M Alüminyum Freze		Z3	3,0 – 20	146–147
255		L Alüminyum Freze		Z3	3,0 – 20	148–149
237		M Alüminyum Freze		Z3	3,0 – 20	150–151
237		M Alüminyum HBDØ Freze		Z3	3,0 – 20	152–153
257		L Alüminyum Freze		Z3	3,0 – 20	154–155
257		L Alüminyum HBDØ Freze		Z3	3,0 – 20	156–157

İçindekiler -3

Seri No	Ürün Fotoğrafı	Açıklama	Kaplama	Ağız Sayısı	Çap Ø	Sayfa
238		M Alüminyum Köşe Radüslü Freze		Z3	3,0 – 20	158–159
238		M Alüminyum Köşe Radüslü HBD Freze		Z3	3,0 – 20	160–161
258		L Alüminyum Köşe Radüslü Freze		Z3	3,0 – 20	162–163
258		L Alüminyum HBD Köşe Radüslü Freze		Z3	3,0 – 20	164–165
236		DLC Freze		Z3	3,0 – 20	166–167
211		Demir Dışı Freze		Z1	2,0 – 12	168–169
300		Mikro Küre Freze		Z2	1,0 – 2,5	170–171
322		M Küresel Freze		Z2	1,0 – 20	172–173
324		M Küresel Freze		Z4	1,0 – 20	174–175
342		L Küresel Freze		Z2	3,0 – 20	176–177
344		L Küresel Freze		Z4	3,0 – 20	178–179
362		≥55 HRC M Küresel Freze		Z2	3,0 – 12	180–181
382		≥55 HRC L Küresel Freze		Z2	3,0 – 12	182–183
310		≥55 HRC Konik Küresel Freze		Z2	2,0 – 12	184–185
312		M Alüminyum Küresel Freze		Z2	1,0 – 20	186–187
332		L Alüminyum Küresel Freze		Z2	3,0 – 20	188–189
414		1 D.K. M Freze		Z4	2,0 – 20	190–191
414		1 D.K. M Freze Veldonlu		Z4	2,0 – 20	192–193
424		5 D.K. M Freze		Z4	2,0 – 20	194–195
424		5 D.K. M Freze Veldonlu		Z4	2,0 – 20	196–197
434		Paslanmaz Freze		Z4	3,0 – 20	198–199
444		2 D.K. Freze		Z4	6,0 – 20	200–201
454		Inconel & Titanyum Freze		Z6	3,0 – 20	202–203
474		Yeni Geometri Freze		Z4	3,0 – 20	204–205
484		6 D.K. Freze		Z4	2,0 – 25	206–207

İçindekiler -4

Seri No	Ürün Fotoğrafları	Açıklama	Kaplama	Ağız Sayısı	Çap Ø	Sayfa
484		6 D.K. Freze Veldonlu	58	Z4	2,0 – 25	208–209
466		38° Rasyo Freze	58	Z4	3,0 – 20	210–211
500		Mikro Köşe Radüslü Freze	54	Z2	1,0 – 2,5	212–213
514		Köşe Radüslü r0,5 Freze	58	Z4	3,0 – 16	214–215
524		Köşe Radüslü r1,0 Freze	58	Z4	3,0 – 16	216
544		Köşe Radüslü r2,0 Freze	58	Z4	6,0 – 20	217
554		Köşe Radüslü r3,0 Freze	58	Z4	10 – 20	218–219
564		6 D.K. Köşe Radüslü Freze	54	Z4	3,0 – 20	220–221
574		6 D.K. Köşe Radüslü Freze	54	Z4	3,0 – 20	222–223
584		38° Köşe Radüslü Freze	54	Z4	3,0 – 20	224–225
614		≥55 HRc M Köşe Radüslü Freze	54	Z4	3,0 – 12	226–227
624		≥55 HRc L Köşe Radüslü Freze	54	Z4	3,0 – 12	228–229
674		≥55 HRc HBDJ L Köşe Radüs Freze	54	Z4	3,0 – 12	230–231
302		Köşe Yuvarlama Freze	54	Z4	6 – 12	232–233
701		Düz Kanallı Rayba	26	4–6–8	3,0 – 20	234–235
702		Helisel Kanallı Rayba	26	4–6–8	3,0 – 20	236–237

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İkon Açıklamaları

PVD Kaplama Çeşitleri

60	AlTiN Kaplama
53	AlTiN Kaplama
27	TiAlN Kaplama
26	TiAlN Kaplama
59	AlTiSiN Kaplama
54	TiSiN Kaplama
32	TiSiN Kaplama
58	AlCrN Kaplama
16	AlCrN Kaplama
23	AlCrN Kaplama
28	AlCrN Kaplama
30	DLC Kaplama
NO COATING	Kaplamasız

Ürün Özellikleri

3xD Matkap
5xD Matkap
8xD Matkap
Small Freze
Medium Freze
Large Freze
Freze Helis Açısı
Küre Freze Helis Açısı
Matkap Helis Açısı
60° Matkap Uç
90° Matkap Uç
120° Matkap Uç
140° Matkap Uç
Matkap Alın Çizimi
Freze Alın Çizimi
Veldonlu Şaft
Silindirik Şaft
İçten Soğutmalı Matkap

Ürün Özellikleri

Starbide Std.	Starbide Tools Standard
K30F	Hammadde Cinsi
DIN 6535	DIN Standardı
<48 HRC	48 HRC'ye kadar sertleştirilmiş çelikler için uygundur
<56 HRC	56 HRC'ye kadar sertleştirilmiş çelikler için uygundur
RH	Kesme Yönü
120	Kesme Veri Sayfası

Freze Ağız Sayısı

1	1 Ağızlı Freze
22	2 Ağızlı Freze
23	3 Ağızlı Freze
24	4 Ağızlı Freze
26	6 Ağızlı Freze
28	8 Ağızlı Freze

İkon Açıklamaları

Kullanılan Sektörler



Otomotiv



Genel Mühendislik



Savunma Sanayi



Havacılık



Kalıpcılık



Medikal

İşlenebilir Malzemeler



Çelik



Paslanmaz Çelik



Döküm



Demir Dışı Materyal



Titanyum



Sert Çelik



Önerilir



Kabul Edilebilir



Önerilmez

Kullanım ve Uygulama alanları



Kanal Frezeleme



Kaba İşleme



Açılı Frezeleme



İnterpolasyon



Finiş Frezeleme



Form Frezeleme



Delme



Pah Kırma



Köşe Yuvarlama



Rayba



Kenar Frezeleme

Mikro

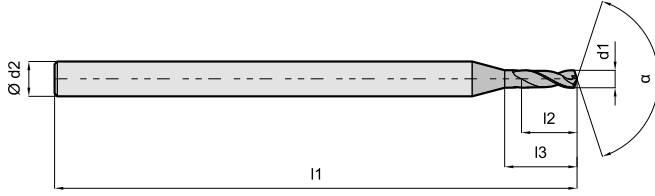
Matkap

100

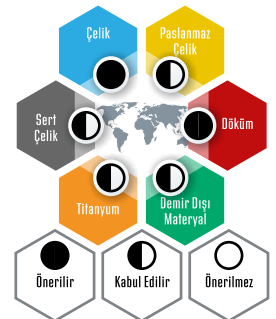


Olağanüstü
incelik!





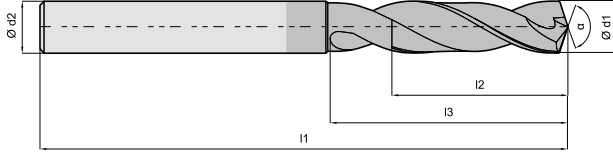
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10010100	1,0	08	10	50	4	2
10010110	1,1	09	11	50	4	2
10010120	1,2	10	12	50	4	2
10010130	1,3	10	12	50	4	2
10010140	1,4	12	13	50	4	2
10010150	1,5	12	13	50	4	2
10010160	1,6	13	16	50	4	2
10010170	1,7	13	16	50	4	2
10010180	1,8	15	19	54	4	2
10010190	1,9	15	19	54	4	2
10010200	2,0	16	20	54	4	2
10010210	2,1	17	20	54	4	2
10010220	2,2	18	21	54	4	2
10010230	2,3	19	21	54	4	2
10010240	2,4	20	22	60	4	2
10010250	2,5	20	23	60	4	2
10010260	2,6	21	24	60	4	2
10010270	2,7	22	25	60	4	2
10010280	2,8	23	26	60	4	2
10010290	2,9	24	27	60	4	2





Zamanın önünde!

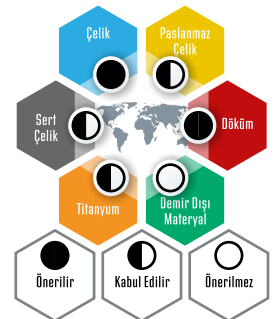


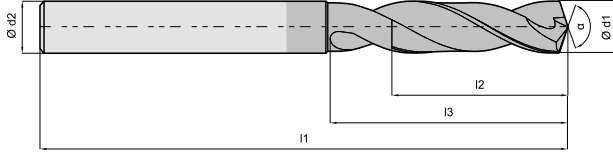


$d_1 = d_2$ tolerans h8
 $d_1 < d_2$ tolerans m7



Sipariş Kodu	d ₁	l ₂	l ₃	l ₁	d ₂ (h ₆)	Z
12210300	3,0	20	26	62	6	2
12210310	3,1	20	26	62	6	2
12210320	3,2	20	26	62	6	2
12210330	3,3	20	26	62	6	2
12210340	3,4	20	26	62	6	2
12210350	3,5	20	26	62	6	2
12210360	3,6	20	26	62	6	2
12210370	3,7	20	26	62	6	2
12210380	3,8	24	30	66	6	2
12210390	3,9	24	30	66	6	2
12210400	4,0	24	30	66	6	2
12210410	4,1	24	30	66	6	2
12210420	4,2	24	30	66	6	2
12210430	4,3	24	30	66	6	2
12210440	4,4	24	30	66	6	2
12210450	4,5	24	30	66	6	2
12210460	4,6	24	30	66	6	2
12210470	4,7	24	30	66	6	2
12210480	4,8	28	30	66	6	2
12210490	4,9	28	30	66	6	2
12210500	5,0	28	30	66	6	2
12210510	5,1	28	30	66	6	2
12210520	5,2	28	30	66	6	2
12210530	5,3	28	30	66	6	2
12210540	5,4	28	30	66	6	2
12210550	5,5	28	30	66	6	2
12210560	5,6	28	30	66	6	2
12210570	5,7	28	30	66	6	2
12210580	5,8	28	30	66	6	2
12210590	5,9	28	30	66	6	2
12210600	6,0	28	30	66	6	2
12210610	6,1	34	43	79	8	2
12210620	6,2	34	43	79	8	2
12210630	6,3	34	43	79	8	2
12210640	6,4	34	43	79	8	2

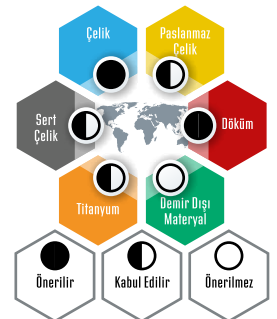


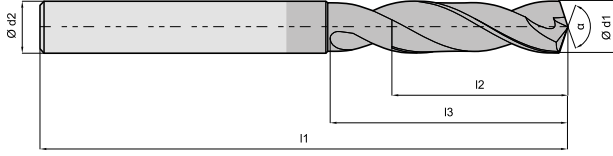


$d_1 = d_2$ tolerans h8
 $d_1 < d_2$ tolerans m7



Sipariş Kodu	d ₁	l ₂	l ₃	l ₁	d ₂ (h ₆)	Z
12210650	6,5	34	43	79	8	2
12210660	6,6	34	43	79	8	2
12210670	6,7	34	43	79	8	2
12210680	6,8	34	43	79	8	2
12210690	6,9	34	43	79	8	2
12210700	7,0	34	43	79	8	2
12210710	7,1	41	43	79	8	2
12210720	7,2	41	43	79	8	2
12210730	7,3	41	43	79	8	2
12210740	7,4	41	43	79	8	2
12210750	7,5	41	43	79	8	2
12210760	7,6	41	43	79	8	2
12210770	7,7	41	43	79	8	2
12210780	7,8	41	43	79	8	2
12210790	7,9	41	43	79	8	2
12210800	8,0	41	43	79	8	2
12210810	8,1	47	49	89	10	2
12210820	8,2	47	49	89	10	2
12210830	8,3	47	49	89	10	2
12210840	8,4	47	49	89	10	2
12210850	8,5	47	49	89	10	2
12210860	8,6	47	49	89	10	2
12210870	8,7	47	49	89	10	2
12210880	8,8	47	49	89	10	2
12210890	8,9	47	49	89	10	2
12210900	9,0	47	49	89	10	2
12210910	9,1	47	49	89	10	2
12210920	9,2	47	49	89	10	2
12210930	9,3	47	49	89	10	2
12210940	9,4	47	49	89	10	2
12210950	9,5	47	49	89	10	2
12210960	9,6	47	49	89	10	2
12210970	9,7	47	49	89	10	2
12210980	9,8	47	49	89	10	2
12210990	9,9	47	49	89	10	2

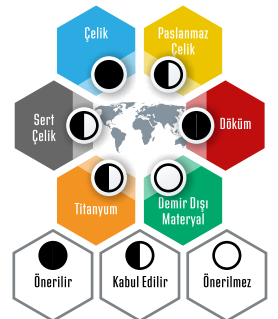


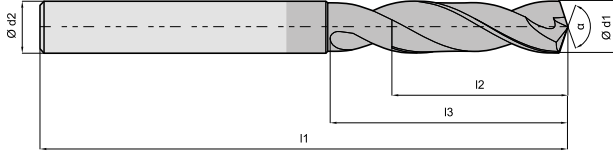


$d_1 = d_2$ tolerans h8
 $d_1 < d_2$ tolerans m7



Sipariş Kodu	d ₁	l ₂	l ₃	l ₁	d ₂ (h ₆)	Z
12211000	10,0	47	49	89	10	2
12211010	10,1	55	57	102	12	2
12211020	10,2	55	57	102	12	2
12211030	10,3	55	57	102	12	2
12211040	10,4	55	57	102	12	2
12211050	10,5	55	57	102	12	2
12211060	10,6	55	57	102	12	2
12211070	10,7	55	57	102	12	2
12211080	10,8	55	57	102	12	2
12211090	10,9	55	57	102	12	2
12211100	11,0	55	57	102	12	2
12211110	11,1	55	57	102	12	2
12211120	11,2	55	57	102	12	2
12211130	11,3	55	57	102	12	2
12211140	11,4	55	57	102	12	2
12211150	11,5	55	57	102	12	2
12211160	11,6	55	57	102	12	2
12211170	11,7	55	57	102	12	2
12211180	11,8	55	57	102	12	2
12211190	11,9	55	57	102	12	2
12211200	12,0	55	57	102	12	2
12211210	12,1	60	62	107	14	2
12211220	12,2	60	62	107	14	2
12211230	12,3	60	62	107	14	2
12211240	12,4	60	62	107	14	2
12211250	12,5	60	62	107	14	2
12211260	12,6	60	62	107	14	2
12211270	12,7	60	62	107	14	2
12211280	12,8	60	62	107	14	2
12211290	12,9	60	62	107	14	2
12211300	13,0	60	62	107	14	2
12211310	13,1	60	62	107	14	2
12211320	13,2	60	62	107	14	2
12211330	13,3	60	62	107	14	2
12211340	13,4	60	62	107	14	2

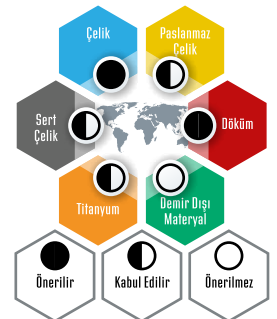




$d_1 = d_2$ tolerans h8
 $d_1 < d_2$ tolerans m7



Sipariş Kodu	d ₁	l ₂	l ₃	l ₁	d ₂ (h ₆)	Z
12211350	13,5	60	62	107	14	2
12211360	13,6	60	62	107	14	2
12211370	13,7	60	62	107	14	2
12211380	13,8	60	62	107	14	2
12211390	13,9	60	62	107	14	2
12211400	14,0	60	67	107	14	2
12211410	14,1	65	67	115	16	2
12211420	14,2	65	67	115	16	2
12211430	14,3	65	67	115	16	2
12211440	14,4	65	67	115	16	2
12211450	14,5	65	67	115	16	2
12211460	14,6	65	67	115	16	2
12211470	14,7	65	67	115	16	2
12211480	14,8	65	67	115	16	2
12211490	14,9	65	67	115	16	2
12211500	15,0	65	67	115	16	2
12211510	15,1	65	67	115	16	2
12211520	15,2	65	67	115	16	2
12211530	15,3	65	67	115	16	2
12211540	15,4	65	67	115	16	2
12211550	15,5	65	67	115	16	2
12211560	15,6	65	67	115	16	2
12211570	15,7	65	67	115	16	2
12211580	15,8	65	67	115	16	2
12211590	15,9	65	67	115	16	2
12211600	16,0	65	67	115	16	2
12211650	16,5	73	75	123	18	2
12211700	17,0	73	75	123	18	2
12211750	17,5	73	75	123	18	2
12211800	18,0	73	75	123	18	2
12211850	18,5	79	81	131	20	2
12211900	19,0	79	81	131	20	2
12211950	19,5	79	81	131	20	2
12212000	20,0	79	81	131	20	2



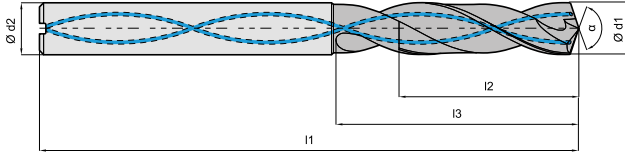


3DX

İçten Soğutmalı Matkap

124

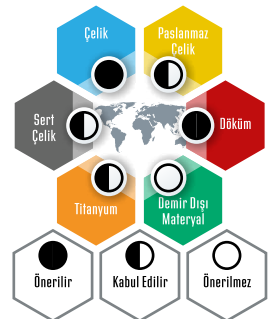


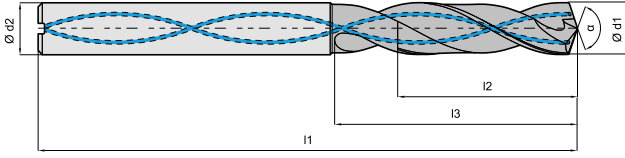


$d_1 = d_2$ tolerans h8
 $d_1 < d_2$ tolerans m7



Sipariş Kodu	d_1	l_2	l_3	l_1	d_2 (h6)	Z
12410300	3,0	20	26	62	6	2
12410310	3,1	20	26	62	6	2
12410320	3,2	20	26	62	6	2
12410330	3,3	20	26	62	6	2
12410340	3,4	20	26	62	6	2
12410350	3,5	20	26	62	6	2
12410360	3,6	20	26	62	6	2
12410370	3,7	20	26	62	6	2
12410380	3,8	24	30	66	6	2
12410390	3,9	24	30	66	6	2
12410400	4,0	24	30	66	6	2
12410410	4,1	24	30	66	6	2
12410420	4,2	24	30	66	6	2
12410430	4,3	24	30	66	6	2
12410440	4,4	24	30	66	6	2
12410450	4,5	24	30	66	6	2
12410460	4,6	24	30	66	6	2
12410470	4,7	24	30	66	6	2
12410480	4,8	28	30	66	6	2
12410490	4,9	28	30	66	6	2
12410500	5,0	28	30	66	6	2
12410510	5,1	28	30	66	6	2
12410520	5,2	28	30	66	6	2
12410530	5,3	28	30	66	6	2
12410540	5,4	28	30	66	6	2
12410550	5,5	28	30	66	6	2
12410560	5,6	28	30	66	6	2
12410570	5,7	28	30	66	6	2
12410580	5,8	28	30	66	6	2
12410590	5,9	28	30	66	6	2
12410600	6,0	28	30	66	6	2
12410610	6,1	34	43	79	8	2
12410620	6,2	34	43	79	8	2
12410630	6,3	34	43	79	8	2
12410640	6,4	34	43	79	8	2

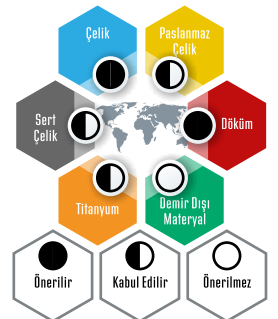


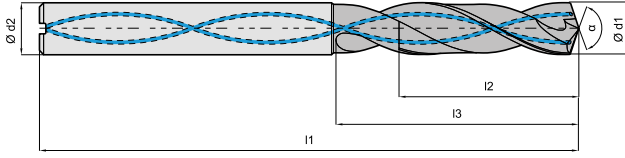


$d_1 = d_2$ tolerans h8
 $d_1 < d_2$ tolerans m7



Sipariş Kodu	d_1	l_2	l_3	l_1	d_2 (h6)	Z
12410650	6,5	34	43	79	8	2
12410660	6,6	34	43	79	8	2
12410670	6,7	34	43	79	8	2
12410680	6,8	34	43	79	8	2
12410690	6,9	34	43	79	8	2
12410700	7,0	34	43	79	8	2
12410710	7,1	41	43	79	8	2
12410720	7,2	41	43	79	8	2
12410730	7,3	41	43	79	8	2
12410740	7,4	41	43	79	8	2
12410750	7,5	41	43	79	8	2
12410760	7,6	41	43	79	8	2
12410770	7,7	41	43	79	8	2
12410780	7,8	41	43	79	8	2
12410790	7,9	41	43	79	8	2
12410800	8,0	41	43	79	8	2
12410810	8,1	47	49	89	10	2
12410820	8,2	47	49	89	10	2
12410830	8,3	47	49	89	10	2
12410840	8,4	47	49	89	10	2
12410850	8,5	47	49	89	10	2
12410860	8,6	47	49	89	10	2
12410870	8,7	47	49	89	10	2
12410880	8,8	47	49	89	10	2
12410890	8,9	47	49	89	10	2
12410900	9,0	47	49	89	10	2
12410910	9,1	47	49	89	10	2
12410920	9,2	47	49	89	10	2
12410930	9,3	47	49	89	10	2
12410940	9,4	47	49	89	10	2
12410950	9,5	47	49	89	10	2
12410960	9,6	47	49	89	10	2
12410970	9,7	47	49	89	10	2
12410980	9,8	47	49	89	10	2
12410990	9,9	47	49	89	10	2

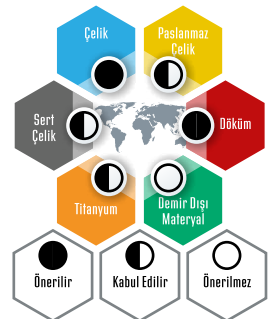


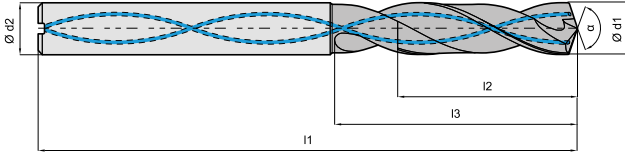


$d_1 = d_2$ tolerans h8
 $d_1 < d_2$ tolerans m7



Sipariş Kodu	d_1	l_2	l_3	l_1	d_2 (h6)	Z
12411000	10,0	47	49	89	10	2
12411010	10,1	55	57	102	12	2
12411020	10,2	55	57	102	12	2
12411030	10,3	55	57	102	12	2
12411040	10,4	55	57	102	12	2
12411050	10,5	55	57	102	12	2
12411060	10,6	55	57	102	12	2
12411070	10,7	55	57	102	12	2
12411080	10,8	55	57	102	12	2
12411090	10,9	55	57	102	12	2
12411100	11,0	55	57	102	12	2
12411110	11,1	55	57	102	12	2
12411120	11,2	55	57	102	12	2
12411130	11,3	55	57	102	12	2
12411140	11,4	55	57	102	12	2
12411150	11,5	55	57	102	12	2
12411160	11,6	55	57	102	12	2
12411170	11,7	55	57	102	12	2
12411180	11,8	55	57	102	12	2
12411190	11,9	55	57	102	12	2
12411200	12,0	55	57	102	12	2
12411210	12,1	60	62	107	14	2
12411220	12,2	60	62	107	14	2
12411230	12,3	60	62	107	14	2
12411240	12,4	60	62	107	14	2
12411250	12,5	60	62	107	14	2
12411260	12,6	60	62	107	14	2
12411270	12,7	60	62	107	14	2
12411280	12,8	60	62	107	14	2
12411290	12,9	60	62	107	14	2
12411300	13,0	60	62	107	14	2
12411310	13,1	60	62	107	14	2
12411320	13,2	60	62	107	14	2
12411330	13,3	60	62	107	14	2
12411340	13,4	60	62	107	14	2

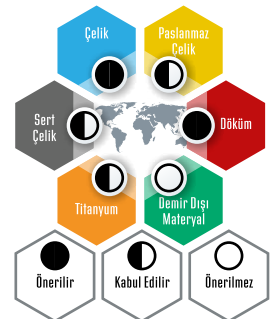




$d_1 = d_2$ tolerans h8
 $d_1 < d_2$ tolerans m7



Sipariş Kodu	d_1	l_2	l_3	l_1	d_2 (h6)	Z
12411350	13,5	60	62	107	14	2
12411360	13,6	60	62	107	14	2
12411370	13,7	60	62	107	14	2
12411380	13,8	60	62	107	14	2
12411390	13,9	60	62	107	14	2
12411400	14,0	60	67	107	14	2
12411410	14,1	65	67	115	16	2
12411420	14,2	65	67	115	16	2
12411430	14,3	65	67	115	16	2
12411440	14,4	65	67	115	16	2
12411450	14,5	65	67	115	16	2
12411460	14,6	65	67	115	16	2
12411470	14,7	65	67	115	16	2
12411480	14,8	65	67	115	16	2
12411490	14,9	65	67	115	16	2
12411500	15,0	65	67	115	16	2
12411510	15,1	65	67	115	16	2
12411520	15,2	65	67	115	16	2
12411530	15,3	65	67	115	16	2
12411540	15,4	65	67	115	16	2
12411550	15,5	65	67	115	16	2
12411560	15,6	65	67	115	16	2
12411570	15,7	65	67	115	16	2
12411580	15,8	65	67	115	16	2
12411590	15,9	65	67	115	16	2
12411600	16,0	65	67	115	16	2
12411650	16,5	73	75	123	18	2
12411700	17,0	73	75	123	18	2
12411750	17,5	73	75	123	18	2
12411800	18,0	73	75	123	18	2
12411850	18,5	79	81	131	20	2
12411900	19,0	79	81	131	20	2
12411950	19,5	79	81	131	20	2
12412000	20,0	79	81	131	20	2





Rahat talaş tahliyesi

5DX

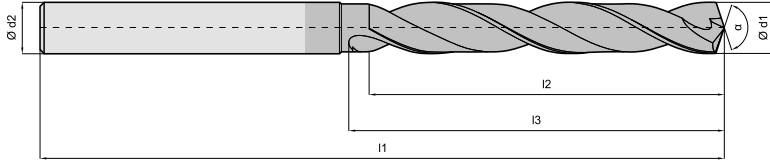
Matkap

142



5DX

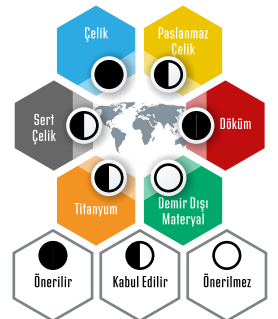
Matkap

142

$d_1 = d_2$ tolerans h8
 $d_1 < d_2$ tolerans m7

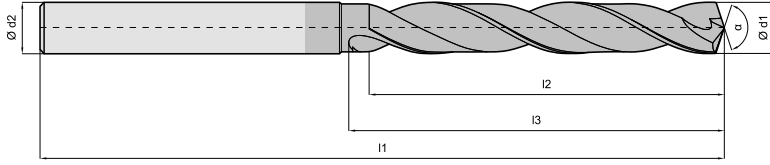


Sipariş Kodu	d ₁	l ₂	l ₃	l ₁	d ₂ (h ₆)	Z
14210300	3,0	28	30	66	6	2
14210310	3,1	28	30	66	6	2
14210320	3,2	28	30	66	6	2
14210330	3,3	28	30	66	6	2
14210340	3,4	28	30	66	6	2
14210350	3,5	28	30	66	6	2
14210360	3,6	28	30	66	6	2
14210370	3,7	28	30	66	6	2
14210380	3,8	36	38	74	6	2
14210390	3,9	36	38	74	6	2
14210400	4,0	36	38	74	6	2
14210410	4,1	36	38	74	6	2
14210420	4,2	36	38	74	6	2
14210430	4,3	36	38	74	6	2
14210440	4,4	36	38	74	6	2
14210450	4,5	36	38	74	6	2
14210460	4,6	36	38	74	6	2
14210470	4,7	36	38	74	6	2
14210480	4,8	44	46	82	6	2
14210490	4,9	44	46	82	6	2
14210500	5,0	44	46	82	6	2
14210510	5,1	44	46	82	6	2
14210520	5,2	44	46	82	6	2
14210530	5,3	44	46	82	6	2
14210540	5,4	44	46	82	6	2
14210550	5,5	44	46	82	6	2
14210560	5,6	44	46	82	6	2
14210570	5,7	44	46	82	6	2
14210580	5,8	44	46	82	6	2
14210590	5,9	44	46	82	6	2
14210600	6,0	44	46	82	6	2
14210610	6,1	53	55	91	8	2
14210620	6,2	53	55	91	8	2
14210630	6,3	53	55	91	8	2
14210640	6,4	53	55	91	8	2



5DX

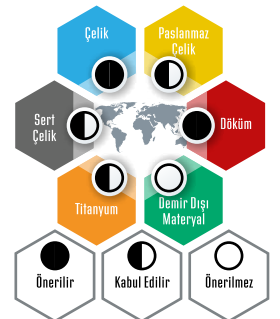
Matkap

142

$d_1 = d_2$ tolerans h8
 $d_1 < d_2$ tolerans m7

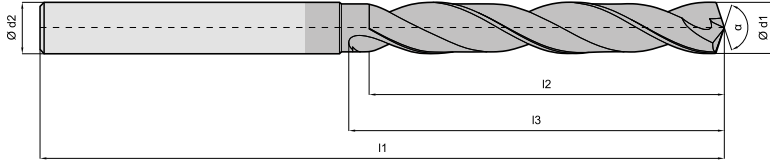


Sipariş Kodu	d ₁	l ₂	l ₃	l ₁	d ₂ (h ₆)	Z
14210650	6,5	53	55	91	8	2
14210660	6,6	53	55	91	8	2
14210670	6,7	53	55	91	8	2
14210680	6,8	53	55	91	8	2
14210690	6,9	53	55	91	8	2
14210700	7,0	53	55	91	8	2
14210710	7,1	53	55	91	8	2
14210720	7,2	53	55	91	8	2
14210730	7,3	53	55	91	8	2
14210740	7,4	53	55	91	8	2
14210750	7,5	53	55	91	8	2
14210760	7,6	53	55	91	8	2
14210770	7,7	53	55	91	8	2
14210780	7,8	53	55	91	8	2
14210790	7,9	53	55	91	8	2
14210800	8,0	53	55	91	8	2
14210810	8,1	61	63	103	10	2
14210820	8,2	61	63	103	10	2
14210830	8,3	61	63	103	10	2
14210840	8,4	61	63	103	10	2
14210850	8,5	61	63	103	10	2
14210860	8,6	61	63	103	10	2
14210870	8,7	61	63	103	10	2
14210880	8,8	61	63	103	10	2
14210890	8,9	61	63	103	10	2
14210900	9,0	61	63	103	10	2
14210910	9,1	61	63	103	10	2
14210920	9,2	61	63	103	10	2
14210930	9,3	61	63	103	10	2
14210940	9,4	61	63	103	10	2
14210950	9,5	61	63	103	10	2
14210960	9,6	61	63	103	10	2
14210970	9,7	61	63	103	10	2
14210980	9,8	61	63	103	10	2
14210990	9,9	61	63	103	10	2



5DX

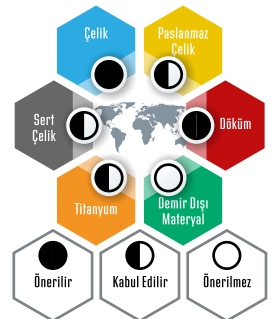
Matkap

142

$d_1 = d_2$ tolerans h8
 $d_1 < d_2$ tolerans m7

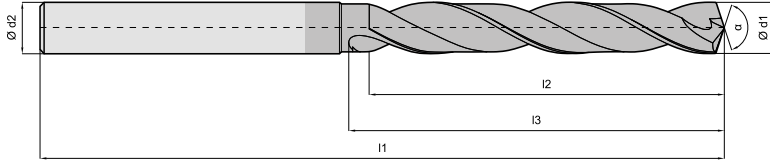


Sipariş Kodu	d ₁	l ₂	l ₃	l ₁	d ₂ (h ₆)	Z
14211000	10,0	61	63	103	10	2
14211010	10,1	71	73	118	12	2
14211020	10,2	71	73	118	12	2
14211030	10,3	71	73	118	12	2
14211040	10,4	71	73	118	12	2
14211050	10,5	71	73	118	12	2
14211060	10,6	71	73	118	12	2
14211070	10,7	71	73	118	12	2
14211080	10,8	71	73	118	12	2
14211090	10,9	71	73	118	12	2
14211100	11,0	71	73	118	12	2
14211110	11,1	71	73	118	12	2
14211120	11,2	71	73	118	12	2
14211130	11,3	71	73	118	12	2
14211140	11,4	71	73	118	12	2
14211150	11,5	71	73	118	12	2
14211160	11,6	71	73	118	12	2
14211170	11,7	71	73	118	12	2
14211180	11,8	71	73	118	12	2
14211190	11,9	71	73	118	12	2
14211200	12,0	71	73	118	12	2
14211210	12,1	77	79	124	14	2
14211220	12,2	77	79	124	14	2
14211230	12,3	77	79	124	14	2
14211240	12,4	77	79	124	14	2
14211250	12,5	77	79	124	14	2
14211260	12,6	77	79	124	14	2
14211270	12,7	77	79	124	14	2
14211280	12,8	77	79	124	14	2
14211290	12,9	77	79	124	14	2
14211300	13,0	77	79	124	14	2
14211310	13,1	77	79	124	14	2
14211320	13,2	77	79	124	14	2
14211330	13,3	77	79	124	14	2
14211340	13,4	77	79	124	14	2



5DX

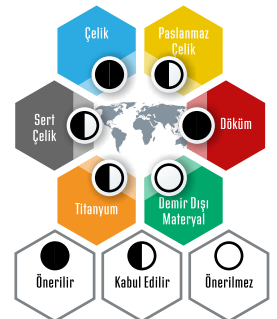
Matkap

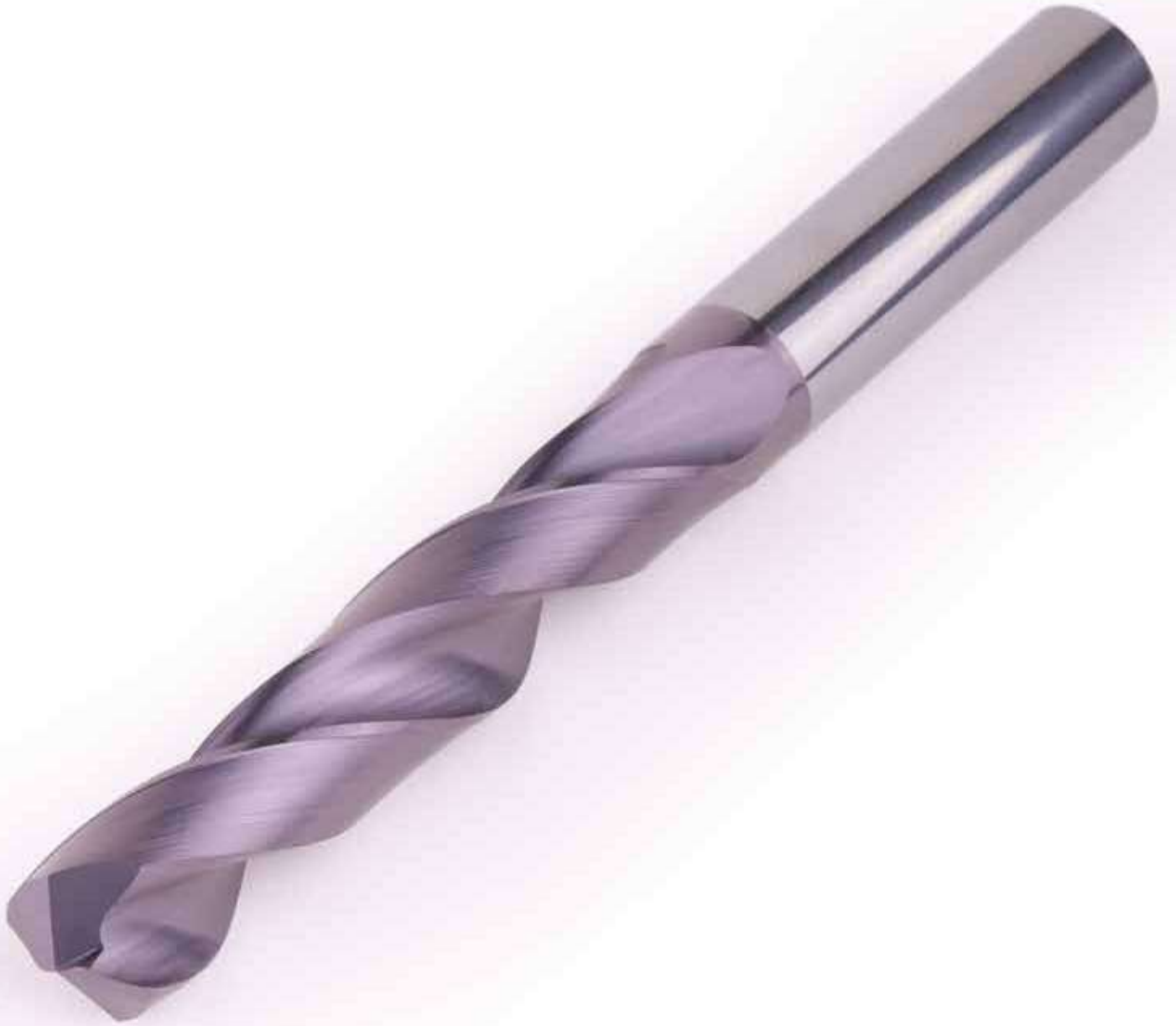
142

$d_1 = d_2$ tolerans h8
 $d_1 < d_2$ tolerans m7



Sipariş Kodu	d ₁	l ₂	l ₃	l ₁	d ₂ (h ₆)	Z
14211350	13,5	77	79	124	14	2
14211360	13,6	77	79	124	14	2
14211370	13,7	77	79	124	14	2
14211380	13,8	77	79	124	14	2
14211390	13,9	77	79	124	14	2
14211400	14,0	77	79	124	14	2
14211410	14,1	83	85	133	16	2
14211420	14,2	83	85	133	16	2
14211430	14,3	83	85	133	16	2
14211440	14,4	83	85	133	16	2
14211450	14,5	83	85	133	16	2
14211460	14,6	83	85	133	16	2
14211470	14,7	83	85	133	16	2
14211480	14,8	83	85	133	16	2
14211490	14,9	83	85	133	16	2
14211500	15,0	83	85	133	16	2
14211510	15,1	83	85	133	16	2
14211520	15,2	83	85	133	16	2
14211530	15,3	83	85	133	16	2
14211540	15,4	83	85	133	16	2
14211550	15,5	83	85	133	16	2
14211560	15,6	83	85	133	16	2
14211570	15,7	83	85	133	16	2
14211580	15,8	83	85	133	16	2
14211590	15,9	83	85	133	16	2
14211600	16,0	83	85	133	16	2
14211650	16,5	93	95	143	18	2
14211700	17,0	93	95	143	18	2
14211750	17,5	93	95	143	18	2
14211800	18,0	93	95	143	18	2
14211850	18,5	101	103	153	20	2
14211900	19,0	101	103	153	20	2
14211950	19,5	101	103	153	20	2
14212000	20,0	101	103	153	20	2



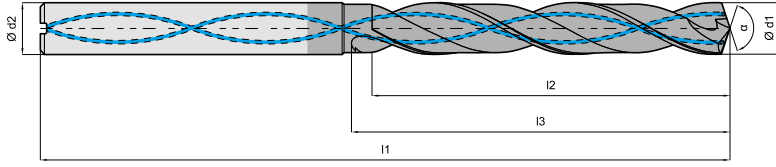


5DX

İçten Soğutmalı Matkap

144

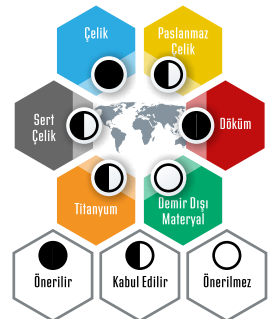


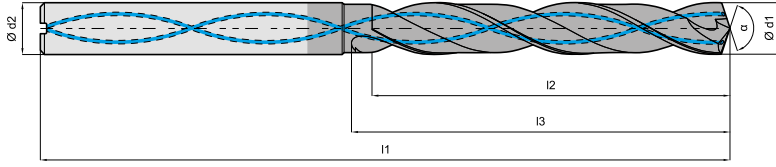


$d_1 = d_2$ tolerans h8
 $d_1 < d_2$ tolerans m7



Sipariş Kodu	d_1	l_2	l_3	l_1	d_2 (h6)	Z
14410300	3,0	28	30	66	6	2
14410310	3,1	28	30	66	6	2
14410320	3,2	28	30	66	6	2
14410330	3,3	28	30	66	6	2
14410340	3,4	28	30	66	6	2
14410350	3,5	28	30	66	6	2
14410360	3,6	28	30	66	6	2
14410370	3,7	28	30	66	6	2
14410380	3,8	36	38	74	6	2
14410390	3,9	36	38	74	6	2
14410400	4,0	36	38	74	6	2
14410410	4,1	36	38	74	6	2
14410420	4,2	36	38	74	6	2
14410430	4,3	36	38	74	6	2
14410440	4,4	36	38	74	6	2
14410450	4,5	36	38	74	6	2
14410460	4,6	36	38	74	6	2
14410470	4,7	36	38	74	6	2
14410480	4,8	44	46	82	6	2
14410490	4,9	44	46	82	6	2
14410500	5,0	44	46	82	6	2
14410510	5,1	44	46	82	6	2
14410520	5,2	44	46	82	6	2
14410530	5,3	44	46	82	6	2
14410540	5,4	44	46	82	6	2
14410550	5,5	44	46	82	6	2
14410560	5,6	44	46	82	6	2
14410570	5,7	44	46	82	6	2
14410580	5,8	44	46	82	6	2
14410590	5,9	44	46	82	6	2
14410600	6,0	44	46	82	6	2
14410610	6,1	53	55	91	8	2
14410620	6,2	53	55	91	8	2
14410630	6,3	53	55	91	8	2
14410640	6,4	53	55	91	8	2

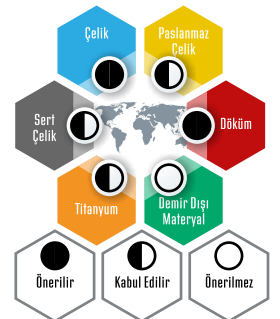


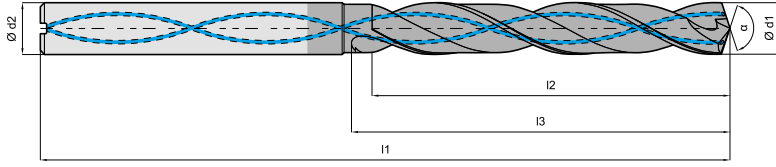


$d_1 = d_2$ tolerans h8
 $d_1 < d_2$ tolerans m7



Sipariş Kodu	d ₁	l ₂	l ₃	l ₁	d ₂ (h ₆)	Z
14410650	6,5	53	55	91	8	2
14410660	6,6	53	55	91	8	2
14410670	6,7	53	55	91	8	2
14410680	6,8	53	55	91	8	2
14410690	6,9	53	55	91	8	2
14410700	7,0	53	55	91	8	2
14410710	7,1	53	55	91	8	2
14410720	7,2	53	55	91	8	2
14410730	7,3	53	55	91	8	2
14410740	7,4	53	55	91	8	2
14410750	7,5	53	55	91	8	2
14410760	7,6	53	55	91	8	2
14410770	7,7	53	55	91	8	2
14410780	7,8	53	55	91	8	2
14410790	7,9	53	55	91	8	2
14410800	8,0	53	55	91	8	2
14410810	8,1	61	63	103	10	2
14410820	8,2	61	63	103	10	2
14410830	8,3	61	63	103	10	2
14410840	8,4	61	63	103	10	2
14410850	8,5	61	63	103	10	2
14410860	8,6	61	63	103	10	2
14410870	8,7	61	63	103	10	2
14410880	8,8	61	63	103	10	2
14410890	8,9	61	63	103	10	2
14410900	9,0	61	63	103	10	2
14410910	9,1	61	63	103	10	2
14410920	9,2	61	63	103	10	2
14410930	9,3	61	63	103	10	2
14410940	9,4	61	63	103	10	2
14410950	9,5	61	63	103	10	2
14410960	9,6	61	63	103	10	2
14410970	9,7	61	63	103	10	2
14410980	9,8	61	63	103	10	2
14410990	9,9	61	63	103	10	2

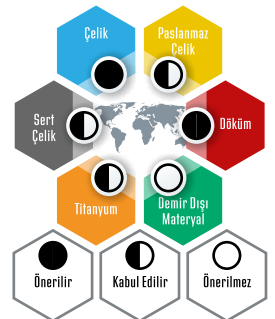


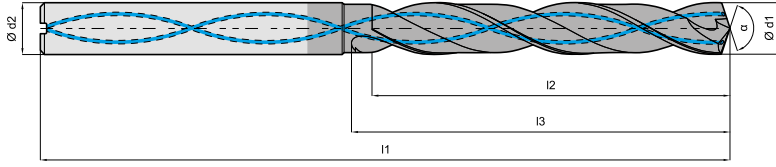


$d_1 = d_2$ tolerans h8
 $d_1 < d_2$ tolerans m7



Sipariş Kodu	d_1	l_2	l_3	l_1	d_2 (h6)	Z
14411000	10,0	61	63	103	10	2
14411010	10,1	71	73	118	12	2
14411020	10,2	71	73	118	12	2
14411030	10,3	71	73	118	12	2
14411040	10,4	71	73	118	12	2
14411050	10,5	71	73	118	12	2
14411060	10,6	71	73	118	12	2
14411070	10,7	71	73	118	12	2
14411080	10,8	71	73	118	12	2
14411090	10,9	71	73	118	12	2
14411100	11,0	71	73	118	12	2
14411110	11,1	71	73	118	12	2
14411120	11,2	71	73	118	12	2
14411130	11,3	71	73	118	12	2
14411140	11,4	71	73	118	12	2
14411150	11,5	71	73	118	12	2
14411160	11,6	71	73	118	12	2
14411170	11,7	71	73	118	12	2
14411180	11,8	71	73	118	12	2
14411190	11,9	71	73	118	12	2
14411200	12,0	71	73	118	12	2
14411210	12,1	77	79	124	14	2
14411220	12,2	77	79	124	14	2
14411230	12,3	77	79	124	14	2
14411240	12,4	77	79	124	14	2
14411250	12,5	77	79	124	14	2
14411260	12,6	77	79	124	14	2
14411270	12,7	77	79	124	14	2
14411280	12,8	77	79	124	14	2
14411290	12,9	77	79	124	14	2
14411300	13,0	77	79	124	14	2
14411310	13,1	77	79	124	14	2
14411320	13,2	77	79	124	14	2
14411330	13,3	77	79	124	14	2
14411340	13,4	77	79	124	14	2

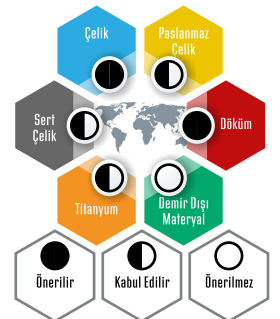




$d_1 = d_2$ tolerans h8
 $d_1 < d_2$ tolerans m7



Sipariş Kodu	d_1	l_2	l_3	l_1	d_2 (h6)	Z
14411350	13,5	77	79	124	14	2
14411360	13,6	77	79	124	14	2
14411370	13,7	77	79	124	14	2
14411380	13,8	77	79	124	14	2
14411390	13,9	77	79	124	14	2
14411400	14,0	77	79	124	14	2
14411410	14,1	83	85	133	16	2
14411420	14,2	83	85	133	16	2
14411430	14,3	83	85	133	16	2
14411440	14,4	83	85	133	16	2
14411450	14,5	83	85	133	16	2
14411460	14,6	83	85	133	16	2
14411470	14,7	83	85	133	16	2
14411480	14,8	83	85	133	16	2
14411490	14,9	83	85	133	16	2
14411500	15,0	83	85	133	16	2
14411510	15,1	83	85	133	16	2
14411520	15,2	83	85	133	16	2
14411530	15,3	83	85	133	16	2
14411540	15,4	83	85	133	16	2
14411550	15,5	83	85	133	16	2
14411560	15,6	83	85	133	16	2
14411570	15,7	83	85	133	16	2
14411580	15,8	83	85	133	16	2
14411590	15,9	83	85	133	16	2
14411600	16,0	83	85	133	16	2
14411650	16,5	93	95	143	18	2
14411700	17,0	93	95	143	18	2
14411750	17,5	93	95	143	18	2
14411800	18,0	93	95	143	18	2
14411850	18,5	101	103	153	20	2
14411900	19,0	101	103	153	20	2
14411950	19,5	101	103	153	20	2
14412000	20,0	101	103	153	20	2





5DX ift Zırhlı

Karbür Matkap

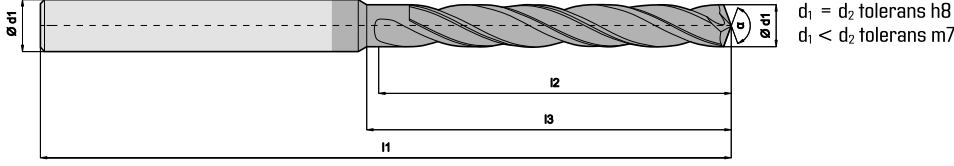
146



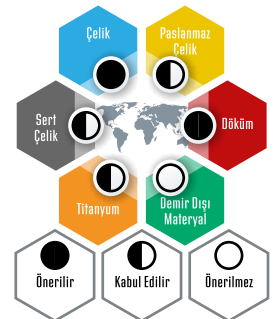
5DX Çift Zırlı

Karbür Matkap

146



Sipariş Kodu	d ₁	l ₂	l ₃	l ₁	d ₂ (h ₆)	Z
14610300	3,0	28	30	66	6	2
14610320	3,2	28	30	66	6	2
14610330	3,3	28	30	66	6	2
14610350	3,5	28	30	66	6	2
14610400	4,0	36	38	74	6	2
14610420	4,2	36	38	74	6	2
14610450	4,5	36	38	74	6	2
14610500	5,0	44	46	82	6	2
14610520	5,2	44	46	82	6	2
14610550	5,5	44	46	82	6	2
14610600	6,0	44	46	82	6	2
14610650	6,5	53	55	91	8	2
14610680	6,8	53	55	91	8	2
14610700	7,0	53	55	91	8	2
14610740	7,4	53	55	91	8	2
14610750	7,5	53	55	91	8	2
14610800	8,0	53	55	91	8	2
14610850	8,5	61	63	103	10	2
14610900	9,0	61	63	103	10	2
14610950	9,5	61	63	103	10	2
14611000	10,0	61	63	103	10	2
14611020	10,2	71	73	118	12	2
14611050	10,5	71	73	118	12	2
14611080	10,8	71	73	118	12	2
14611100	11,0	71	73	118	12	2
14611150	11,5	71	73	118	12	2
14611200	12,0	71	73	118	12	2
14611250	12,5	77	79	124	14	2
14611300	13,0	77	79	124	14	2
14611350	13,5	77	79	124	14	2
14611400	14,0	77	79	124	14	2



5DX Çift Zırlı

İçten Soğutmalı Kaplamalı

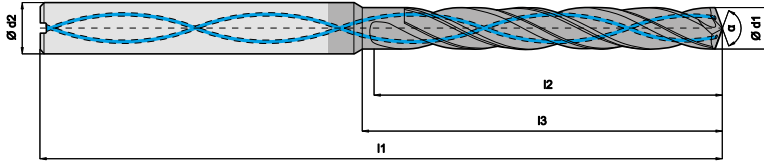
148



5DX Çift Zırlı

İçten Soğutmalı Kaplamalı

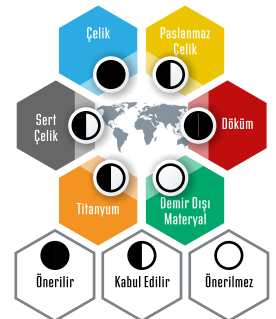
148



$d_1 = d_2$ tolerans h8
 $d_1 < d_2$ tolerans m7



Sipariş Kodu	d_1	l_2	l_3	l_1	d_2 (h6)	Z
14810300	3,0	28	30	66	6	2
14810320	3,2	28	30	66	6	2
14810330	3,3	28	30	66	6	2
14810350	3,5	28	30	66	6	2
14810400	4,0	36	38	74	6	2
14810420	4,2	36	38	74	6	2
14810450	4,5	36	38	74	6	2
14810500	5,0	44	46	82	6	2
14810520	5,2	44	46	82	6	2
14810550	5,5	44	46	82	6	2
14810600	6,0	44	46	82	6	2
14810650	6,5	53	55	91	8	2
14810680	6,8	53	55	91	8	2
14810700	7,0	53	55	91	8	2
14810740	7,4	53	55	91	8	2
14810750	7,5	53	55	91	8	2
14810800	8,0	53	55	91	8	2
14810850	8,5	61	63	103	10	2
14810900	9,0	61	63	103	10	2
14810950	9,5	61	63	103	10	2
14811000	10,0	61	63	103	10	2
14811020	10,2	71	73	118	12	2
14811050	10,5	71	73	118	12	2
14811080	10,8	71	73	118	12	2
14811100	11,0	71	73	118	12	2
14811150	11,5	71	73	118	12	2
14811200	12,0	71	73	118	12	2
14811250	12,5	77	79	124	14	2
14811300	13,0	77	79	124	14	2
14811350	13,5	77	79	124	14	2
14811400	14,0	77	79	124	14	2



8DX Çift Zırlı

İçten Soğutmalı Matkap

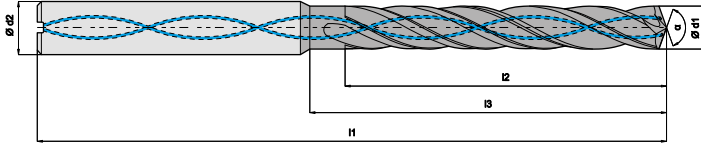
158



8DX Çift Zırlıklı

İçten Soğutmalı Matkap

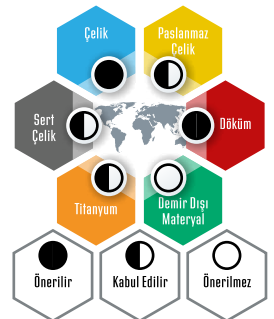
158



$d_1 = d_2$ tolerans h8
 $d_1 < d_2$ tolerans m7



Sipariş Kodu	d_1	l_2	l_3	l_1	d_2 (h6)	Z
15810300	3,0	33	40	78	6	2
15810350	3,5	33	40	78	6	2
15810400	4,0	41	49	87	6	2
15810450	4,5	41	49	87	6	2
15810500	5,0	48	56	94	6	2
15810550	5,5	48	56	94	6	2
15810600	6,0	48	56	94	6	2
14810650	6,5	57	67	105	8	2
15810700	7,0	57	67	105	8	2
15810750	7,5	61	72	110	8	2
15810800	8,0	61	72	110	8	2
15810850	8,5	68	80	122	10	2
15810900	9,0	68	80	122	10	2
15810950	9,5	68	80	122	10	2
15811000	10,0	68	80	122	10	2
15811050	10,5	79	94	141	12	2
15811100	11,0	79	94	141	12	2
15811150	11,5	79	94	141	12	2
15811200	12,0	79	94	141	12	2
15811250	12,5	91	108	155	14	2
15811300	13,0	91	108	155	14	2
15811350	13,5	91	108	155	14	2
15811400	14,0	91	108	155	14	2
15811450	14,5	101	121	171	16	2
15811500	15,0	101	121	171	16	2
15811550	15,5	101	121	171	16	2
15811600	16,0	101	121	171	16	2
15811700	17,0	113	135	185	18	2
15811800	18,0	113	135	185	18	2
15811900	19,0	124	148	200	20	2
15812000	20,0	124	148	200	20	2



12DX Çift Zırlı

İçten Soğutmalı Matkap

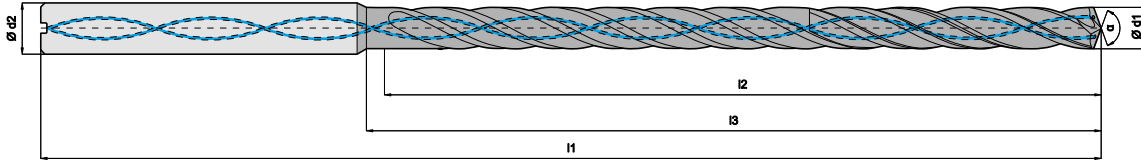
168



12DX Çift Zırlı

İçten Soğutmalı Matkap

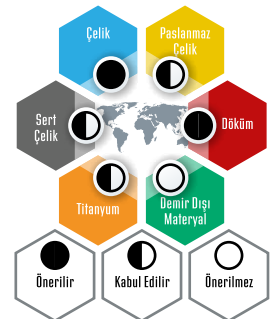
168



$d_1 = d_2$ tolerans h8
 $d_1 < d_2$ tolerans m7



Sipariş Kodu	d_1	l_2	l_3	l_1	$d_2 (h_6)$	Z
16810300	3,0	44	50	90	6	2
16810350	3,5	44	50	90	6	2
16810400	4,0	56	64	102	6	2
16810450	4,5	56	64	102	6	2
16810500	5,0	69	78	116	6	2
16810550	5,5	69	78	116	6	2
16810600	6,0	69	78	116	6	2
16810650	6,5	96	108	146	8	2
16810700	7,0	96	108	146	8	2
16810750	7,5	96	108	146	8	2
16810800	8,0	96	108	146	8	2
16810850	8,5	105	120	162	10	2
16810900	9,0	105	120	162	10	2
16810950	9,5	105	120	162	10	2
16811000	10,0	105	120	162	10	2
16811050	10,5	138	156	204	12	2
16811100	11,0	138	156	204	12	2
16811150	11,5	138	156	204	12	2
16811200	12,0	138	156	204	12	2
16811250	12,5	161	182	230	14	2
16811300	13,0	161	182	230	14	2
16811350	13,5	161	182	230	14	2
16811400	14,0	161	182	230	14	2
16811450	14,5	184	208	260	16	2
16811500	15,0	184	208	260	16	2
16811550	15,5	184	208	260	16	2
16811600	16,0	184	208	260	16	2
16811700	17,0	207	234	285	18	2
16811800	18,0	207	234	285	18	2
16811900	19,0	228	258	310	20	2
16812000	20,0	228	258	310	20	2



16DX Çift Zırlı

İçten Soğutmalı Matkap

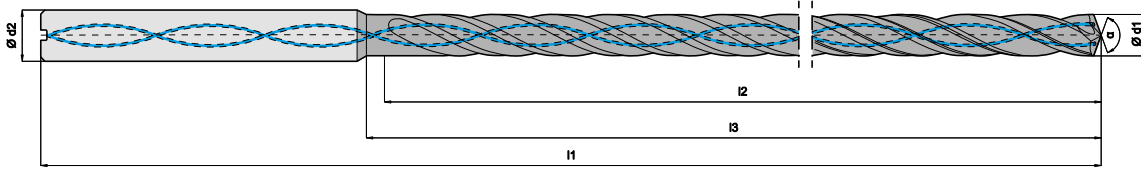
169



16DX Çift Zırlıklı

İçten Soğutmalı Matkap

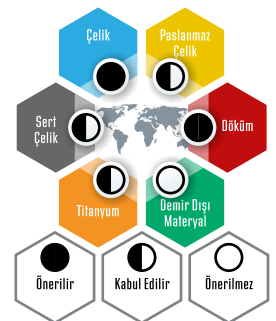
169



$d_1 = d_2$ tolerans h8
 $d_1 < d_2$ tolerans m7



Sipariş Kodu	d_1	l_2	l_3	l_1	d_2 (h6)	Z
16910400	4,0	64	78	120	6	2
16910500	5,0	80	100	140	6	2
16910600	6,0	96	110	150	6	2
16910700	7,0	112	135	175	8	2
16910800	8,0	128	152	192	8	2
16910900	9,0	144	162	206	10	2
16911000	10,0	160	180	224	10	2
16911100	11,0	176	198	247	12	2
16911200	12,0	192	216	265	12	2

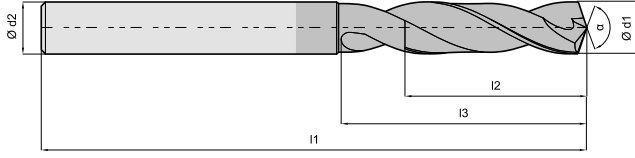


3DX

Matkap Paslanmaz

171

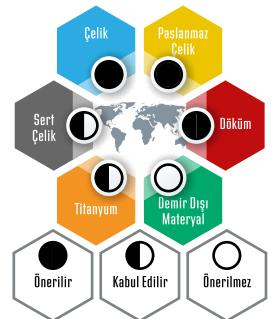


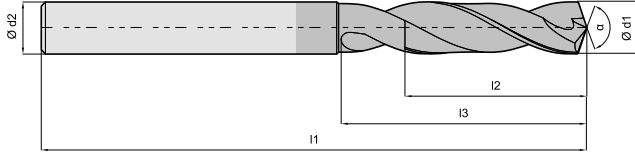


$d_1 = d_2$ tolerans h8
 $d_1 < d_2$ tolerans m7



Sipariş Kodu	d_1	l_2	l_3	l_1	d_2 (h6)	Z
17110300	3,0	20	26	62	6	2
17110310	3,1	20	26	62	6	2
17110320	3,2	20	26	62	6	2
17110330	3,3	20	26	62	6	2
17110340	3,4	20	26	62	6	2
17110350	3,5	20	26	62	6	2
17110360	3,6	20	26	62	6	2
17110370	3,7	20	26	62	6	2
17110380	3,8	24	30	66	6	2
17110390	3,9	24	30	66	6	2
17110400	4,0	24	30	66	6	2
17110410	4,1	24	30	66	6	2
17110420	4,2	24	30	66	6	2
17110430	4,3	24	30	66	6	2
17110440	4,4	24	30	66	6	2
17110450	4,5	24	30	66	6	2
17110460	4,6	24	30	66	6	2
17110470	4,7	24	30	66	6	2
17110480	4,8	28	30	66	6	2
17110490	4,9	28	30	66	6	2
17110500	5,0	28	30	66	6	2
17110510	5,1	28	30	66	6	2
17110520	5,2	28	30	66	6	2
17110530	5,3	28	30	66	6	2
17110540	5,4	28	30	66	6	2
17110550	5,5	28	30	66	6	2
17110560	5,6	28	30	66	6	2
17110570	5,7	28	30	66	6	2
17110580	5,8	28	30	66	6	2
17110590	5,9	28	30	66	6	2
17110600	6,0	28	30	66	6	2
17110610	6,1	34	43	79	8	2
17110620	6,2	34	43	79	8	2
17110630	6,3	34	43	79	8	2
17110640	6,4	34	43	79	8	2



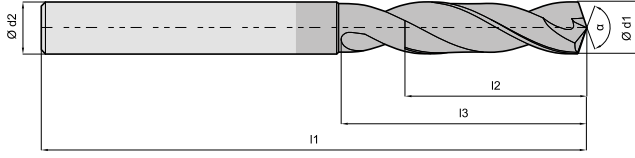


$d_1 = d_2$ tolerans h8
 $d_1 < d_2$ tolerans m7



Sipariş Kodu	d ₁	l ₂	l ₃	l ₁	d ₂ (h ₆)	Z
17110650	6,5	34	43	79	8	2
17110660	6,6	34	43	79	8	2
17110670	6,7	34	43	79	8	2
17110680	6,8	34	43	79	8	2
17110690	6,9	34	43	79	8	2
17110700	7,0	34	43	79	8	2
17110710	7,1	41	43	79	8	2
17110720	7,2	41	43	79	8	2
17110730	7,3	41	43	79	8	2
17110740	7,4	41	43	79	8	2
17110750	7,5	41	43	79	8	2
17110760	7,6	41	43	79	8	2
17110770	7,7	41	43	79	8	2
17110780	7,8	41	43	79	8	2
17110790	7,9	41	43	79	8	2
17110800	8,0	41	43	79	8	2
17110810	8,1	47	49	89	10	2
17110820	8,2	47	49	89	10	2
17110830	8,3	47	49	89	10	2
17110840	8,4	47	49	89	10	2
17110850	8,5	47	49	89	10	2
17110860	8,6	47	49	89	10	2
17110870	8,7	47	49	89	10	2
17110880	8,8	47	49	89	10	2
17110890	8,9	47	49	89	10	2
17110900	9,0	47	49	89	10	2
17110910	9,1	47	49	89	10	2
17110920	9,2	47	49	89	10	2
17110930	9,3	47	49	89	10	2
17110940	9,4	47	49	89	10	2
17110950	9,5	47	49	89	10	2
17110960	9,6	47	49	89	10	2
17110970	9,7	47	49	89	10	2
17110980	9,8	47	49	89	10	2
17110990	9,9	47	49	89	10	2

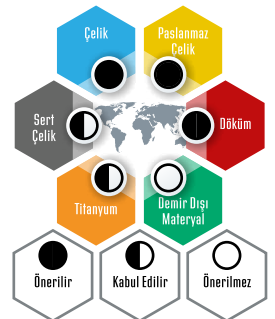


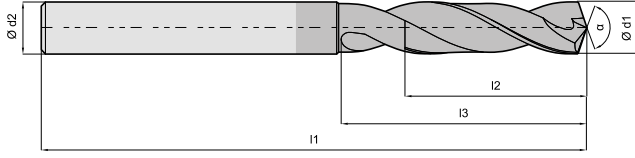


$d_1 = d_2$ tolerans h8
 $d_1 < d_2$ tolerans m7



Sipariş Kodu	d ₁	l ₂	l ₃	l ₁	d ₂ (h ₆)	Z
17111000	10,0	47	49	89	10	2
17111010	10,1	55	57	102	12	2
17111020	10,2	55	57	102	12	2
17111030	10,3	55	57	102	12	2
17111040	10,4	55	57	102	12	2
17111050	10,5	55	57	102	12	2
17111060	10,6	55	57	102	12	2
17111070	10,7	55	57	102	12	2
17111080	10,8	55	57	102	12	2
17111090	10,9	55	57	102	12	2
17111100	11,0	55	57	102	12	2
17111110	11,1	55	57	102	12	2
17111120	11,2	55	57	102	12	2
17111130	11,3	55	57	102	12	2
17111140	11,4	55	57	102	12	2
17111150	11,5	55	57	102	12	2
17111160	11,6	55	57	102	12	2
17111170	11,7	55	57	102	12	2
17111180	11,8	55	57	102	12	2
17111190	11,9	55	57	102	12	2
17111200	12,0	55	57	102	12	2
17111210	12,1	60	62	107	14	2
17111710	12,2	60	62	107	14	2
17111230	12,3	60	62	107	14	2
17111240	12,4	60	62	107	14	2
17111250	12,5	60	62	107	14	2
17111260	12,6	60	62	107	14	2
17111270	12,7	60	62	107	14	2
17111280	12,8	60	62	107	14	2
17111290	12,9	60	62	107	14	2
17111300	13,0	60	62	107	14	2
17111310	13,1	60	62	107	14	2
17111320	13,2	60	62	107	14	2
17111330	13,3	60	62	107	14	2
17111340	13,4	60	62	107	14	2

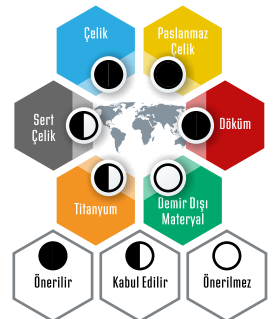




$d_1 = d_2$ tolerans h8
 $d_1 < d_2$ tolerans m7



Sipariş Kodu	d ₁	l ₂	l ₃	l ₁	d ₂ (h ₆)	Z
17111350	13,5	60	62	107	14	2
17111360	13,6	60	62	107	14	2
17111370	13,7	60	62	107	14	2
17111380	13,8	60	62	107	14	2
17111390	13,9	60	62	107	14	2
17111400	14,0	60	67	107	14	2
17111410	14,1	65	67	115	16	2
17111420	14,2	65	67	115	16	2
17111430	14,3	65	67	115	16	2
17111440	14,4	65	67	115	16	2
17111450	14,5	65	67	115	16	2
17111460	14,6	65	67	115	16	2
17111470	14,7	65	67	115	16	2
17111480	14,8	65	67	115	16	2
17111490	14,9	65	67	115	16	2
17111500	15,0	65	67	115	16	2
17111510	15,1	65	67	115	16	2
17111520	15,2	65	67	115	16	2
17111530	15,3	65	67	115	16	2
17111540	15,4	65	67	115	16	2
17111550	15,5	65	67	115	16	2
17111560	15,6	65	67	115	16	2
17111570	15,7	65	67	115	16	2
17111580	15,8	65	67	115	16	2
17111590	15,9	65	67	115	16	2
17111600	16,0	65	67	115	16	2
17111650	16,5	73	75	123	18	2
17111700	17,0	73	75	123	18	2
17111750	17,5	73	75	123	18	2
17111800	18,0	73	75	123	18	2
17111850	18,5	79	81	131	20	2
17111900	19,0	79	81	131	20	2
17111950	19,5	79	81	131	20	2
17112000	20,0	79	81	131	20	2



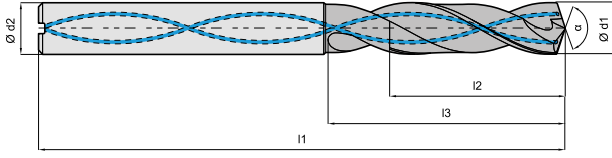


3DX

İçten Soğutmalı Matkap Paslanmaz

172

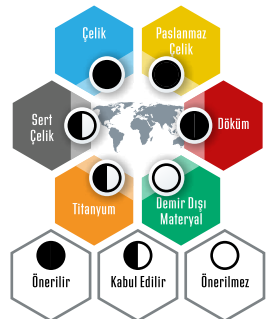


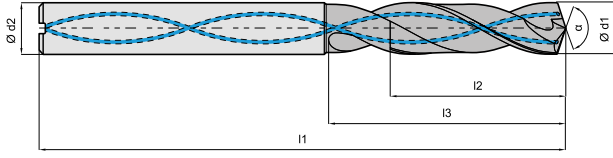


$d_1 = d_2$ tolerans h8
 $d_1 < d_2$ tolerans m7



Sipariş Kodu	d_1	l_2	l_3	l_1	d_2 (h6)	Z
17210300	3,0	20	26	62	6	2
17210310	3,1	20	26	62	6	2
17210320	3,2	20	26	62	6	2
17210330	3,3	20	26	62	6	2
17210340	3,4	20	26	62	6	2
17210350	3,5	20	26	62	6	2
17210360	3,6	20	26	62	6	2
17210370	3,7	20	26	62	6	2
17210380	3,8	24	30	66	6	2
17210390	3,9	24	30	66	6	2
17210400	4,0	24	30	66	6	2
17210410	4,1	24	30	66	6	2
17210420	4,2	24	30	66	6	2
17210430	4,3	24	30	66	6	2
17210440	4,4	24	30	66	6	2
17210450	4,5	24	30	66	6	2
17210460	4,6	24	30	66	6	2
17210470	4,7	24	30	66	6	2
17210480	4,8	28	30	66	6	2
17210490	4,9	28	30	66	6	2
17210500	5,0	28	30	66	6	2
17210510	5,1	28	30	66	6	2
17210520	5,2	28	30	66	6	2
17210530	5,3	28	30	66	6	2
17210540	5,4	28	30	66	6	2
17210550	5,5	28	30	66	6	2
17210560	5,6	28	30	66	6	2
17210570	5,7	28	30	66	6	2
17210580	5,8	28	30	66	6	2
17210590	5,9	28	30	66	6	2
17210600	6,0	28	30	66	6	2
17210610	6,1	34	43	79	8	2
17210620	6,2	34	43	79	8	2
17210630	6,3	34	43	79	8	2
17210640	6,4	34	43	79	8	2

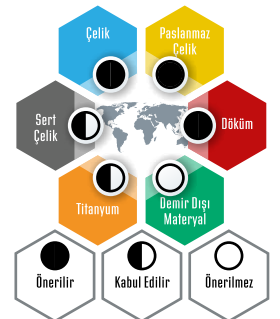


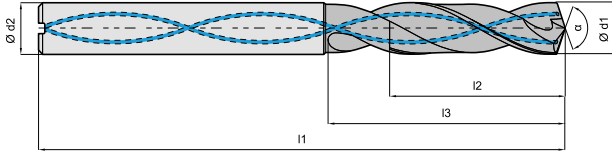


$d_1 = d_2$ tolerans h8
 $d_1 < d_2$ tolerans m7



Sipariş Kodu	d_1	l_2	l_3	l_1	d_2 (h6)	Z
17210650	6,5	34	43	79	8	2
17210660	6,6	34	43	79	8	2
17210670	6,7	34	43	79	8	2
17210680	6,8	34	43	79	8	2
17210690	6,9	34	43	79	8	2
17210700	7,0	34	43	79	8	2
17210710	7,1	41	43	79	8	2
17210720	7,2	41	43	79	8	2
17210730	7,3	41	43	79	8	2
17210740	7,4	41	43	79	8	2
17210750	7,5	41	43	79	8	2
17210760	7,6	41	43	79	8	2
17210770	7,7	41	43	79	8	2
17210780	7,8	41	43	79	8	2
17210790	7,9	41	43	79	8	2
17210800	8,0	41	43	79	8	2
17210810	8,1	47	49	89	10	2
17210820	8,2	47	49	89	10	2
17210830	8,3	47	49	89	10	2
17210840	8,4	47	49	89	10	2
17210850	8,5	47	49	89	10	2
17210860	8,6	47	49	89	10	2
17210870	8,7	47	49	89	10	2
17210880	8,8	47	49	89	10	2
17210890	8,9	47	49	89	10	2
17210900	9,0	47	49	89	10	2
17210910	9,1	47	49	89	10	2
17210920	9,2	47	49	89	10	2
17210930	9,3	47	49	89	10	2
17210940	9,4	47	49	89	10	2
17210950	9,5	47	49	89	10	2
17210960	9,6	47	49	89	10	2
17210970	9,7	47	49	89	10	2
17210980	9,8	47	49	89	10	2
17210990	9,9	47	49	89	10	2

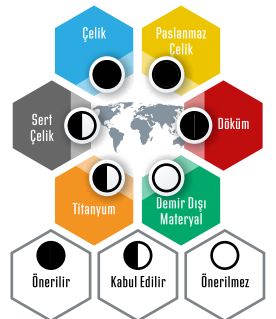


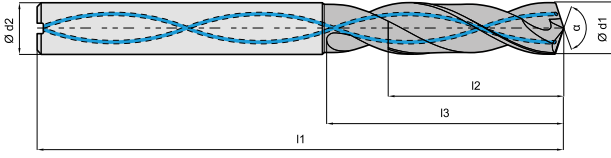


$d_1 = d_2$ tolerans h8
 $d_1 < d_2$ tolerans m7



Sipariş Kodu	d_1	l_2	l_3	l_1	d_2 (h6)	Z
17211000	10,0	47	49	89	10	2
17211010	10,1	55	57	102	12	2
17211020	10,2	55	57	102	12	2
17211030	10,3	55	57	102	12	2
17211040	10,4	55	57	102	12	2
17211050	10,5	55	57	102	12	2
17211060	10,6	55	57	102	12	2
17211070	10,7	55	57	102	12	2
17211080	10,8	55	57	102	12	2
17211090	10,9	55	57	102	12	2
17211100	11,0	55	57	102	12	2
17211110	11,1	55	57	102	12	2
17211120	11,2	55	57	102	12	2
17211130	11,3	55	57	102	12	2
17211140	11,4	55	57	102	12	2
17211150	11,5	55	57	102	12	2
17211160	11,6	55	57	102	12	2
17211170	11,7	55	57	102	12	2
17211180	11,8	55	57	102	12	2
17211190	11,9	55	57	102	12	2
17211200	12,0	55	57	102	12	2
17211210	12,1	60	62	107	14	2
17211220	12,2	60	62	107	14	2
17211230	12,3	60	62	107	14	2
17211720	12,4	60	62	107	14	2
17211250	12,5	60	62	107	14	2
17211260	12,6	60	62	107	14	2
17211270	12,7	60	62	107	14	2
17211280	12,8	60	62	107	14	2
17211290	12,9	60	62	107	14	2
17211300	13,0	60	62	107	14	2
17211310	13,1	60	62	107	14	2
17211320	13,2	60	62	107	14	2
17211330	13,3	60	62	107	14	2
17211340	13,4	60	62	107	14	2

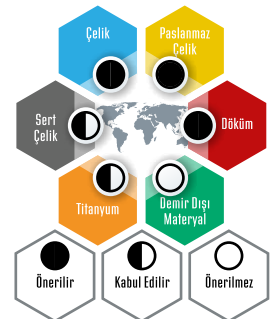




$d_1 = d_2$ tolerans h8
 $d_1 < d_2$ tolerans m7



Sipariş Kodu	d ₁	l ₂	l ₃	l ₁	d ₂ (h ₆)	Z
17211350	13,5	60	62	107	14	2
17211360	13,6	60	62	107	14	2
17211370	13,7	60	62	107	14	2
17211380	13,8	60	62	107	14	2
17211390	13,9	60	62	107	14	2
17211400	14,0	60	67	107	14	2
17211410	14,1	65	67	115	16	2
17211420	14,2	65	67	115	16	2
17211430	14,3	65	67	115	16	2
17211440	14,4	65	67	115	16	2
17211450	14,5	65	67	115	16	2
17211460	14,6	65	67	115	16	2
17211470	14,7	65	67	115	16	2
17211480	14,8	65	67	115	16	2
17211490	14,9	65	67	115	16	2
17211500	15,0	65	67	115	16	2
17211510	15,1	65	67	115	16	2
17211520	15,2	65	67	115	16	2
17211530	15,3	65	67	115	16	2
17211540	15,4	65	67	115	16	2
17211550	15,5	65	67	115	16	2
17211560	15,6	65	67	115	16	2
17211570	15,7	65	67	115	16	2
17211580	15,8	65	67	115	16	2
17211590	15,9	65	67	115	16	2
17211600	16,0	65	67	115	16	2
17211650	16,5	73	75	123	18	2
17211700	17,0	73	75	123	18	2
17211750	17,5	73	75	123	18	2
17211800	18,0	73	75	123	18	2
17211850	18,5	79	81	131	20	2
17211900	19,0	79	81	131	20	2
17211950	19,5	79	81	131	20	2
17212000	20,0	79	81	131	20	2



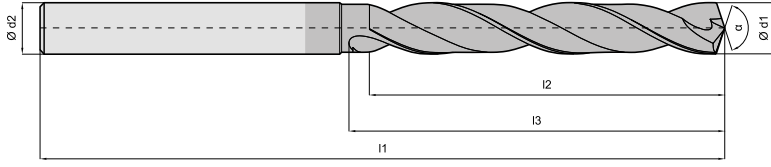


5DX

Matkap Paslanmaz

173

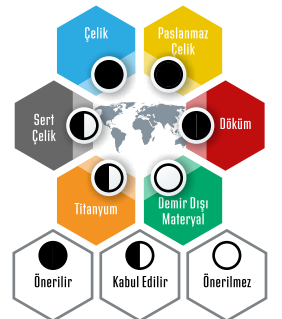


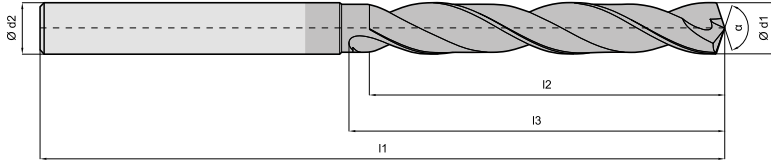


$d_1 = d_2$ tolerans h8
 $d_1 < d_2$ tolerans m7



Sipariş Kodu	d ₁	l ₂	l ₃	l ₁	d ₂ (h ₆)	Z
17310300	3,0	28	30	66	6	2
17310310	3,1	28	30	66	6	2
17310320	3,2	28	30	66	6	2
17310330	3,3	28	30	66	6	2
17310340	3,4	28	30	66	6	2
17310350	3,5	28	30	66	6	2
17310360	3,6	28	30	66	6	2
17310370	3,7	28	30	66	6	2
17310380	3,8	36	38	74	6	2
17310390	3,9	36	38	74	6	2
17310400	4,0	36	38	74	6	2
17310410	4,1	36	38	74	6	2
17310420	4,2	36	38	74	6	2
17310430	4,3	36	38	74	6	2
17310440	4,4	36	38	74	6	2
17310450	4,5	36	38	74	6	2
17310460	4,6	36	38	74	6	2
17310470	4,7	36	38	74	6	2
17310480	4,8	44	46	82	6	2
17310490	4,9	44	46	82	6	2
17310500	5,0	44	46	82	6	2
17310510	5,1	44	46	82	6	2
17310520	5,2	44	46	82	6	2
17310530	5,3	44	46	82	6	2
17310540	5,4	44	46	82	6	2
17310550	5,5	44	46	82	6	2
17310560	5,6	44	46	82	6	2
17310570	5,7	44	46	82	6	2
17310580	5,8	44	46	82	6	2
17310590	5,9	44	46	82	6	2
17310600	6,0	44	46	82	6	2
17310610	6,1	53	55	91	8	2
17310620	6,2	53	55	91	8	2
17310630	6,3	53	55	91	8	2
17310640	6,4	53	55	91	8	2

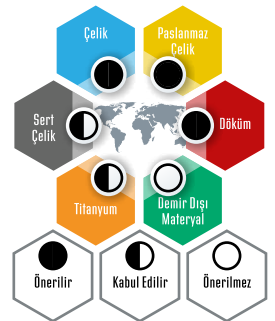


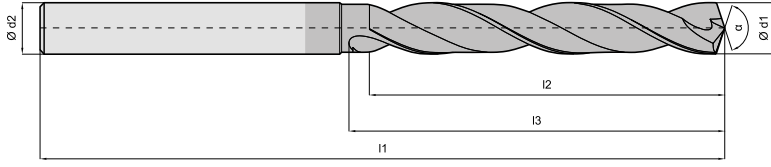


$d_1 = d_2$ tolerans h8
 $d_1 < d_2$ tolerans m7



Sipariş Kodu	d_1	l_2	l_3	l_1	d_2 (h6)	Z
17310650	6,5	53	55	91	8	2
17310660	6,6	53	55	91	8	2
17310670	6,7	53	55	91	8	2
17310680	6,8	53	55	91	8	2
17310690	6,9	53	55	91	8	2
17310700	7,0	53	55	91	8	2
17310710	7,1	53	55	91	8	2
17310720	7,2	53	55	91	8	2
17310730	7,3	53	55	91	8	2
17310740	7,4	53	55	91	8	2
17310750	7,5	53	55	91	8	2
17310760	7,6	53	55	91	8	2
17310770	7,7	53	55	91	8	2
17310780	7,8	53	55	91	8	2
17310790	7,9	53	55	91	8	2
17310800	8,0	53	55	91	8	2
17310810	8,1	61	63	103	10	2
17310820	8,2	61	63	103	10	2
17310830	8,3	61	63	103	10	2
17310840	8,4	61	63	103	10	2
17310850	8,5	61	63	103	10	2
17310860	8,6	61	63	103	10	2
17310870	8,7	61	63	103	10	2
17310880	8,8	61	63	103	10	2
17310890	8,9	61	63	103	10	2
17310900	9,0	61	63	103	10	2
17310910	9,1	61	63	103	10	2
17310920	9,2	61	63	103	10	2
17310930	9,3	61	63	103	10	2
17310940	9,4	61	63	103	10	2
17310950	9,5	61	63	103	10	2
17310960	9,6	61	63	103	10	2
17310970	9,7	61	63	103	10	2
17310980	9,8	61	63	103	10	2
17310990	9,9	61	63	103	10	2

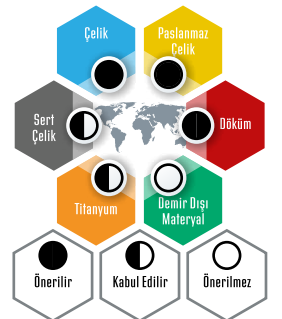


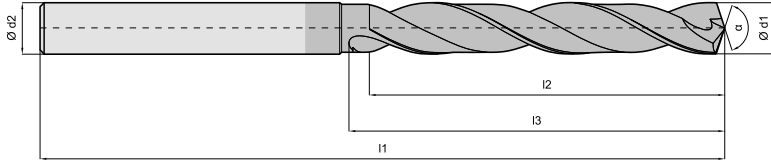


$d_1 = d_2$ tolerans h8
 $d_1 < d_2$ tolerans m7



Sipariş Kodu	d_1	l_2	l_3	l_1	d_2 (h6)	Z
17311000	10,0	61	63	103	10	2
17311010	10,1	71	73	118	12	2
17311020	10,2	71	73	118	12	2
17311030	10,3	71	73	118	12	2
17311040	10,4	71	73	118	12	2
17311050	10,5	71	73	118	12	2
17311060	10,6	71	73	118	12	2
17311070	10,7	71	73	118	12	2
17311080	10,8	71	73	118	12	2
17311090	10,9	71	73	118	12	2
17311100	11,0	71	73	118	12	2
17311110	11,1	71	73	118	12	2
17311120	11,2	71	73	118	12	2
17311130	11,3	71	73	118	12	2
17311140	11,4	71	73	118	12	2
17311150	11,5	71	73	118	12	2
17311160	11,6	71	73	118	12	2
17311170	11,7	71	73	118	12	2
17311180	11,8	71	73	118	12	2
17311190	11,9	71	73	118	12	2
17311200	12,0	71	73	118	12	2
17311210	12,1	77	79	124	14	2
17311220	12,2	77	79	124	14	2
17311230	12,3	77	79	124	14	2
17311240	12,4	77	79	124	14	2
17311250	12,5	77	79	124	14	2
17311260	12,6	77	79	124	14	2
17311270	12,7	77	79	124	14	2
17311280	12,8	77	79	124	14	2
17311290	12,9	77	79	124	14	2
17311300	13,0	77	79	124	14	2
17311310	13,1	77	79	124	14	2
17311320	13,2	77	79	124	14	2
17311330	13,3	77	79	124	14	2
17311340	13,4	77	79	124	14	2

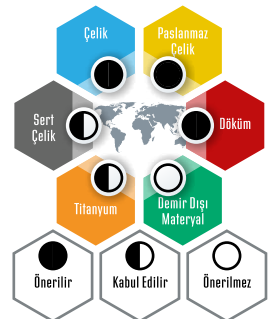




$d_1 = d_2$ tolerans h8
 $d_1 < d_2$ tolerans m7



Sipariş Kodu	d_1	l_2	l_3	l_1	d_2 (h6)	Z
17311350	13,5	77	79	124	14	2
17311360	13,6	77	79	124	14	2
17311370	13,7	77	79	124	14	2
17311380	13,8	77	79	124	14	2
17311390	13,9	77	79	124	14	2
17311400	14,0	77	79	124	14	2
17311410	14,1	83	85	133	16	2
17311730	14,2	83	85	133	16	2
17311430	14,3	83	85	133	16	2
17311440	14,4	83	85	133	16	2
17311450	14,5	83	85	133	16	2
17311460	14,6	83	85	133	16	2
17311470	14,7	83	85	133	16	2
17311480	14,8	83	85	133	16	2
17311490	14,9	83	85	133	16	2
17311500	15,0	83	85	133	16	2
17311510	15,1	83	85	133	16	2
17311520	15,2	83	85	133	16	2
17311530	15,3	83	85	133	16	2
17311540	15,4	83	85	133	16	2
17311550	15,5	83	85	133	16	2
17311560	15,6	83	85	133	16	2
17311570	15,7	83	85	133	16	2
17311580	15,8	83	85	133	16	2
17311590	15,9	83	85	133	16	2
17311600	16,0	83	85	133	16	2
17311650	16,5	93	95	143	18	2
17311700	17,0	93	95	143	18	2
17311750	17,5	93	95	143	18	2
17311800	18,0	93	95	143	18	2
17311850	18,5	101	103	153	20	2
17311900	19,0	101	103	153	20	2
17311950	19,5	101	103	153	20	2
17312000	20,0	101	103	153	20	2



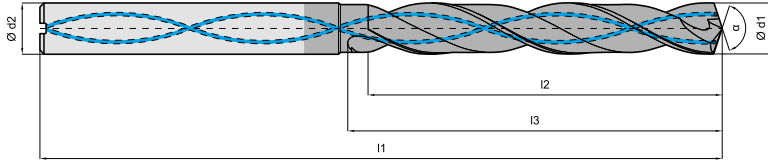


5DX

İçten Soğutmalı Matkap Paslanmaz

174

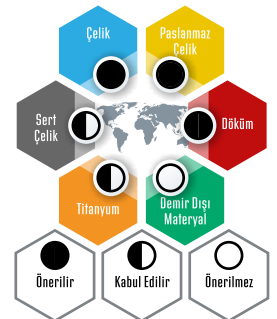


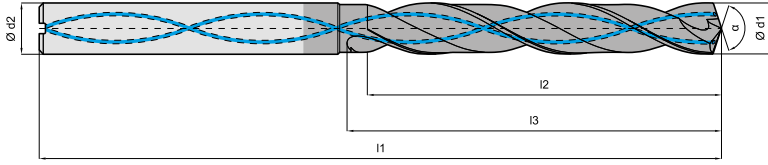


$d_1 = d_2$ tolerans h8
 $d_1 < d_2$ tolerans m7



Sipariş Kodu	d_1	l_2	l_3	l_1	$d_2 (h_6)$	Z
17410300	3,0	28	30	66	6	2
17410310	3,1	28	30	66	6	2
17410320	3,2	28	30	66	6	2
17410330	3,3	28	30	66	6	2
17410340	3,4	28	30	66	6	2
17410350	3,5	28	30	66	6	2
17410360	3,6	28	30	66	6	2
17410370	3,7	28	30	66	6	2
17410380	3,8	36	38	74	6	2
17410390	3,9	36	38	74	6	2
17410400	4,0	36	38	74	6	2
17410410	4,1	36	38	74	6	2
17410420	4,2	36	38	74	6	2
17410430	4,3	36	38	74	6	2
17410440	4,4	36	38	74	6	2
17410450	4,5	36	38	74	6	2
17410460	4,6	36	38	74	6	2
17410470	4,7	36	38	74	6	2
17410480	4,8	44	46	82	6	2
17410490	4,9	44	46	82	6	2
17410500	5,0	44	46	82	6	2
17410510	5,1	44	46	82	6	2
17410520	5,2	44	46	82	6	2
17410530	5,3	44	46	82	6	2
17410540	5,4	44	46	82	6	2
17410550	5,5	44	46	82	6	2
17410560	5,6	44	46	82	6	2
17410570	5,7	44	46	82	6	2
17410580	5,8	44	46	82	6	2
17410590	5,9	44	46	82	6	2
17410600	6,0	44	46	82	6	2
17410610	6,1	53	55	91	8	2
17410620	6,2	53	55	91	8	2
17410630	6,3	53	55	91	8	2
17410640	6,4	53	55	91	8	2

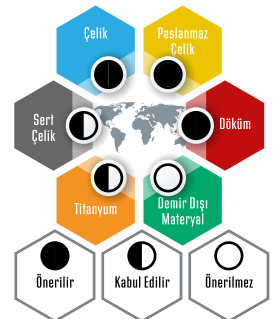


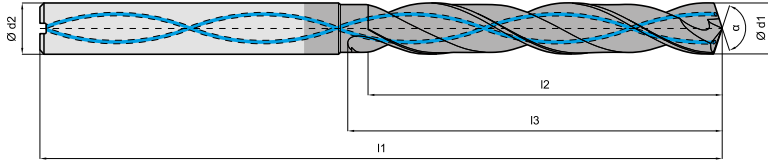


$d_1 = d_2$ tolerans h8
 $d_1 < d_2$ tolerans m7



Sipariş Kodu	d_1	l_2	l_3	l_1	d_2 (h6)	Z
17410650	6,5	53	55	91	8	2
17410660	6,6	53	55	91	8	2
17410670	6,7	53	55	91	8	2
17410680	6,8	53	55	91	8	2
17410690	6,9	53	55	91	8	2
17410700	7,0	53	55	91	8	2
17410710	7,1	53	55	91	8	2
17410720	7,2	53	55	91	8	2
17410730	7,3	53	55	91	8	2
17410740	7,4	53	55	91	8	2
17410750	7,5	53	55	91	8	2
17410760	7,6	53	55	91	8	2
17410770	7,7	53	55	91	8	2
17410780	7,8	53	55	91	8	2
17410790	7,9	53	55	91	8	2
17410800	8,0	53	55	91	8	2
17410810	8,1	61	63	103	10	2
17410820	8,2	61	63	103	10	2
17410830	8,3	61	63	103	10	2
17410840	8,4	61	63	103	10	2
17410850	8,5	61	63	103	10	2
17410860	8,6	61	63	103	10	2
17410870	8,7	61	63	103	10	2
17410880	8,8	61	63	103	10	2
17410890	8,9	61	63	103	10	2
17410900	9,0	61	63	103	10	2
17410910	9,1	61	63	103	10	2
17410920	9,2	61	63	103	10	2
17410930	9,3	61	63	103	10	2
17410940	9,4	61	63	103	10	2
17410950	9,5	61	63	103	10	2
17410960	9,6	61	63	103	10	2
17410970	9,7	61	63	103	10	2
17410980	9,8	61	63	103	10	2
17410990	9,9	61	63	103	10	2

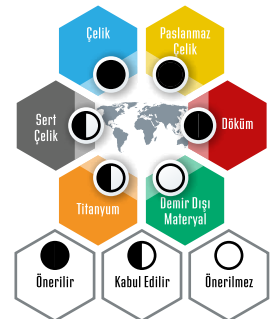


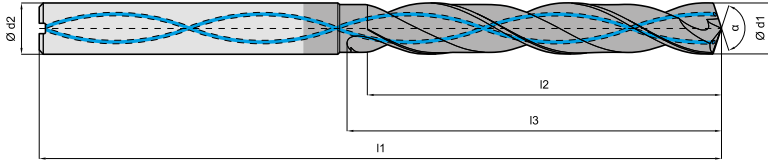


$d_1 = d_2$ tolerans h8
 $d_1 < d_2$ tolerans m7



Sipariş Kodu	d ₁	l ₂	l ₃	l ₁	d ₂ (h ₆)	Z
17411000	10,0	61	63	103	10	2
17411010	10,1	71	73	118	12	2
17411020	10,2	71	73	118	12	2
17411030	10,3	71	73	118	12	2
17411040	10,4	71	73	118	12	2
17411050	10,5	71	73	118	12	2
17411060	10,6	71	73	118	12	2
17411070	10,7	71	73	118	12	2
17411080	10,8	71	73	118	12	2
17411090	10,9	71	73	118	12	2
17411100	11,0	71	73	118	12	2
17411110	11,1	71	73	118	12	2
17411120	11,2	71	73	118	12	2
17411130	11,3	71	73	118	12	2
17411140	11,4	71	73	118	12	2
17411150	11,5	71	73	118	12	2
17411160	11,6	71	73	118	12	2
17411170	11,7	71	73	118	12	2
17411180	11,8	71	73	118	12	2
17411190	11,9	71	73	118	12	2
17411200	12,0	71	73	118	12	2
17411210	12,1	77	79	124	14	2
17411220	12,2	77	79	124	14	2
17411230	12,3	77	79	124	14	2
17411240	12,4	77	79	124	14	2
17411250	12,5	77	79	124	14	2
17411260	12,6	77	79	124	14	2
17411270	12,7	77	79	124	14	2
17411280	12,8	77	79	124	14	2
17411290	12,9	77	79	124	14	2
17411300	13,0	77	79	124	14	2
17411310	13,1	77	79	124	14	2
17411320	13,2	77	79	124	14	2
17411330	13,3	77	79	124	14	2
17411340	13,4	77	79	124	14	2

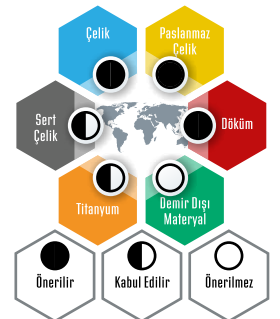




$d_1 = d_2$ tolerans h8
 $d_1 < d_2$ tolerans m7



Sipariş Kodu	d ₁	l ₂	l ₃	l ₁	d ₂ (h ₆)	Z
17411350	13,5	77	79	124	14	2
17411360	13,6	77	79	124	14	2
17411370	13,7	77	79	124	14	2
17411380	13,8	77	79	124	14	2
17411390	13,9	77	79	124	14	2
17411400	14,0	77	79	124	14	2
17411410	14,1	83	85	133	16	2
17411420	14,2	83	85	133	16	2
17411430	14,3	83	85	133	16	2
17411740	14,4	83	85	133	16	2
17411450	14,5	83	85	133	16	2
17411460	14,6	83	85	133	16	2
17411470	14,7	83	85	133	16	2
17411480	14,8	83	85	133	16	2
17411490	14,9	83	85	133	16	2
17411500	15,0	83	85	133	16	2
17411510	15,1	83	85	133	16	2
17411520	15,2	83	85	133	16	2
17411530	15,3	83	85	133	16	2
17411540	15,4	83	85	133	16	2
17411550	15,5	83	85	133	16	2
17411560	15,6	83	85	133	16	2
17411570	15,7	83	85	133	16	2
17411580	15,8	83	85	133	16	2
17411590	15,9	83	85	133	16	2
17411600	16,0	83	85	133	16	2
17411650	16,5	93	95	143	18	2
17411700	17,0	93	95	143	18	2
17411750	17,5	93	95	143	18	2
17411800	18,0	93	95	143	18	2
17411850	18,5	101	103	153	20	2
17411900	19,0	101	103	153	20	2
17411950	19,5	101	103	153	20	2
17412000	20,0	101	103	153	20	2





5DX Çift Zırlı H7

H7 Matkap

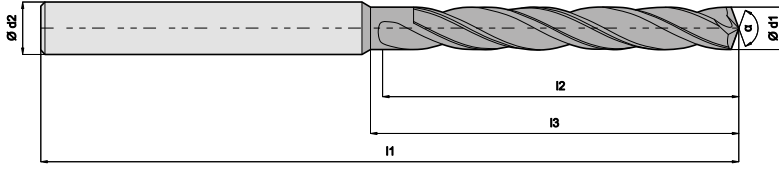
105



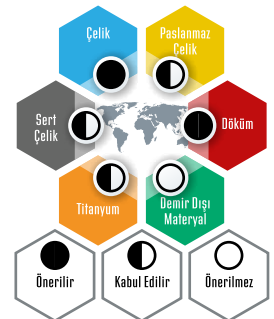
5DX Çift Zırlıklı H7

H7 Matkap

105



Sipariş Kodu	d ₁ (H ₇)	l ₂	l ₃	l ₁	d ₂ (h ₆)	Z
10510400	4,0	36	38	74	6	2
10510600	6,0	44	46	82	6	2
10510800	8,0	53	55	91	8	2
10511000	10,0	61	63	103	10	2
10511200	12,0	71	73	118	12	2
10511400	14,0	77	79	124	14	2
10511600	16,0	83	85	133	16	2
10511800	18,0	93	95	143	18	2
10512000	20,0	101	103	153	20	2



5DX Çift Zırlı H7

İçten Soğutmalı Karbür H7 Matkap

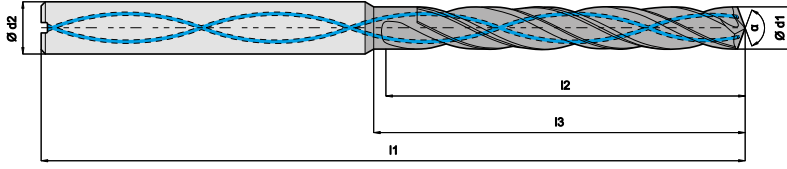
106



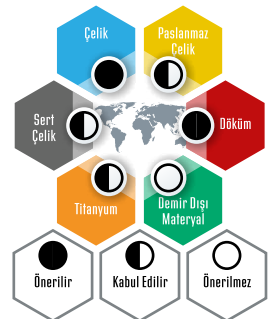
5DX Çift Zırlı H7

İçten Soğutmalı Karbür H7 Matkap

106



Sipariş Kodu	d ₁ (H ₇)	l ₂	l ₃	l ₁	d ₂ (h ₆)	Z
10610400	4,0	36	38	74	6	2
10610600	6,0	44	46	82	6	2
10610800	8,0	53	55	91	8	2
10611000	10,0	61	63	103	10	2
10611200	12,0	71	73	118	12	2
10611400	14,0	77	79	124	14	2
10611600	16,0	83	85	133	16	2
10611800	18,0	93	95	143	18	2
10612000	20,0	101	103	153	20	2

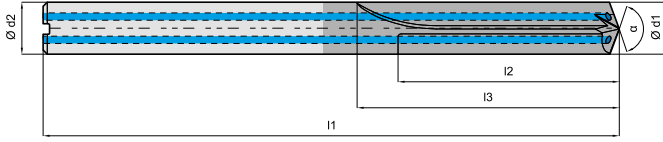


5DX

Düz Kanallı İçten Soğutmalı Matkap

135

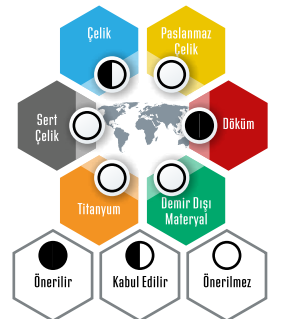




$d_1 = d_2$ tolerans h8
 $d_1 < d_2$ tolerans m7



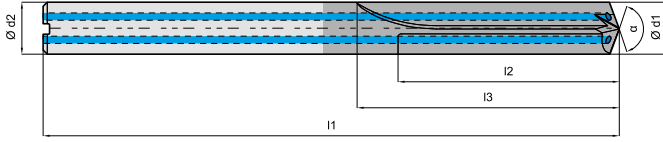
Sipariş Kodu	d_1	l_2	l_3	l_1	d_2 (h6)	Z
13510320	3,2	28	30	66	6	2
13510330	3,3	28	30	66	6	2
13510350	3,5	28	30	66	6	2
13510380	3,8	36	38	74	6	2
13510400	4,0	36	38	74	6	2
13510420	4,2	36	38	74	6	2
13510500	5,0	44	46	82	6	2
13510520	5,2	44	46	82	6	2
13510600	6,0	44	46	82	6	2
13510650	6,5	53	55	91	8	2
13510680	6,8	53	55	91	8	2
13510700	7,0	53	55	91	8	2
13510750	7,5	53	55	91	8	2
13510760	7,6	53	55	91	8	2
13510780	7,8	53	55	91	8	2
13510800	8,0	53	55	91	8	2
13510850	8,5	61	63	103	10	2
13510880	8,8	61	63	103	10	2
13510900	9,0	61	63	103	10	2
13510950	9,5	61	63	103	10	2
13510980	9,8	61	63	103	10	2
13511000	10,0	61	63	103	10	2
13511020	10,2	71	73	118	12	2
13511050	10,5	71	73	118	12	2
13511080	10,8	71	73	118	12	2
13511100	11,0	71	73	118	12	2
13511150	11,5	71	73	118	12	2
13511180	11,8	71	73	118	12	2
13511200	12,0	71	73	118	12	2
13511250	12,5	77	79	124	14	2
13511300	13,0	77	79	124	14	2
13511350	13,5	77	79	124	14	2
13511380	13,8	77	79	124	14	2
13511400	14,0	77	79	124	14	2
13511450	14,5	83	85	133	16	2



5DX

Düz Kanallı İçten Soğutmalı Matkap

135



$d_1 = d_2$ tolerans h8
 $d_1 < d_2$ tolerans m7



Sipariş Kodu	d_1	l_2	l_3	l_1	$d_2 (h_6)$	Z
13511500	15,0	83	85	133	16	2
13511550	15,5	83	85	133	16	2
13511580	15,8	83	85	133	16	2
13511600	16,0	83	85	133	16	2
13511650	16,5	93	95	143	18	2
13511700	17,0	93	95	143	18	2
13511750	17,5	93	95	143	18	2
13511800	18,0	93	95	143	18	2
13511850	18,5	103	101	153	20	2
13511900	19,0	103	101	153	20	2
13511950	19,5	103	101	153	20	2
13512000	20,0	103	101	153	20	2



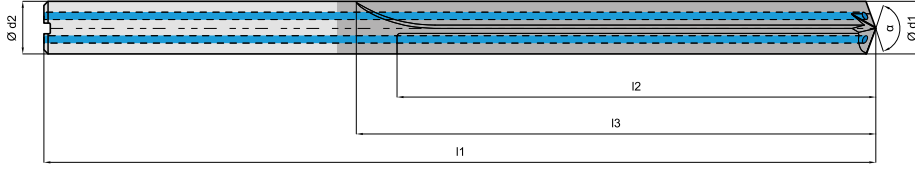


8DX

Düz Kanallı İçten Soğutmalı Matkap

136



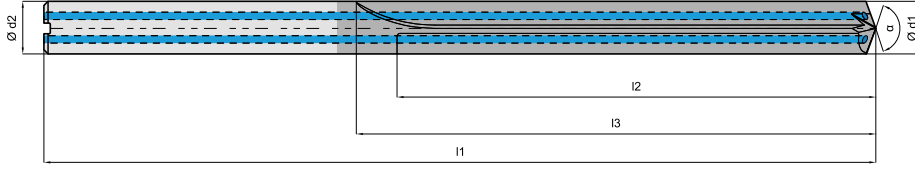


$d_1 = d_2$ tolerans h8
 $d_1 < d_2$ tolerans m7



Sipariş Kodu	d_1	l_3	l_2	l_1	d_2 (h6)	Z
13610320	3,2	33	40	78	6	2
13610330	3,3	33	40	78	6	2
13610350	3,5	33	40	78	6	2
13610380	3,8	41	49	87	6	2
13610400	4,0	41	49	87	6	2
13610420	4,2	41	49	87	6	2
13610500	5,0	48	56	94	6	2
13610520	5,2	48	56	94	6	2
13610600	6,0	48	56	94	6	2
13610650	6,5	57	67	105	8	2
13610680	6,8	57	67	105	8	2
13610700	7,0	57	67	105	8	2
13610750	7,5	61	72	110	8	2
13610760	7,6	61	72	110	8	2
13610780	7,8	61	72	110	8	2
13610800	8,0	61	72	110	8	2
13610850	8,5	68	80	122	10	2
13610880	8,8	68	80	122	10	2
13610900	9,0	68	80	122	10	2
13610950	9,5	68	80	122	10	2
13610980	9,8	68	80	122	10	2
13611000	10,0	68	80	122	10	2
13611020	10,2	79	94	141	12	2
13611050	10,5	79	94	141	12	2
13611080	10,8	79	94	141	12	2
13611100	11,0	79	94	141	12	2
13611150	11,5	79	94	141	12	2
13611180	11,8	79	94	141	12	2
13611200	12,0	79	94	141	12	2
13611250	12,5	91	108	155	14	2
13611300	13,0	91	108	155	14	2
13611350	13,5	91	108	155	14	2
13611380	13,8	91	108	155	14	2
13611400	14,0	91	108	155	14	2
13611450	14,5	101	121	171	16	2

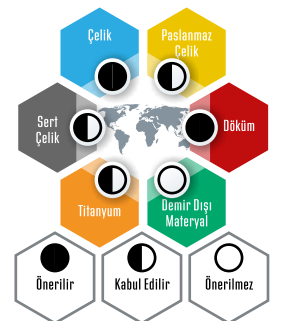




$d_1 = d_2$ tolerans h8
 $d_1 < d_2$ tolerans m7



Sipariş Kodu	d_1	l_3	l_2	l_1	$d_2 (h_6)$	Z
13611500	15,0	101	121	171	16	2
13611550	15,5	101	121	171	16	2
13611580	15,8	101	121	171	16	2
13611600	16,0	101	121	171	16	2
13611650	16,5	113	135	185	18	2
13611700	17,0	113	135	185	18	2
13611750	17,5	113	135	185	18	2
13611800	18,0	113	135	185	18	2
13611850	18,5	124	148	200	20	2
13611900	19,0	124	148	200	20	2
13611950	19,5	124	148	200	20	2
13612000	20,0	124	148	200	20	2





Spot Face Matkap

Dıştan / İçten Soğutmalı

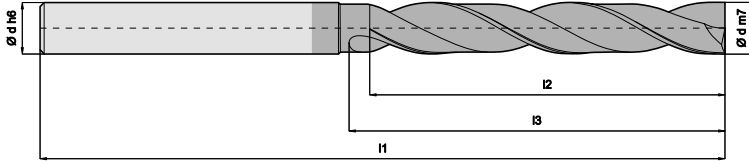
107



Spot Face

Dıştan / İçten Soğutmalı Matkap

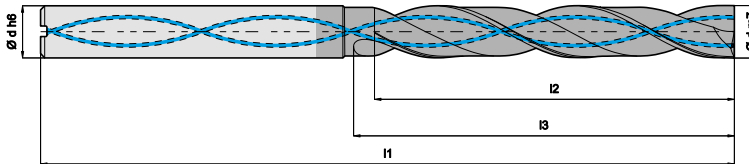
107



$d_1 = d_2$ tolerans h8
 $d_1 < d_2$ tolerans m7



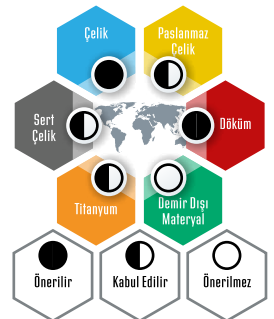
Sipariş Kodu	d_1	l_3	l_2	l_1	d_2 (h ₈)	Z
10710400	4,0	21	24	60	6	2
10710600	6,0	23	26	62	6	2
10710800	8,0	32	35	71	8	2
10711000	10,0	37	40	80	10	2
10711200	12,0	42	45	90	12	2
10711400	14,0	47	50	95	14	2
10711600	16,0	49	52	100	16	2
10711800	18,0	54	57	105	18	2
10712000	20,0	57	60	110	20	2



$d_1 = d_2$ tolerans h8
 $d_1 < d_2$ tolerans m7



Sipariş Kodu	d_1 (h ₈)	l_3	l_2	l_1	d_2 (h ₈)	Z
10810400	4,0	21	24	60	6	2
10810600	6,0	23	26	62	6	2
10810800	8,0	32	35	71	8	2
10811000	10,0	37	40	80	10	2
10811200	12,0	42	45	90	12	2
10811400	14,0	47	50	95	14	2
10811600	16,0	49	52	100	16	2
10811800	18,0	54	57	105	18	2
10812000	20,0	57	60	110	20	2



NC Punta Matkap

90° / 120°

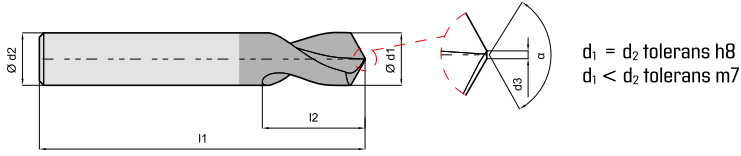
190



NC Punta Matkap

90° / 120°

190



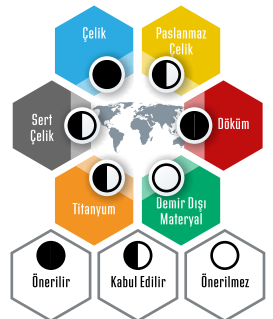
$d_1 = d_2$ tolerans h8
 $d_1 < d_2$ tolerans m7



Sipariş Kodu	d_1	α	l_2	l_1	$d_2 (h_6)$	Z
19009003	3,0	90°	7	39	3	2
19009004	4,0	90°	8	50	4	2
19009005	5,0	90°	10	50	5	2
19009006	6,0	90°	10	50	6	2
19009008	8,0	90°	16	63	8	2
19009010	10,0	90°	19	72	10	2
19009012	12,0	90°	22	82	12	2
19009014	14,0	90°	22	82	14	2
19009016	16,0	90°	26	92	16	2
19009018	18,0	90°	26	92	18	2
19009020	20,0	90°	32	104	20	2



Sipariş Kodu	d_1	α	l_2	l_1	$d_2 (h_6)$	Z
19012003	3,0	120°	7	39	3	2
19012004	4,0	120°	8	50	4	2
19012005	5,0	120°	10	50	5	2
19012006	6,0	120°	10	50	6	2
19012008	8,0	120°	16	63	8	2
19012010	10,0	120°	19	72	10	2
19012012	12,0	120°	22	82	12	2
19012014	14,0	120°	22	82	14	2
19012016	16,0	120°	26	92	16	2
19012018	18,0	120°	26	92	18	2
19012020	20,0	120°	32	104	20	2



Çift Taraf Punta Matkap

60° Standart Kaplama

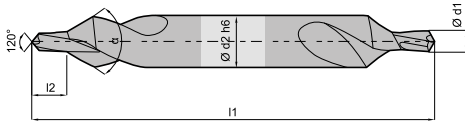
191



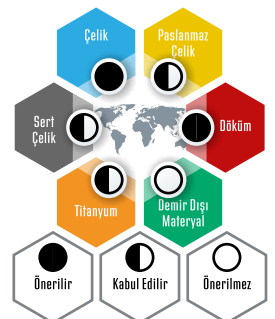
Çift Taraf Punta Matkap

60° Standart Kaplama

191



Sipariş Kodu	d ₁ (m ₇)	α	l ₂	l ₁	d ₂ (h ₆)	Z
19111003	1,0	60°	1,3	50	3	2
19111203	1,25	60°	1,5	50	3	2
19111604	1,6	60°	2,0	50	4	2
19112006	2,0	60°	2,5	57	6	2
19112606	2,6	60°	3,1	57	6	2
19113108	3,15	60°	3,9	63	8	2
19114010	4,0	60°	5,0	72	10	2
19115012	5,0	60°	6,3	75	12	2

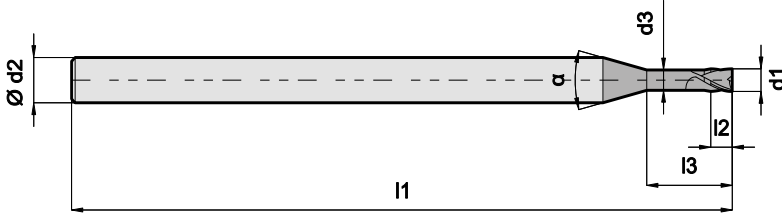


Mikro

Düz Freze

200





Sipariş Kodu	d ₁ (h ₈)	l ₂	d ₃	l ₃	l ₁	d ₂ (h ₆)	Z
20001004	1,0	1,5	0,95	04	50	4	2
20001006	1,0	1,5	0,95	06	50	4	2
20001008	1,0	1,5	0,95	08	50	4	2
20001010	1,0	1,5	0,95	10	50	4	2
20001012	1,0	1,5	0,95	12	50	4	2
20001016	1,0	1,5	0,95	16	50	4	2
20001504	1,5	2,25	1,44	04	50	4	2
20001506	1,5	2,25	1,44	06	50	4	2
20001508	1,5	2,25	1,44	08	50	4	2
20001510	1,5	2,25	1,44	10	50	4	2
20001512	1,5	2,25	1,44	12	50	4	2
20001516	1,5	2,25	1,44	16	50	4	2
20001520	1,5	2,25	1,44	20	65	4	2
20002004	2,0	3,0	1,92	04	50	4	2
20002006	2,0	3,0	1,92	06	50	4	2
20002008	2,0	3,0	1,92	08	50	4	2
20002010	2,0	3,0	1,92	10	50	4	2
20002012	2,0	3,0	1,92	12	50	4	2
20002016	2,0	3,0	1,92	16	50	4	2
20002020	2,0	3,0	1,92	20	65	4	2
20002025	2,0	3,0	1,92	25	65	4	2
20002504	2,5	3,75	2,40	04	50	4	2
20002506	2,5	3,75	2,40	06	50	4	2
20002508	2,5	3,75	2,40	08	50	4	2
20002510	2,5	3,75	2,40	10	50	4	2
20002512	2,5	3,75	2,40	12	50	4	2
20002516	2,5	3,75	2,40	16	50	4	2
20002520	2,5	3,75	2,40	20	65	4	2
20002525	2,5	3,75	2,40	25	65	4	2



S Freze

Standart Kısa Freze

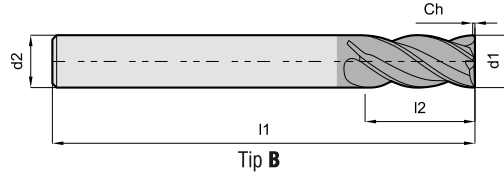
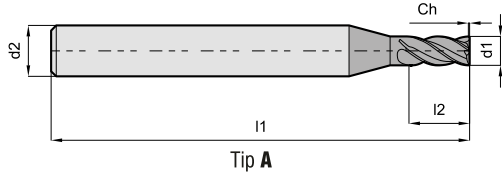
224



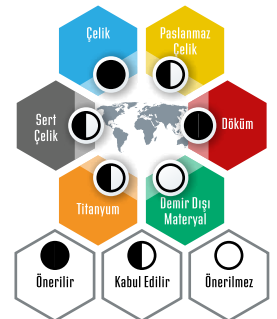
S Freze

Standart Kısa Freze

224



Sipariş Kodu	d ₁ (h ₁₀)	l ₂	l ₁	d ₂ (h ₆)	Chx(45°)	Z	Tip
22410100	1,0	03	39	3	0	4	A
22410101	1,0	03	50	3	0	4	A
22410150	1,5	04	39	3	0	4	A
22410151	1,5	04	50	3	0	4	A
22410200	2,0	05	39	3	0	4	A
22410201	2,0	05	50	3	0	4	A
22410250	2,5	06	39	3	0	4	A
22410251	2,5	06	50	3	0	4	A
22410300	3,0	08	39	3	0,08	4	B
22410301	3,0	08	50	3	0,08	4	B
22410350	3,5	09	50	4	0,09	4	A
22410400	4,0	11	50	4	0,10	4	B
22410450	4,5	12	50	5	0,11	4	A
22410500	5,0	13	50	5	0,12	4	B
22410550	5,5	13	50	6	0,13	4	A
22410600	6,0	13	50	6	0,15	4	B



M Freze

Standart Freze

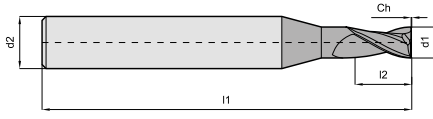
242



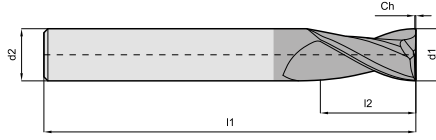
M Freze

Standart Freze

242



Tip A



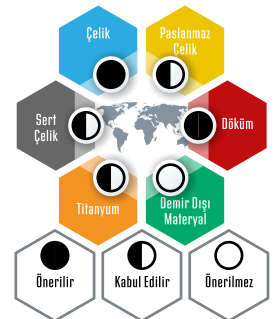
Tip B



Sipariş Kodu	d ₁ (h ₁₀)	l ₂	l ₁	d ₂ (h ₆)	Chx(45°)	Z	Tip
24210300	3,0	08	57	6	0,08	2	A
24210400	4,0	11	57	6	0,10	2	A
24210500	5,0	13	57	6	0,12	2	A
24210600	6,0	13	57	6	0,15	2	B
24210700	7,0	16	63	8	0,18	2	A
24210800	8,0	19	63	8	0,20	2	B
24210900	9,0	19	72	10	0,23	2	A
24211000	10,0	22	72	10	0,25	2	B
24211200	12,0	26	82	12	0,30	2	B
24211400	14,0	26	82	14	0,35	2	B
24211600	16,0	32	92	16	0,40	2	B
24211800	18,0	32	92	18	0,45	2	B
24212000	20,0	38	104	20	0,50	2	B



Sipariş Kodu	d ₁ (h ₁₀)	l ₂	l ₁	d ₂ (h ₆)	Chx(45°)	Z	Tip
24220300	3,0	08	57	6	0,08	2	A
24220400	4,0	11	57	6	0,10	2	A
24220500	5,0	13	57	6	0,12	2	A
24220600	6,0	13	57	6	0,15	2	B
24220700	7,0	16	63	8	0,18	2	A
24220800	8,0	19	63	8	0,20	2	B
24220900	9,0	19	72	10	0,23	2	A
24221000	10,0	22	72	10	0,25	2	B
24221200	12,0	26	82	12	0,30	2	B
24221400	14,0	26	82	14	0,35	2	B
24221600	16,0	32	92	16	0,40	2	B
24221800	18,0	32	92	18	0,45	2	B
24222000	20,0	38	104	20	0,50	2	B



M Freze

Standart Kaplamali

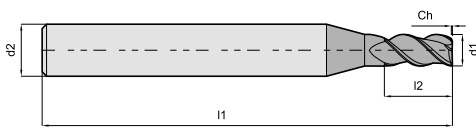
243



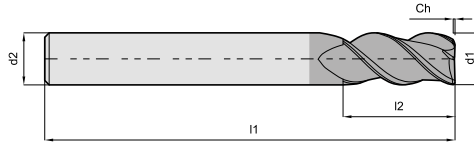
M Freze

Standart Kaplamalı

243



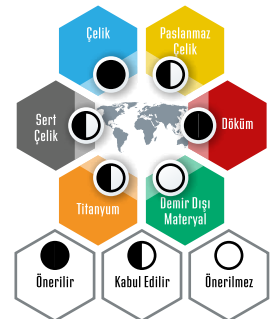
Tip A



Tip B



Sipariş Kodu	d ₁ (h ₁₀)	l ₂	l ₁	d ₂ (h ₆)	Chx(45°)	Z	Tip
24310300	3,0	08	57	6	0,08	3	A
24310400	4,0	11	57	6	0,10	3	A
24310500	5,0	13	57	6	0,12	3	A
24310600	6,0	13	57	6	0,15	3	B
24310700	7,0	16	63	8	0,18	3	A
24310800	8,0	19	63	8	0,20	3	B
24310900	9,0	19	72	10	0,23	3	A
24311000	10,0	22	72	10	0,25	3	B
24311200	12,0	26	82	12	0,30	3	B
24311400	14,0	26	82	14	0,35	3	B
24311600	16,0	32	92	16	0,40	3	B
24311800	18,0	32	92	18	0,45	3	B
24312000	20,0	38	104	20	0,50	3	B



M Freze

Standart Freze

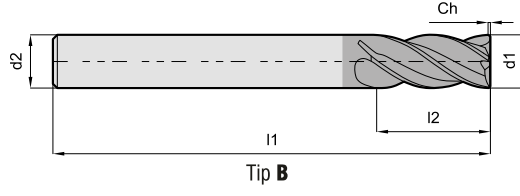
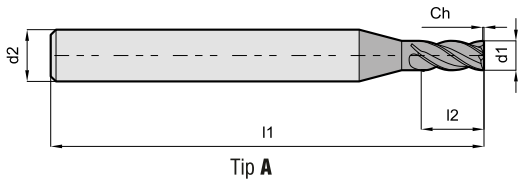
244



M Freze

Standart Freze

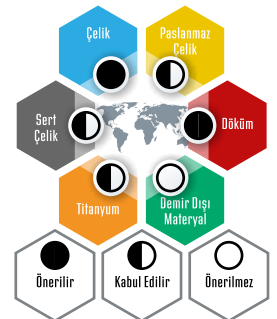
244



Sipariş Kodu	d ₁ (h ₁₀)	l ₂	l ₁	d ₂ (h ₆)	Chx(45°)	Z	Tip
24410300	3,0	08	57	6	0,08	4	A
24410400	4,0	11	57	6	0,10	4	A
24410500	5,0	13	57	6	0,12	4	A
24410600	6,0	13	57	6	0,15	4	B
24410700	7,0	16	63	8	0,18	4	A
24410800	8,0	19	63	8	0,20	4	B
24410900	9,0	19	72	10	0,23	4	A
24411000	10,0	22	72	10	0,25	4	B
24411200	12,0	26	82	12	0,30	4	B
24411400	14,0	26	82	14	0,35	4	B
24411600	16,0	32	92	16	0,40	4	B
24411800	18,0	32	92	18	0,45	4	B
24412000	20,0	38	104	20	0,50	4	B



Sipariş Kodu	d ₁ (h ₁₀)	l ₂	l ₁	d ₂ (h ₆)	Chx(45°)	Z	Tip
24420300	3,0	08	57	6	0,08	4	A
24420400	4,0	11	57	6	0,10	4	A
24420500	5,0	13	57	6	0,12	4	A
24420600	6,0	13	57	6	0,15	4	B
24420700	7,0	16	63	8	0,18	4	A
24420800	8,0	19	63	8	0,20	4	B
24420900	9,0	19	72	10	0,23	4	A
24421000	10,0	22	72	10	0,25	4	B
24421200	12,0	26	82	12	0,30	4	B
24421400	14,0	26	82	14	0,35	4	B
24421600	16,0	32	92	16	0,40	4	B
24421800	18,0	32	92	18	0,45	4	B
24422000	20,0	38	104	20	0,50	4	B



L Freze

Uzun Boy

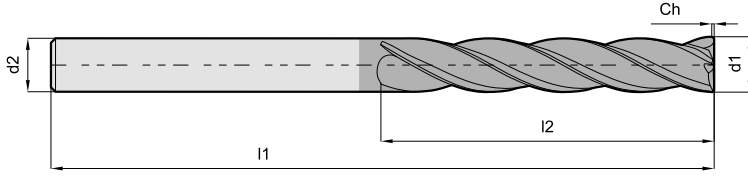
264



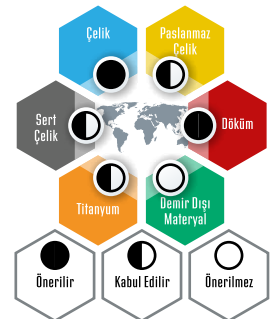
L Freze

Uzun Boy

264



Sipariş Kodu	d ₁ (h ₁₀)	l ₂	l ₁	d ₂ (h ₆)	Chx(45°)	Z
26410300	3,0	20	75	3	0,08	4
26410301	3,0	20	100	3	0,08	4
26410400	4,0	25	75	4	0,10	4
26410401	4,0	25	100	4	0,10	4
26410500	5,0	30	75	5	0,12	4
26410501	5,0	30	100	5	0,12	4
26410600	6,0	30	75	6	0,15	4
26410601	6,0	30	100	6	0,15	4
26410602	6,0	30	150	6	0,15	4
26410700	7,0	40	100	7	0,18	4
26410800	8,0	40	100	8	0,20	4
26410801	8,0	40	150	8	0,20	4
26411000	10,0	40	100	10	0,25	4
26411001	10,0	40	150	10	0,25	4
26411201	12,0	45	100	12	0,30	4
26411200	12,0	45	150	12	0,30	4
26411401	14,0	45	100	14	0,35	4
26411400	14,0	45	150	14	0,35	4
26411601	16,0	50	110	16	0,40	4
26411600	16,0	65	150	16	0,40	4
26411801	18,0	55	110	18	0,45	4
26411800	18,0	65	150	18	0,45	4
26412001	20,0	60	110	20	0,50	4
26412000	20,0	65	150	20	0,50	4



≥55 HRc M Freze

Isıl İşlem

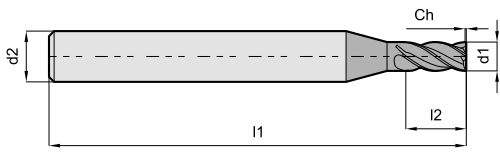
274



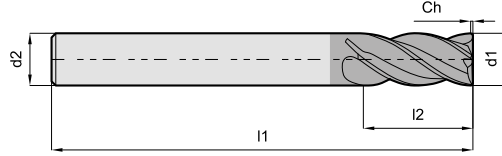
≥55 HRc M Freze

Isıl İşlem

274



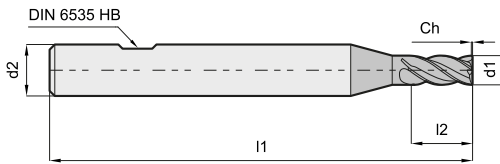
Tip A



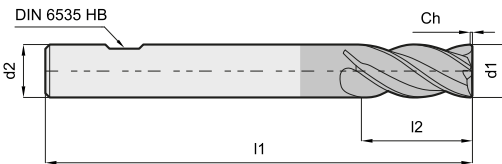
Tip B



Sipariş Kodu	d ₁ (h ₁₀)	l ₂	l ₁	d ₂ (h ₆)	Chx(45°)	Z	Tip
27410301	3,0	08	50	3	0,08	4	B
27410300	3,0	08	57	6	0,08	4	A
27410401	4,0	11	50	4	0,10	4	B
27410400	4,0	11	57	6	0,10	4	A
27410501	5,0	13	50	5	0,12	4	B
27410500	5,0	13	57	6	0,12	4	A
27410600	6,0	13	57	6	0,15	4	B
27410800	8,0	19	63	8	0,20	4	B
27411000	10,0	22	72	10	0,25	4	B
27411200	12,0	26	82	12	0,30	4	B



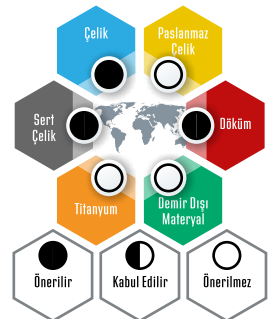
Tip A



Tip B



Sipariş Kodu	d ₁ (h ₁₀)	l ₂	l ₁	d ₂ (h ₆)	Chx(45°)	Z	Tip
27420300	3,0	08	57	6	0,08	4	A
27420400	4,0	11	57	6	0,10	4	A
27420500	5,0	13	57	6	0,12	4	A
27420600	6,0	13	57	6	0,15	4	B
27420800	8,0	19	63	8	0,20	4	B
27421000	10,0	22	72	10	0,25	4	B
27421200	12,0	26	82	12	0,30	4	B



≥55 HRc L Freze

Isıl İşlem

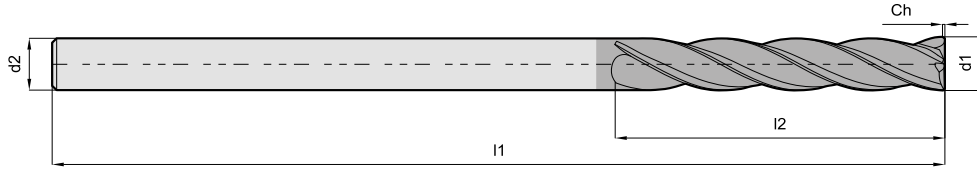
284



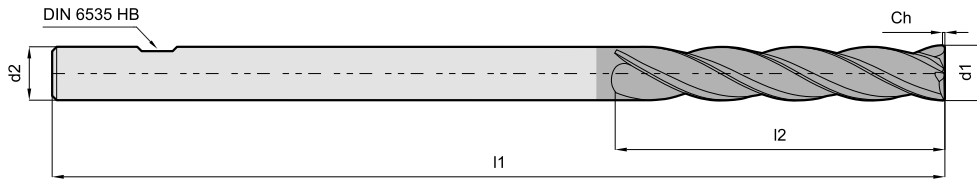
≥55 HRc L Freze

Isıl İşlem

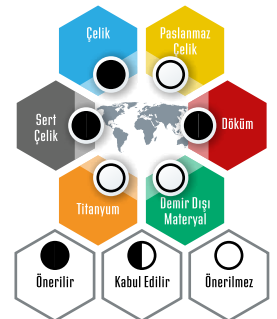
284



Sipariş Kodu	d ₁ (h ₁₀)	l ₂	l ₁	d ₁ (h ₆)	Chx(45°)	Z
28410300	3,0	20	75	3	0,08	4
28410400	4,0	25	75	4	0,10	4
28410500	5,0	30	75	5	0,12	4
28410600	6,0	30	75	6	0,15	4
28410601	6,0	30	100	6	0,15	4
28410800	8,0	40	100	8	0,20	4
28411000	10,0	40	100	10	0,25	4
28411200	12,0	45	100	12	0,30	4



Sipariş Kodu	d ₁ (h ₁₀)	l ₂	l ₁	d ₁ (h ₆)	Chx(45°)	Z
28420600	6,0	30	75	6	0,15	4
28420601	6,0	30	100	6	0,15	4
28420800	8,0	40	100	8	0,20	4
28421000	10,0	40	100	10	0,25	4
28421200	12,0	45	100	12	0,30	4



≥55 HRc HBDØ L Freze

Standart Uzun Boy Kaplamalı

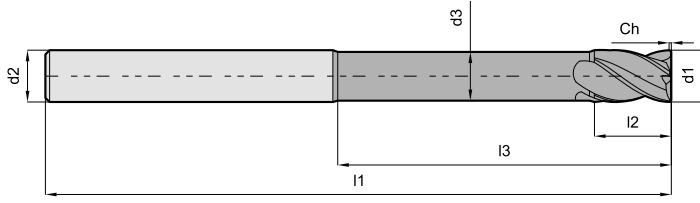
294



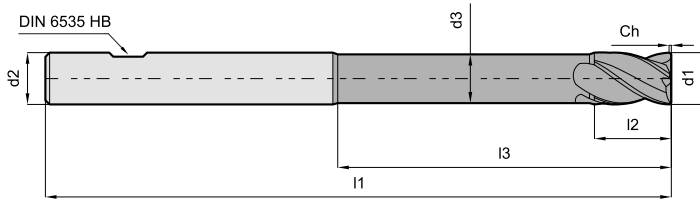
≥55 HRc HBDØ L Freze

Standart Uzun Boy Kaplamalı

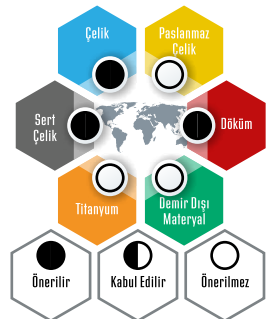
294



Sipariş Kodu	d ₁ (h ₁₀)	l ₂	d ₃	l ₃	l ₁	d ₁ (h ₆)	Chx(45°)	Z
29410300	3,0	4,5	2,90	47	75	3	0,08	4
29410400	4,0	6,0	3,90	47	75	4	0,10	4
29410500	5,0	7,5	4,80	47	75	5	0,12	4
29410600	6,0	9,0	5,70	39	75	6	0,15	4
29410601	6,0	9,0	5,70	64	100	6	0,15	4
29410800	8,0	12,0	7,60	64	100	8	0,20	4
29411000	10,0	15,0	9,50	60	100	10	0,25	4
29411200	12,0	18,0	11,50	55	100	12	0,30	4



Sipariş Kodu	d ₁ (h ₁₀)	l ₂	d ₃	l ₃	l ₁	d ₁ (h ₆)	Chx(45°)	Z
29420600	6,0	9,0	5,70	39	75	6	0,15	4
29420601	6,0	9,0	5,70	64	100	6	0,15	4
29420800	8,0	12,0	7,60	64	100	8	0,20	4
29421000	10,0	15,0	9,50	60	100	10	0,25	4
29421200	12,0	18,0	11,50	55	100	12	0,30	4



≥55 HRc M Freze

Çok Ağızlı Freze

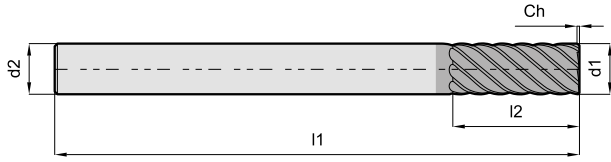
276



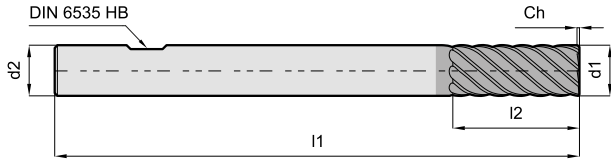
≥55 HRc M Freze

Çok Ağızlı Freze

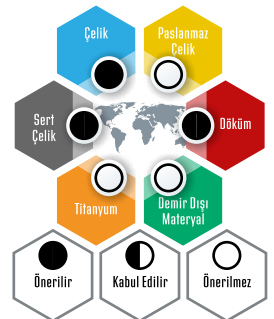
276



Sipariş Kodu	d ₁ (h ₁₀)	l ₂	l ₁	d ₂ (h ₆)	Chx(45°)	Z
27610600	6,0	13	57	6	0,15	6
27610800	8,0	19	63	8	0,20	6
27611000	10,0	22	72	10	0,25	6
27611200	12,0	26	82	12	0,30	6
27611400	14,0	26	82	14	0,35	6
27611600	16,0	32	92	16	0,40	6
27611601	16,0	32	92	16	0,40	8
27611800	18,0	32	92	18	0,45	6
27611801	18,0	32	92	18	0,45	8
27612000	20,0	38	104	20	0,50	6
27612001	20,0	38	104	20	0,50	8



Sipariş Kodu	d ₁ (h ₁₀)	l ₂	l ₁	d ₂ (h ₆)	Chx(45°)	Z
27620600	6,0	13	57	6	0,15	6
27620800	8,0	19	63	8	0,20	6
27621000	10,0	22	72	10	0,25	6
27621200	12,0	26	82	12	0,30	6
27621400	14,0	26	82	14	0,35	6
27621600	16,0	32	92	16	0,40	6
27621601	16,0	32	92	16	0,40	8
27621800	18,0	32	92	18	0,45	6
27621801	18,0	32	92	18	0,45	8
27622000	20,0	38	104	20	0,50	6
27622001	20,0	38	104	20	0,50	8



286

≥55 HRc L Freze

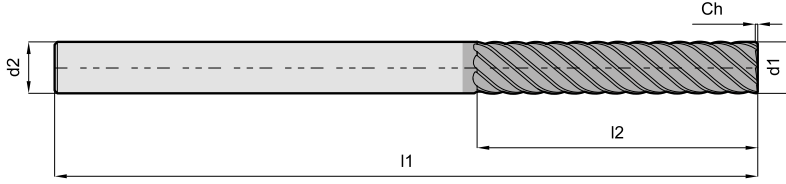
≥55 HRc Çok Ağızlı Freze



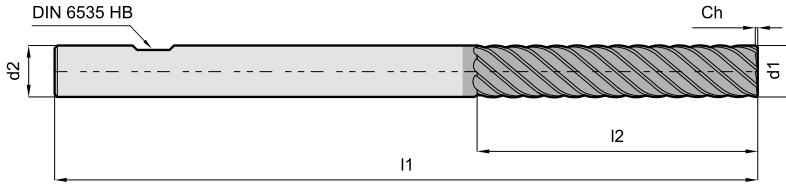
≥55 HRc L Freze

Çok Ağızlı Freze

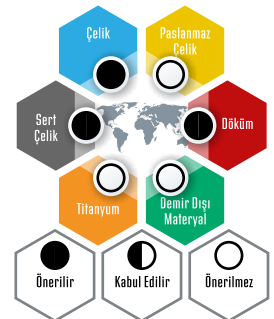
286



Sipariş Kodu	d ₁ (h ₁₀)	l ₂	l ₁	d ₂ (h ₆)	Chx(45°)	Z
28610600	6,0	30	75	6	0,15	6
28610800	8,0	40	100	8	0,20	6
28611000	10,0	40	100	10	0,25	6
28611200	12,0	45	100	12	0,30	6
28611400	14,0	45	100	14	0,35	6
28611600	16,0	50	110	16	0,40	8
28611601	16,0	75	150	16	0,40	8
28611800	18,0	55	110	18	0,45	8
28611801	18,0	75	150	18	0,45	8
28612000	20,0	60	110	20	0,50	8
28612001	20,0	75	150	20	0,50	8



Sipariş Kodu	d ₁ (h ₁₀)	l ₂	l ₁	d ₂ (h ₆)	Chx(45°)	Z
28620600	6,0	30	75	6	0,15	6
28620800	8,0	40	100	8	0,20	6
28621000	10,0	40	100	10	0,25	6
28621200	12,0	45	100	12	0,30	6
28621400	14	45	100	14	0,35	6
28621600	16,0	50	110	16	0,40	8
28621601	16,0	75	150	16	0,40	8
28621800	18,0	55	110	18	0,45	8
28621801	18,0	75	150	18	0,45	8
28622000	20,0	60	110	20	0,50	8
28622001	20,0	75	150	20	0,50	8



Sky High Speed HBDØ Freze

Standart Kaplamali

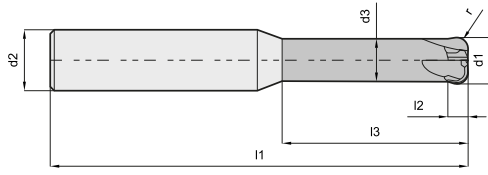
291



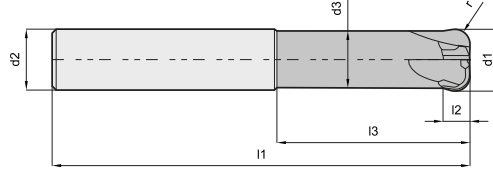
Sky High Speed HBDQ Freze

Standart Kaplamalı

291



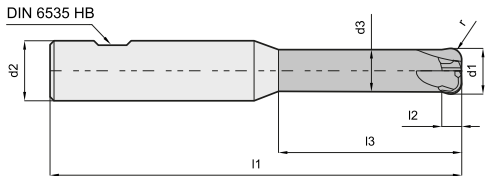
Tip A



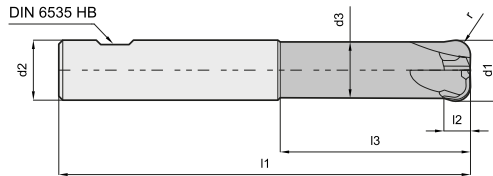
Tip B



Sipariş Kodu	d ₁ (h ₁₀)	l ₂	d ₃	l ₃	l ₁	d ₂ (h ₆)	r	Z	Tip
29110400	4,0	1,6	3,50	10	57	6	1,0	4	A
29110500	5,0	2,0	4,50	15	57	6	1,0	4	A
29110600	6,0	2,5	5,50	21	57	6	1,5	4	B
29110800	8,0	3,5	7,50	27	63	8	1,5	4	B
29111000	10,0	4,0	9,50	32	72	10	2,0	4	B
29111200	12,0	5,0	11,50	38	83	12	3,0	4	B



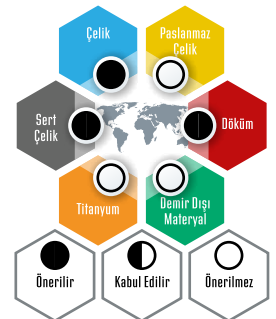
Tip A



Tip B



Sipariş Kodu	d ₁ (h ₁₀)	l ₂	d ₃	l ₃	l ₁	d ₂ (h ₆)	r	Z	Tip
29120400	4,0	1,6	3,50	10	57	6	1,0	4	A
29120500	5,0	2,0	4,50	15	57	6	1,0	4	A
29120600	6,0	2,5	5,50	21	57	6	1,5	4	B
29120800	8,0	3,5	7,50	27	63	8	1,5	4	B
29121000	10,0	4,0	9,50	32	72	10	2,0	4	B
29121200	12,0	5,0	11,50	38	83	12	3,0	4	B



High Feed Freze

Standart Kaplamali

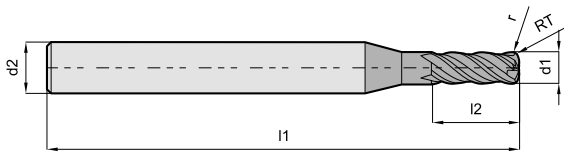
292



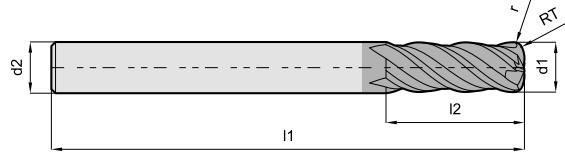
High Feed Freze

Standart Kaplamalı

292



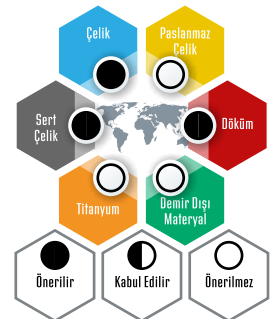
Tip A



Tip B



Sipariş Kodu	d ₁ (h ₁₀)	r	l ₂	l ₂	d ₂ (h ₆)	R _T	Z	Tip
29210306	3,0	0,6	08	57	6	0,75	4	A
29210408	4,0	0,8	11	57	6	1,00	4	A
29210510	5,0	1,0	13	57	6	1,20	4	A
29210610	6,0	1,0	13	57	6	1,20	4	B
29210615	6,0	1,5	13	57	6	1,80	4	B
29210620	6,0	2,0	13	57	6	2,40	4	B
29210810	8,0	1,0	19	63	8	1,20	4	B
29210815	8,0	1,5	19	63	8	1,80	4	B
29210820	8,0	2,0	19	63	8	2,40	4	B
29211010	10,0	1,0	22	72	10	1,20	4	B
29211015	10,0	1,5	22	72	10	1,80	4	B
29211020	10,0	2,0	22	72	10	2,40	4	B
29211210	12,0	1,0	26	82	12	1,20	4	B
29211215	12,0	1,5	26	82	12	1,80	4	B
29211220	12,0	2,0	26	82	12	2,40	4	B
29211230	12,0	3,0	26	82	12	3,60	4	B
29211410	14,0	1,0	26	82	14	1,20	4	B
29211420	14,0	2,0	26	82	14	2,40	4	B
29211430	14,0	3,0	26	82	14	3,60	4	B
29211610	16,0	1,0	32	92	16	1,20	4	B
29211620	16,0	2,0	32	92	16	2,40	4	B
29211630	16,0	3,0	32	92	16	3,60	4	B



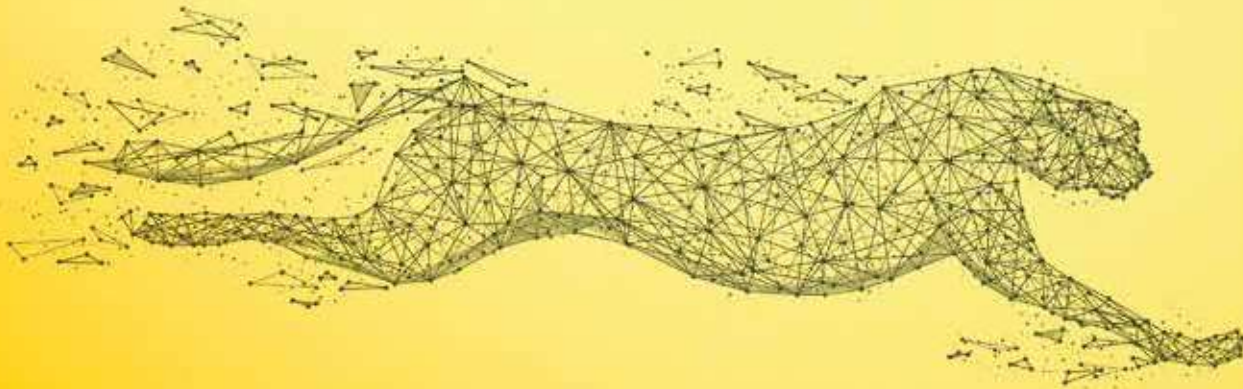
High Feed HBDØ Freze

Standart Kısa ve Uzun Kaplamalı

293



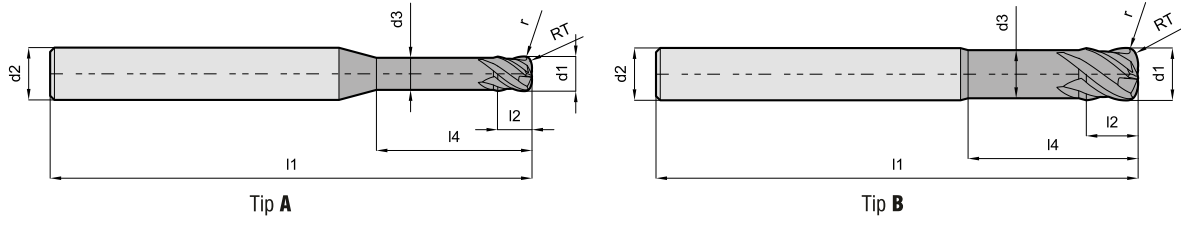
Hız için tasarlandı.



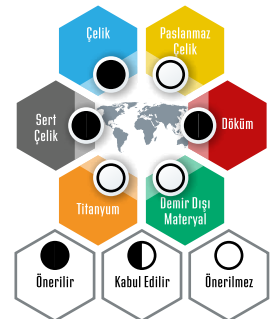
High Feed HBDØ Freze

Standart Kısa ve Uzun Kaplamalı

293



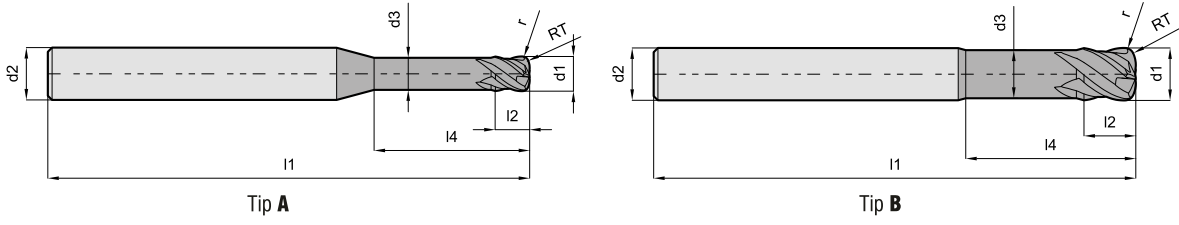
Sipariş Kodu	d ₁ (h ₁₀)	r	l ₂	d ₃	l ₄	l ₁	d ₂ (h ₆)	R _T	Z	Tip
29310408	4,0	0,8	04	3,90	18	57	6	1,00	4	A
29310610	6,0	1,0	06	5,70	20	57	6	1,20	4	B
29310620	6,0	2,0	06	5,70	20	57	6	2,40	4	B
29310810	8,0	1,0	08	7,60	26	63	8	1,20	4	B
29310820	8,0	2,0	08	7,60	26	63	8	2,40	4	B
29311010	10,0	1,0	10	9,50	30	72	10	1,20	4	B
29311020	10,0	2,0	10	9,50	30	72	10	2,40	4	B
29311210	12,0	1,0	12	11,50	36	82	12	1,20	4	B
29311220	12,0	2,0	12	11,50	36	82	12	2,40	4	B
29311230	12,0	3,0	12	11,50	36	82	12	3,60	4	B
29311410	14,0	1,0	14	13,50	36	82	14	1,20	4	B
29311410	14,0	1,0	14	13,50	36	82	14	1,50	4	B
29311430	14,0	3,0	14	13,50	36	82	14	3,60	4	B
29311610	16,0	1,0	16	15,50	42	92	16	1,20	4	B
29311620	16,0	2,0	16	15,50	42	92	16	2,40	4	B
29311630	16,0	3,0	16	15,50	42	92	16	3,60	4	B



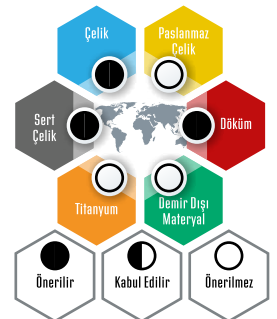
High Feed HBDØ Freze

Standart Kısa ve Uzun Kaplamalı

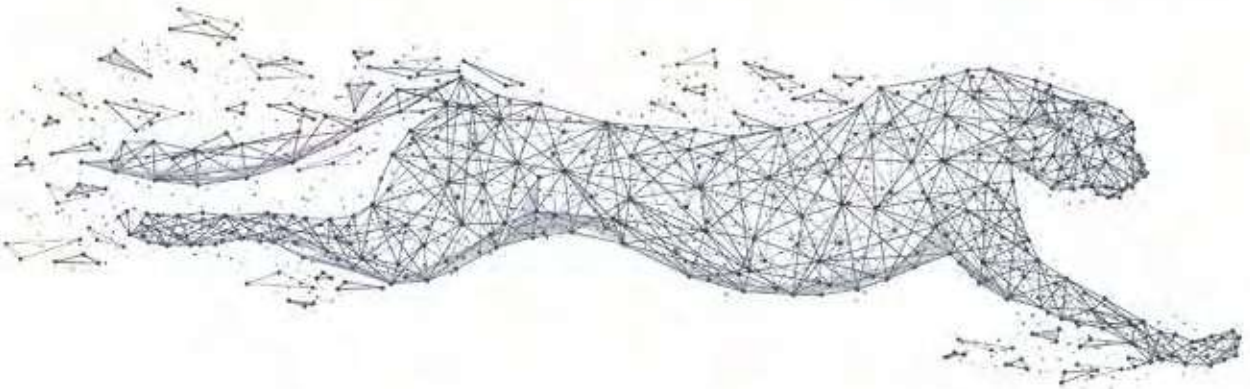
293



Sipariş Kodu	d ₁ (h ₁₀)	r	l ₂	d ₃	l ₄	l ₁	d ₂ (h ₆)	R _T	Z	Tip
29360408	4,0	0,8	04	3,90	39	75	6	1,00	4	A
29360610	6,0	1,0	06	5,70	39	75	6	1,20	4	B
29360620	6,0	2,0	06	5,70	39	75	6	2,40	4	B
29360810	8,0	1,0	08	7,60	54	90	8	1,20	4	B
29360820	8,0	2,0	08	7,60	54	90	8	2,40	4	B
29361010	10,0	1,0	10	9,50	60	100	10	1,20	4	B
29361020	10,0	2,0	10	9,50	60	100	10	2,40	4	B
29361210	12,0	1,0	12	11,50	55	110	12	1,20	4	B
29361220	12,0	2,0	12	11,50	55	110	12	2,40	4	B
29361230	12,0	3,0	12	11,50	55	110	12	3,60	4	B
29361410	14,0	1,0	14	13,50	55	110	14	1,20	4	B
29361410	14,0	1,0	14	13,50	55	110	14	1,50	4	B
29361430	14,0	3,0	14	13,50	55	110	14	3,60	4	B
29361610	16,0	1,0	16	15,50	62	110	16	1,20	4	B
29361620	16,0	2,0	16	15,50	62	110	16	2,40	4	B
29361630	16,0	3,0	16	15,50	62	110	16	3,60	4	B



Hız için tasarlandı.



Sivri Pah Kırma Freze

60° / 90° / 120°

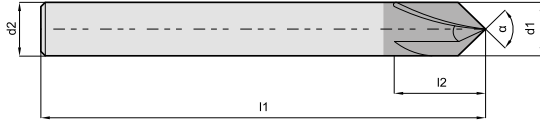
202



Sivri Pah Kırma Freze

60° / 90° / 120°

202



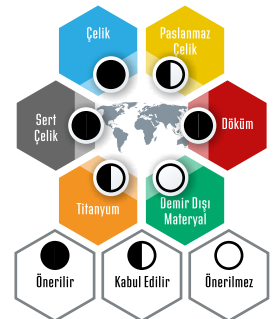
Sipariş Kodu	d ₁ (h ₁₀)	d ₃	α	l ₂	l ₁	d ₂ (h ₆)	Z
20206004	4,0	0	60°	7	50	4	4
20206006	6,0	0	60°	11	57	6	4
20206008	8,0	0	60°	15	63	8	4
20206010	10,0	0	60°	17	72	10	4
20206012	12,0	0	60°	20	82	12	4



Sipariş Kodu	d ₁ (h ₁₀)	d ₃	α	l ₂	l ₁	d ₂ (h ₆)	Z
20209004	4,0	0	90°	7	50	4	4
20209006	6,0	0	90°	11	57	6	4
20209008	8,0	0	90°	15	63	8	4
20209010	10,0	0	90°	17	72	10	4
20209012	12,0	0	90°	20	82	12	4



Sipariş Kodu	d ₁ (h ₁₀)	d ₃	α	l ₂	l ₁	d ₂ (h ₆)	Z
20212004	4,0	0	120°	7	50	4	4
20212006	6,0	0	120°	11	57	6	4
20212008	8,0	0	120°	14	63	8	4
20212010	10,0	0	120°	16	72	10	4
20212012	12,0	0	120°	18	82	12	4



Pah Kirma Freze

60° / 90° / 120°

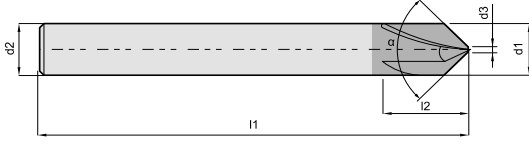
203



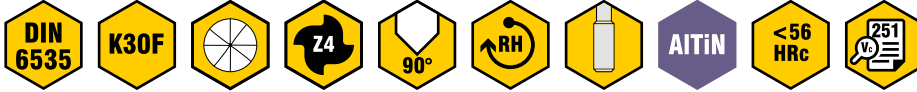
Pah Kırma Freze

60° / 90° / 120°

203



Sipariş Kodu	d ₁ (h ₁₀)	d ₃	α	l ₂	l ₁	d ₂ (h ₆)	Z
20306004	4,0	0,8	60°	8	50	4	4
20306006	6,0	1,2	60°	12	57	6	4
20306008	8,0	1,6	60°	16	63	8	4
20306010	10,0	2	60°	17	72	10	4
20306012	12,0	2,4	60°	22	82	12	4



Sipariş Kodu	d ₁ (h ₁₀)	d ₃	α	l ₂	l ₁	d ₂ (h ₆)	Z
20309004	4,0	0,8	90°	8	50	4	4
20309006	6,0	1,2	90°	12	57	6	4
20309008	8,0	1,6	90°	16	63	8	4
20309010	10,0	2	90°	17	72	10	4
20309012	12,0	2,4	90°	22	82	12	4



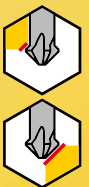
Sipariş Kodu	d ₁ (h ₁₀)	d ₃	α	l ₂	l ₁	d ₂ (h ₆)	Z
20312004	4,0	0,8	120°	8	50	4	4
20312006	6,0	1,2	120°	12	57	6	4
20312008	8,0	1,6	120°	16	63	8	4
20312010	10,0	2	120°	17	72	10	4
20312012	12,0	2,4	120°	22	82	12	4



Ön Arka Pah Kırma

90° Pah Freze

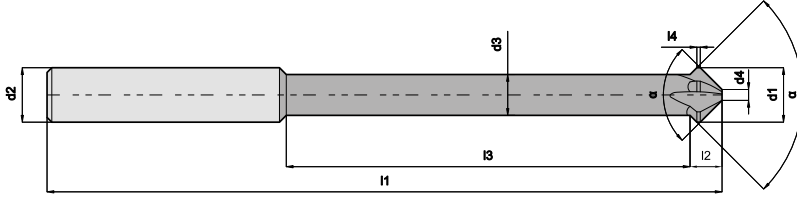
192



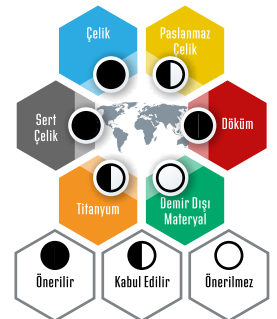
Ön Arka Pah Kırma

90° Havşa Freze

192



Sipariş Kodu	d ₁ (h ₁₀)	d ₄	α	l ₄	l ₂	d ₃	l ₃	l ₁	d ₂	Z
19210300	3,0	0,6	90°	0,5	2,1	2,2	10	75	4	4
19210400	4,0	0,8	90°	0,5	2,7	2,9	15	75	4	4
19210500	5,0	1,0	90°	0,5	3,0	3,9	20	75	5	4
19210600	6,0	1,2	90°	0,5	3,9	3,9	64	100	6	4
19210800	8,0	1,6	90°	0,5	4,7	6,0	64	100	8	4
19211000	10,0	2,0	90°	0,5	6,5	6,0	60	100	10	4
19211200	12,0	2,4	90°	0,5	8,3	6,0	55	100	12	4



S Alüminyum Freze

Standart Kaplamasız

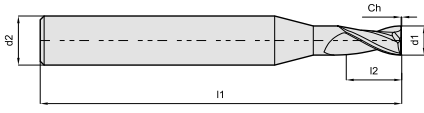
212



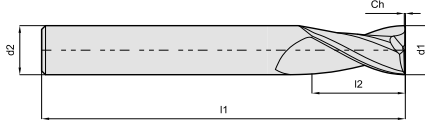
S Alüminyum Freze

Standart Kaplamasız

212



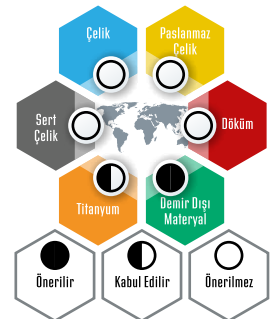
Tip A



Tip B



Sipariş Kodu	d ₁ (h ₁₀)	l ₂	l ₁	d ₂ (h ₆)	Chx(45°)	Z	Tip
21210100	1,0	03	39	3	0	2	A
21210101	1,0	03	50	4	0	2	A
21210150	1,5	04	39	3	0	2	A
21210151	1,5	04	50	4	0	2	A
21210200	2,0	05	39	3	0	2	A
21210201	2,0	05	50	4	0	2	A
21210250	2,5	06	39	3	0	2	A
21210252	2,5	06	50	4	0	2	A
21210300	3,0	08	39	3	0,10	2	B
21210301	3,0	08	50	3	0,10	2	B
21210302	3,0	08	50	4	0,10	2	A
21210350	3,5	09	50	4	0,10	2	A
21210400	4,0	11	50	4	0,10	2	B
21210450	4,5	12	50	5	0,10	2	A
21210500	5,0	13	50	5	0,10	2	B
21210550	5,5	13	50	6	0,10	2	A
21210600	6,0	13	50	6	0,10	2	B



S Alüminyum Freze

Standart Kaplamasız

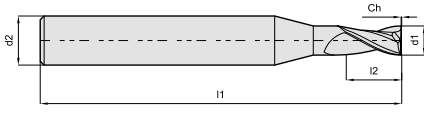
213



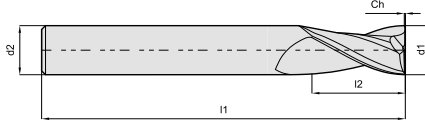
S Alüminyum Freze

Standart Kaplamasız

213



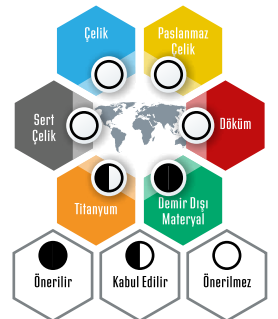
Tip A



Tip B



Sipariş Kodu	d ₁ (h ₁₀)	l ₂	l ₁	d ₂ (h ₆)	Chx(45°)	Z	Tip
21310100	1,0	03	39	3	0	3	A
21310101	1,0	03	50	4	0	3	A
21310150	1,5	04	39	3	0	3	A
21310151	1,5	04	50	4	0	3	A
21310200	2,0	05	39	3	0	3	A
21310201	2,0	05	50	4	0	3	A
21310250	2,5	06	39	3	0	3	A
21310252	2,5	06	50	4	0	3	A
21310300	3,0	08	39	3	0,10	3	B
21310301	3,0	08	50	3	0,10	3	B
21310302	3,0	08	50	4	0,10	3	A
21310350	3,5	09	50	4	0,10	3	A
21310400	4,0	11	50	4	0,10	3	B
21310450	4,5	12	50	5	0,10	3	A
21310500	5,0	13	50	5	0,10	3	B
21310550	5,5	13	50	6	0,10	3	A
21310600	6,0	13	50	6	0,10	3	B



M Alüminyum Freze

Standart Kaplamasız

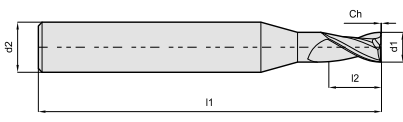
232



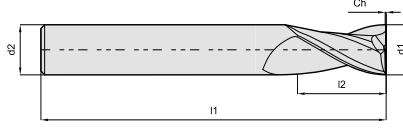
M Alüminyum Freze

Standart Kaplamasız

232



Tip A



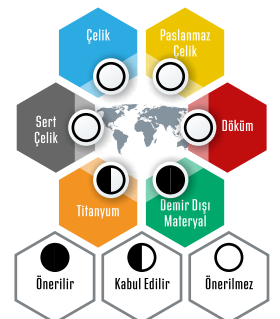
Tip B



Sipariş Kodu	d ₁ (h ₁₀)	l ₂	l ₁	d ₂ (h ₆)	Chx(45°)	Z	Tip
23210300	3,0	08	57	6	0,10	2	A
23210400	4,0	11	57	6	0,10	2	A
23210500	5,0	13	57	6	0,10	2	A
23210600	6,0	13	57	6	0,10	2	B
23210700	7,0	16	63	8	0,20	2	A
23210800	8,0	19	63	8	0,20	2	B
23210900	9,0	19	72	10	0,20	2	A
23211000	10,0	22	72	10	0,20	2	B
23211200	12,0	26	82	12	0,20	2	B
23211400	14,0	26	82	14	0,20	2	B
23211600	16,0	32	92	16	0,20	2	B
23211800	18,0	32	92	18	0,20	2	B
23212000	20,0	38	104	20	0,20	2	B



Sipariş Kodu	d ₁ (h ₁₀)	l ₂	l ₁	d ₂ (h ₆)	Chx(45°)	Z	Tip
23220300	3,0	08	57	6	0,10	2	A
23220400	4,0	11	57	6	0,10	2	A
23220500	5,0	13	57	6	0,10	2	A
23220600	6,0	13	57	6	0,10	2	B
23220700	7,0	16	63	8	0,20	2	A
23220800	8,0	19	63	8	0,20	2	B
23220900	9,0	19	72	10	0,20	2	A
23221000	10,0	22	72	10	0,20	2	B
23221200	12,0	26	82	12	0,20	2	B
23221400	14,0	26	82	14	0,20	2	B
23221600	16,0	32	92	16	0,20	2	B
23221800	18,0	32	92	18	0,20	2	B
23222000	20,0	38	104	20	0,20	2	B



M Alüminyum Freze

Standart Kaplamasız

233



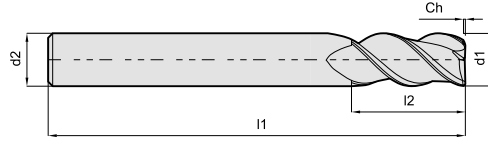
M Alüminyum Freze

Standart Kaplamasız

233



Tip A



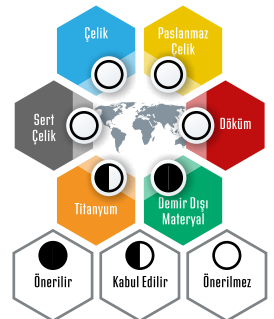
Tip B



Sipariş Kodu	d ₁ (h ₁₀)	l ₂	l ₁	d ₂ (h ₆)	Chx(45°)	Z	Tip
23310300	3,0	08	57	6	0,10	3	A
23310400	4,0	11	57	6	0,10	3	A
23310500	5,0	13	57	6	0,10	3	A
23310600	6,0	13	57	6	0,10	3	B
23310700	7,0	16	63	8	0,20	3	A
23310800	8,0	19	63	8	0,20	3	B
23310900	9,0	19	72	10	0,20	3	A
23311000	10,0	22	72	10	0,20	3	B
23311200	12,0	26	82	12	0,20	3	B
23311400	14,0	26	82	14	0,20	3	B
23311600	16,0	32	92	16	0,20	3	B
23311800	18,0	32	92	18	0,20	3	B
23312000	20,0	38	104	20	0,20	3	B



Sipariş Kodu	d ₁ (h ₁₀)	l ₂	l ₁	d ₂ (h ₆)	Chx(45°)	Z	Tip
23320300	3,0	08	57	6	0,10	3	A
23320400	4,0	11	57	6	0,10	3	A
23320500	5,0	13	57	6	0,10	3	A
23320600	6,0	13	57	6	0,10	3	B
23320700	7,0	16	63	8	0,20	3	A
23320800	8,0	19	63	8	0,20	3	B
23320900	9,0	19	72	10	0,20	3	A
23321000	10,0	22	72	10	0,20	3	B
23321200	12,0	26	82	12	0,20	3	B
23321400	14,0	26	82	14	0,20	3	B
23321600	16,0	32	92	16	0,20	3	B
23321800	18,0	32	92	18	0,20	3	B
23322000	20,0	38	104	20	0,20	3	B



L Alüminyum Freze

Standart Kaplamasız

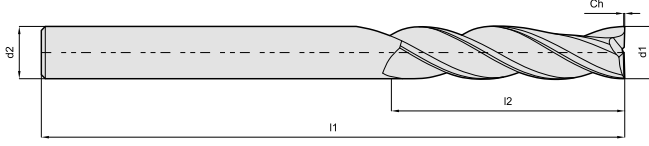
252



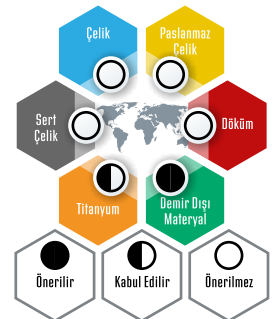
L Alüminyum Freze

Standart Kaplamasız

252



Sipariş Kodu	d ₁ (h ₁₀)	l ₂	l ₁	d ₂ (h ₆)	Chx(45°)	Z
25210300	3,0	20	75	3	0,10	2
25210301	3,0	20	100	3	0,10	2
25210400	4,0	25	75	4	0,10	2
25210401	4,0	25	100	4	0,10	2
25210500	5,0	30	75	5	0,10	2
25210501	5,0	30	100	5	0,10	2
25210600	6,0	30	75	6	0,10	2
25210601	6,0	30	100	6	0,10	2
25210602	6,0	30	150	6	0,10	2
25210700	7,0	40	100	7	0,20	2
25210800	8,0	40	100	8	0,20	2
25210801	8,0	40	150	8	0,20	2
25211000	10,0	40	100	10	0,20	2
25211001	10,0	40	150	10	0,20	2
25211201	12,0	45	100	12	0,20	2
25211200	12,0	45	150	12	0,20	2
25211401	14,0	45	100	14	0,20	2
25211400	14,0	45	150	14	0,20	2
25211601	16,0	50	110	16	0,20	2
25211600	16,0	65	150	16	0,20	2
25211801	18,0	55	110	18	0,20	2
25211800	18,0	65	150	18	0,20	2
25212001	20,0	60	110	20	0,20	2
25212000	20,0	65	150	20	0,20	2



L Alüminyum Freze

Standart Kaplamasız

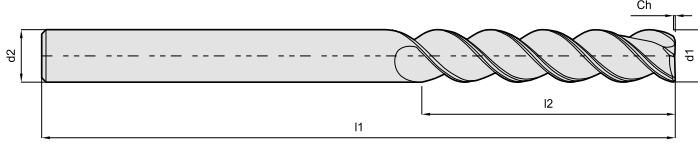
253



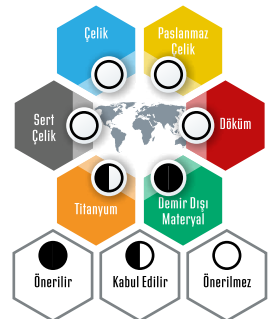
L Alüminyum Freze

Standart Kaplamasız

253



Sipariş Kodu	d ₁ (h ₁₀)	l ₂	l ₁	d ₂ (h ₆)	Chx(45°)	Z
25310300	3,0	20	75	3	0,10	3
25310301	3,0	20	100	3	0,10	3
25310400	4,0	25	75	4	0,10	3
25310401	4,0	25	100	4	0,10	3
25310500	5,0	30	75	5	0,10	3
25310501	5,0	30	100	5	0,10	3
25310600	6,0	30	75	6	0,10	3
25310601	6,0	30	100	6	0,10	3
25310602	6,0	30	150	6	0,10	3
25310700	7,0	40	100	7	0,20	3
25310800	8,0	40	100	8	0,20	3
25310801	8,0	40	150	8	0,20	3
25311000	10,0	40	100	10	0,20	3
25311001	10,0	40	150	10	0,20	3
25311201	12,0	45	100	12	0,20	3
25311200	12,0	45	150	12	0,20	3
25311401	14,0	45	100	14	0,20	3
25311400	14,0	45	150	14	0,20	3
25311601	16,0	50	110	16	0,20	3
25311600	16,0	65	150	16	0,20	3
25311801	18,0	55	110	18	0,20	3
25311800	18,0	65	150	18	0,20	3
25312001	20,0	60	110	20	0,20	3
25312000	20,0	65	150	20	0,20	3



M Alüminyum Freze

Standart Kaplamasız

235



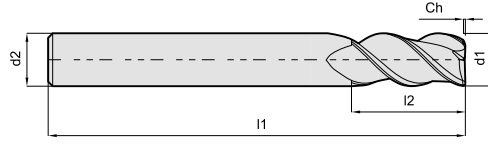
M Alüminyum Freze

Standart Kaplamasız

235



Tip A



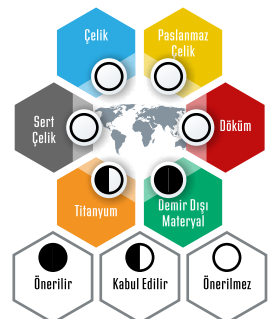
Tip B



Sipariş Kodu	d ₁ (h ₁₀)	l ₂	l ₁	d ₂ (h ₆)	Chx(45°)	Z	Tip
23510300	3,0	08	57	6	0,10	3	A
23510400	4,0	11	57	6	0,10	3	A
23510500	5,0	13	57	6	0,10	3	A
23510600	6,0	13	57	6	0,10	3	B
23510700	7,0	16	63	8	0,20	3	A
23510800	8,0	19	63	8	0,20	3	B
23510900	9,0	19	72	10	0,20	3	A
23511000	10,0	22	72	10	0,20	3	B
23511200	12,0	26	82	12	0,20	3	B
23511400	14,0	26	82	14	0,20	3	B
23511600	16,0	32	92	16	0,20	3	B
23511800	18,0	32	92	18	0,20	3	B
23512000	20,0	38	104	20	0,20	3	B



Sipariş Kodu	d ₁ (h ₁₀)	l ₂	l ₁	d ₂ (h ₆)	Chx(45°)	Z	Tip
23520300	3,0	08	57	6	0,10	3	A
23520400	4,0	11	57	6	0,10	3	A
23520500	5,0	13	57	6	0,10	3	A
23520600	6,0	13	57	6	0,10	3	B
23520700	7,0	16	63	8	0,20	3	A
23520800	8,0	19	63	8	0,20	3	B
23520900	9,0	19	72	10	0,20	3	A
23521000	10,0	22	72	10	0,20	3	B
23521200	12,0	26	82	12	0,20	3	B
23521400	14,0	26	82	14	0,20	3	B
23521600	16,0	32	92	16	0,20	3	B
23521800	18,0	32	92	18	0,20	3	B
23522000	20,0	38	104	20	0,20	3	B



L Alüminyum Freze

Standart Kaplamasız

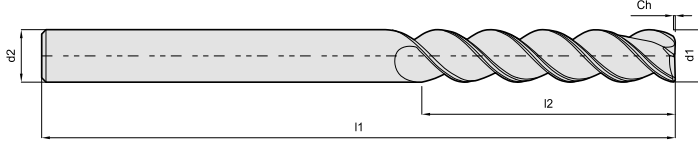
255



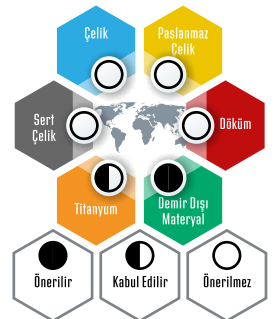
L Alüminyum Freze

Standart Kaplamasız

255



Sipariş Kodu	d ₁ (h ₁₀)	l ₂	l ₁	d ₂ (h ₆)	Chx(45°)	Z
25510300	3,0	20	75	3	0,10	3
25510301	3,0	20	100	3	0,10	3
25510400	4,0	25	75	4	0,10	3
25510401	4,0	25	100	4	0,10	3
25510500	5,0	30	75	5	0,10	3
25510501	5,0	30	100	5	0,10	3
25510600	6,0	30	75	6	0,10	3
25510601	6,0	30	100	6	0,10	3
25510602	6,0	30	150	6	0,10	3
25510700	7,0	40	100	7	0,20	3
25510800	8,0	40	100	8	0,20	3
25510801	8,0	40	150	8	0,20	3
25511000	10,0	40	100	10	0,20	3
25511001	10,0	40	150	10	0,20	3
25511201	12,0	45	100	12	0,20	3
25511200	12,0	45	150	12	0,20	3
25511401	14,0	45	100	14	0,20	3
25511400	14,0	45	150	14	0,20	3
25511601	16,0	50	110	16	0,20	3
25511600	16,0	65	150	16	0,20	3
25511801	18,0	55	110	18	0,20	3
25511800	18,0	65	150	18	0,20	3
25512001	20,0	60	110	20	0,20	3
25512000	20,0	65	150	20	0,20	3



M Alüminyum Freze

Standart Rasyo Kaplamasız

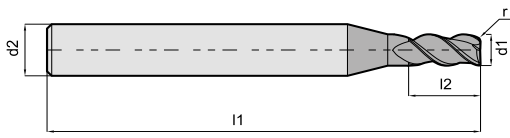
237



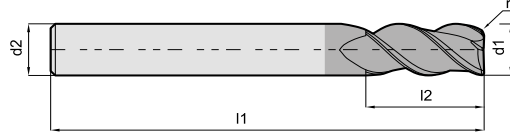
M Alüminyum Freze

Standart Rasyo Kaplamasız

237



Tip A



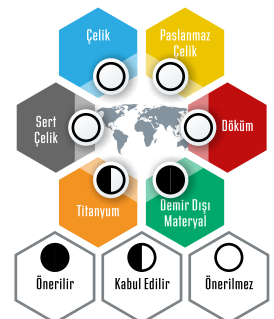
Tip B



Sipariş Kodu	d ₁ (h ₁₀)	l ₂	l ₁	d ₂ (h ₆)	r	Z	Tip
23710300	3,0	08	57	6	0,2	3	A
23710400	4,0	11	57	6	0,2	3	A
23710500	5,0	13	57	6	0,2	3	A
23710600	6,0	13	57	6	0,2	3	B
23710700	7,0	16	63	8	0,2	3	A
23710800	8,0	19	63	8	0,2	3	B
23710900	9,0	19	72	10	0,2	3	A
23711000	10,0	22	72	10	0,2	3	B
23711201	12,0	26	75	12	0,2	3	B
23711200	12,0	26	82	12	0,2	3	B
23711400	14,0	26	82	14	0,2	3	B
23711600	16,0	32	92	16	0,2	3	B
23711800	18,0	32	92	18	0,2	3	B
23712000	20,0	38	104	20	0,2	3	B



Sipariş Kodu	d ₁ (h ₁₀)	l ₂	l ₁	d ₂ (h ₆)	r	Z	Tip
23720300	3,0	08	57	6	0,2	3	A
23720400	4,0	11	57	6	0,2	3	A
23720500	5,0	13	57	6	0,2	3	A
23720600	6,0	13	57	6	0,2	3	B
23720700	7,0	16	63	8	0,2	3	A
23720800	8,0	19	63	8	0,2	3	B
23720900	9,0	19	72	10	0,2	3	A
23721000	10,0	22	72	10	0,2	3	B
23721200	12,0	26	82	12	0,2	3	B
23721400	14,0	26	82	14	0,2	3	B
23721600	16,0	32	92	16	0,2	3	B
23721800	18,0	32	92	18	0,2	3	B
23722000	20,0	38	104	20	0,2	3	B



M Alüminyum HBDÖ Freze

Standart Rasyo Kaplamasız

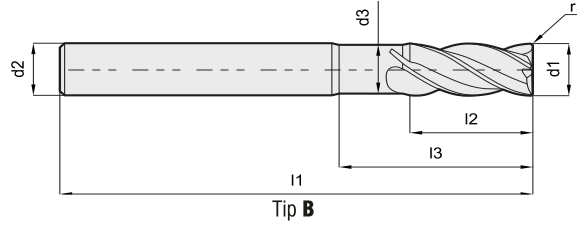
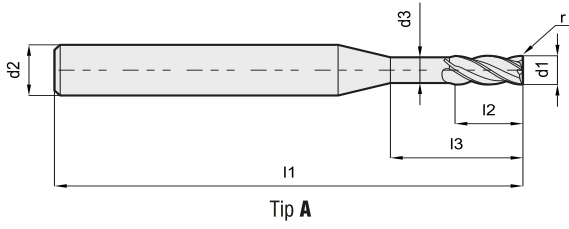
237



M Alüminyum HBDØ Freze

Standart Rasyo Kaplamasız

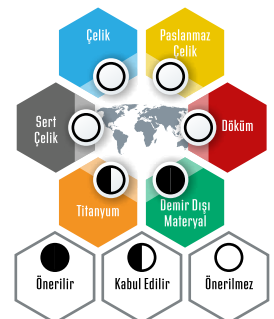
237



Sipariş Kodu	d ₁ (h ₁₀)	l ₂	d ₃	l ₃	l ₁	d ₂ (h ₆)	r	Z	Tip
23730300	3,0	08	2,8	15	57	6	0,2	3	A
23730400	4,0	11	3,8	18	57	6	0,2	3	A
23730500	5,0	13	4,8	19	57	6	0,2	3	A
23730600	6,0	13	5,7	20	57	6	0,2	3	B
23730700	7,0	16	6,7	25	63	8	0,2	3	A
23730800	8,0	19	7,7	26	63	8	0,2	3	B
23730900	9,0	19	8,7	30	72	10	0,2	3	A
23731000	10,0	22	9,5	30	72	10	0,2	3	B
23731200	12,0	26	11,5	36	82	12	0,2	3	B
23731400	14,0	26	13,5	36	82	14	0,2	3	B
23731600	16,0	32	15,5	42	92	16	0,2	3	B
23731800	18,0	32	17,5	42	92	16	0,2	3	B
23732000	20,0	38	19,5	52	104	20	0,2	3	B



Sipariş Kodu	d ₁ (h ₁₀)	l ₂	d ₃	l ₃	l ₁	d ₂ (h ₆)	r	Z	Tip
23740300	3,0	08	2,8	15	57	6	0,2	3	A
23740400	4,0	11	3,8	18	57	6	0,2	3	A
23740500	5,0	13	4,8	19	57	6	0,2	3	A
23740600	6,0	13	5,7	20	57	6	0,2	3	B
23740700	7,0	16	6,7	25	63	8	0,2	3	A
23740800	8,0	19	7,7	26	63	8	0,2	3	B
23740900	9,0	19	8,7	30	72	10	0,2	3	A
23741000	10,0	22	9,5	30	72	10	0,2	3	B
23741200	12,0	26	11,5	36	82	12	0,2	3	B
23741400	14,0	26	13,5	36	82	14	0,2	3	B
23741600	16,0	32	15,5	42	92	16	0,2	3	B
23741800	18,0	32	17,5	42	92	16	0,2	3	B
23742000	20,0	38	19,5	52	104	20	0,2	3	B



L Alüminyum Freze

Standart Rasyo Kaplamasız

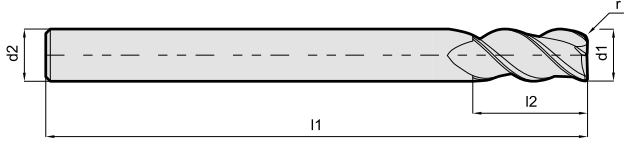
257



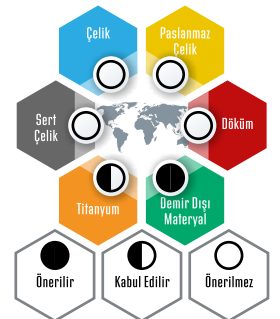
L Alüminyum Freze

Standart Rasyo Kaplamasız

257



Sipariş Kodu	d ₁ (h ₁₀)	l ₂	l ₁	d ₂ (h ₆)	r	Z
25710300	3,0	08	75	3	0,2	3
25710301	3,0	08	100	3	0,2	3
25710400	4,0	11	75	4	0,2	3
25710401	4,0	11	100	4	0,2	3
25710500	5,0	13	75	5	0,2	3
25710501	5,0	13	100	5	0,2	3
25710600	6,0	13	75	6	0,2	3
25710601	6,0	13	100	6	0,2	3
25710602	6,0	13	150	6	0,2	3
25710800	8,0	19	100	8	0,2	3
25710801	8,0	19	150	8	0,2	3
25711000	10,0	22	100	10	0,2	3
25711001	10,0	22	150	10	0,2	3
25711201	12,0	26	100	12	0,2	3
25711200	12,0	26	150	12	0,2	3
25711401	14,0	26	100	14	0,2	3
25711400	14,0	26	150	14	0,2	3
25711601	16,0	32	110	16	0,2	3
25711600	16,0	32	150	16	0,2	3
25711801	18,0	32	110	18	0,2	3
25711800	18,0	32	150	18	0,2	3
25712001	20,0	38	110	20	0,2	3
25712000	20,0	38	150	20	0,2	3



L Alüminyum HBDØ Freze

Standart Rasyo Kaplamasız

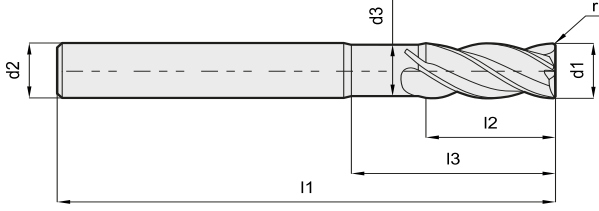
257



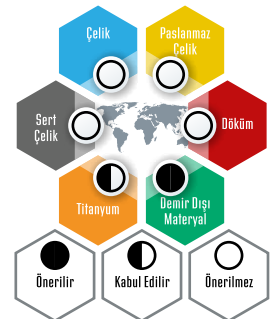
L Alüminyum HBDØ Freze

Standart Rasyo Kaplamasız

257



Sipariş Kodu	d ₁ (h ₁₀)	l ₂	d ₃	l ₃	l ₁	d ₂ (h ₆)	r	Z
25760300	3,0	08	2,8	47	75	3	0,2	3
25760301	3,0	08	2,8	72	100	3	0,2	3
25760400	4,0	11	3,8	47	75	4	0,2	3
25760401	4,0	11	3,8	72	100	4	0,2	3
25760500	5,0	13	4,8	47	75	5	0,2	3
25760501	5,0	13	4,8	72	100	5	0,2	3
25760600	6,0	13	5,7	39	75	6	0,2	3
25760601	6,0	13	5,7	64	100	6	0,2	3
25760602	6,0	13	5,7	114	150	6	0,2	3
25760800	8,0	19	7,7	64	100	8	0,2	3
25760801	8,0	19	7,7	114	150	8	0,2	3
25761000	10,0	22	9,5	60	100	10	0,2	3
25761001	10,0	22	9,5	100	150	10	0,2	3
25761201	12,0	26	11,5	55	100	12	0,2	3
25761200	12,0	26	11,5	105	150	12	0,2	3
25761401	14,0	26	13,5	55	100	14	0,2	3
25761400	14,0	26	13,5	105	150	14	0,2	3
25761601	16,0	32	15,5	62	110	16	0,2	3
25761600	16,0	32	15,5	102	150	16	0,2	3
25761801	18,0	32	17,5	62	110	18	0,2	3
25761800	18,0	32	17,5	102	150	18	0,2	3
25762001	20,0	38	19,5	60	110	20	0,2	3
25762000	20,0	38	19,5	100	150	20	0,2	3



M Alüminyum Köşe Radüslü Freze

Standart Rasyo Kaplamasız

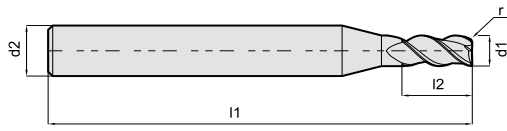
238



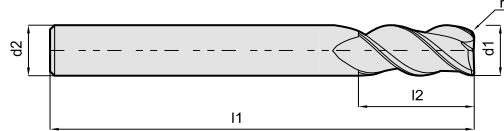
M Alüminyum Köşe Radüslü Freze

Standart Rasyo Kaplamasız

238



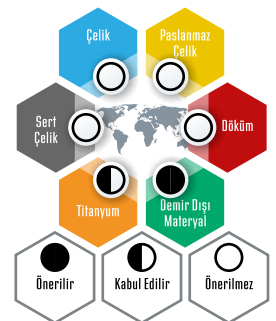
Tip A



Tip B



Sipariş Kodu	d ₁ (h ₁₀)	l ₂	l ₁	d ₂ (h ₆)	r	Z	Tip
23810305	3,0	08	57	6	0,5	3	A
23810310	3,0	08	57	6	1,0	3	A
23810405	4,0	11	57	6	0,5	3	A
23810410	4,0	11	57	6	1,0	3	A
23810505	5,0	13	57	6	0,5	3	A
23810510	5,0	13	57	6	1,0	3	A
23810605	6,0	13	57	6	0,5	3	B
23810610	6,0	13	57	6	1,0	3	B
23810805	8,0	19	63	8	0,5	3	B
23810810	8,0	19	63	8	1,0	3	B
23811005	10,0	22	72	10	0,5	3	B
23811010	10,0	22	72	10	1,0	3	B
23811020	10,0	22	72	10	2,0	3	B
23811205	12,0	26	82	12	0,5	3	B
23811210	12,0	26	82	12	1,0	3	B
23811220	12,0	26	82	12	2,0	3	B
23811230	12,0	26	82	12	3,0	3	B
23811405	14,0	26	82	14	0,5	3	B
23811410	14,0	26	82	14	1,0	3	B
23811605	16,0	32	92	16	0,5	3	B
23811610	16,0	32	92	16	1,0	3	B
23811620	16,0	32	92	16	2,0	3	B
23811630	16,0	32	92	16	3,0	3	B
23811805	18,0	32	92	18	0,5	3	B
23811810	18,0	32	92	18	1,0	3	B
23812005	20,0	38	104	20	0,5	3	B
23812010	20,0	38	104	20	1,0	3	B
23812020	20,0	38	104	20	2,0	3	B
23812030	20,0	38	104	20	3,0	3	B



M Alüminyum Köşe Radüslü HBDØ Freze

Standart Rasyo Kaplamasız

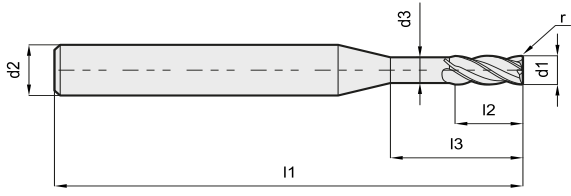
238



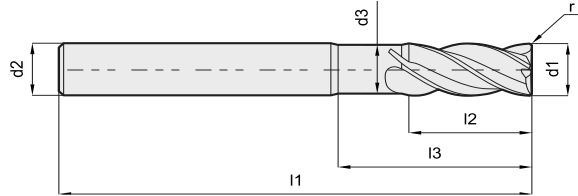
M Alüminyum Köşe Radüslü HBDØ Freze

Standart Rasyo Kaplamasız

238



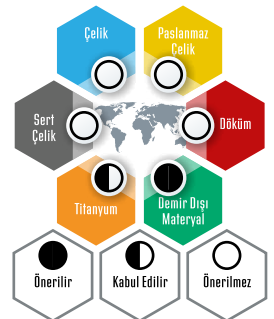
Tip A



Tip B



Sipariş Kodu	d ₁ (h ₁₀)	l ₂	d ₃	l ₃	l ₁	d ₂ (h ₆)	r	Z	Tip
23830305	3,0	08	2,8	15	57	6	0,5	3	A
23830310	3,0	08	2,8	15	57	6	1,0	3	A
23830405	4,0	11	3,8	18	57	6	0,5	3	A
23830410	4,0	11	3,8	18	57	6	1,0	3	A
23830505	5,0	13	4,8	19	57	6	0,5	3	A
23830510	5,0	13	4,8	19	57	6	1,0	3	A
23830605	6,0	13	5,7	20	57	6	0,5	3	B
23830610	6,0	13	5,7	20	57	6	1,0	3	B
23830805	8,0	19	7,7	26	63	8	0,5	3	B
23830810	8,0	19	7,7	26	63	8	1,0	3	B
23831005	10,0	22	9,5	30	72	10	0,5	3	B
23831010	10,0	22	9,5	30	72	10	1,0	3	B
23831020	10,0	22	9,5	30	72	10	2,0	3	B
23831205	12,0	26	11,5	36	82	12	0,5	3	B
23831210	12,0	26	11,5	36	82	12	1,0	3	B
23831220	12,0	26	11,5	36	82	12	2,0	3	B
23831230	12,0	26	11,5	36	82	12	3,0	3	B
23831405	14,0	26	13,5	36	82	14	0,5	3	B
23831410	14,0	26	13,5	36	82	14	1,0	3	B
23831605	16,0	32	15,5	42	92	16	0,5	3	B
23831610	16,0	32	15,5	42	92	16	1,0	3	B
23831620	16,0	32	15,5	42	92	16	2,0	3	B
23831630	16,0	32	15,5	42	92	16	3,0	3	B
23831805	18,0	32	17,5	42	92	16	0,5	3	B
23831810	18,0	32	17,5	42	92	16	1,0	3	B
23832005	20,0	38	19,5	52	104	20	0,5	3	B
23832010	20,0	38	19,5	52	104	20	1,0	3	B
23832020	20,0	38	19,5	52	104	20	2,0	3	B
23832030	20,0	38	19,5	52	104	20	3,0	3	B



L Alüminyum Köşe Radüslü Freze

Standart Rasyo Kaplamasız

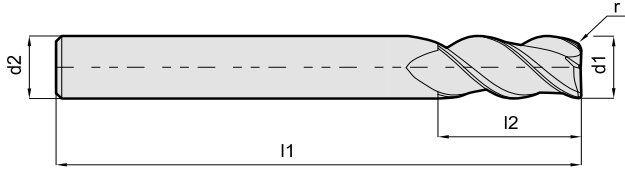
258



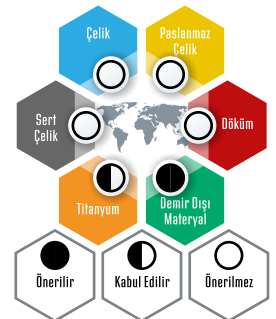
L Alüminyum Köşe Radüslü Freze

Standart Rasyo Kaplamasız

258



Sipariş Kodu	d ₁ (h ₁₀)	l ₂	l ₁	d ₂ (h ₆)	r	Z
25810305	3,0	08	75	3	0,5	3
25810310	3,0	08	75	3	1,0	3
25810405	4,0	11	75	4	0,5	3
25810410	4,0	11	75	4	1,0	3
25810505	5,0	13	75	5	0,5	3
25810510	5,0	13	75	5	1,0	3
25810605	6,0	13	75	6	0,5	3
25810610	6,0	13	75	6	1,0	3
25810606	6,0	13	100	6	0,5	3
25810611	6,0	13	100	6	1,0	3
25810805	8,0	19	100	8	0,5	3
25810810	8,0	19	100	8	1,0	3
25811005	10,0	22	100	10	0,5	3
25811010	10,0	22	100	10	1,0	3
25811020	10,0	22	100	10	2,0	3
25811006	10,0	22	150	10	0,5	3
25811011	10,0	22	150	10	1,0	3
25811021	10,0	22	150	10	2,0	3
25811206	12,0	26	100	12	0,5	3
25811211	12,0	26	100	12	1,0	3
25811221	12,0	26	100	12	2,0	3
25811231	12,0	26	100	12	3,0	3
25811205	12,0	26	150	12	0,5	3
25811210	12,0	26	150	12	1,0	3
25811220	12,0	26	150	12	2,0	3
25811230	12,0	26	150	12	3,0	3
25811611	16,0	32	110	16	1,0	3
25811621	16,0	32	110	16	2,0	3
25811631	16,0	32	110	16	3,0	3
25811610	16,0	32	150	16	1,0	3
25811620	16,0	32	150	16	2,0	3
25811630	16,0	32	150	16	3,0	3
25812005	20,0	38	150	20	0,5	3
25812010	20,0	38	150	20	1,0	3



L Alüminyum Köşe Radüslü HBDØ Freze

Standart Rasyo Kaplamasız

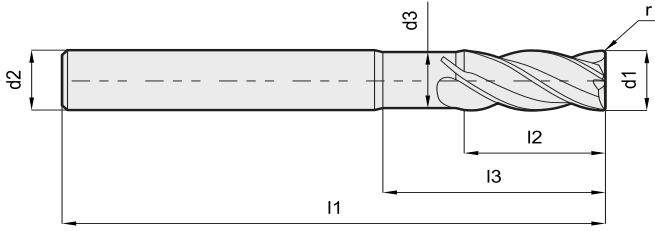
258



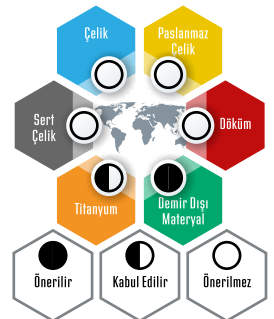
L Alüminyum Köşe Radüslü HBDØ Freze

Standart Rasyo Kaplamasız

258



Sipariş Kodu	d ₁ (h ₁₀)	l ₂	d ₃	l ₃	l ₁	d ₂ (h ₆)	r	Z
25830305	3,0	08	2,8	47	75	3	0,5	3
25830310	3,0	08	2,8	47	75	3	1,0	3
25830405	4,0	11	3,8	47	75	4	0,5	3
25830410	4,0	11	3,8	47	75	4	1,0	3
25830505	5,0	13	4,8	47	75	5	0,5	3
25830510	5,0	13	4,8	47	75	5	1,0	3
25830605	6,0	13	5,7	39	75	6	0,5	3
25830610	6,0	13	5,7	39	75	6	1,0	3
25830606	6,0	13	5,7	64	100	6	0,5	3
25830611	6,0	13	5,7	64	100	6	1,0	3
25830805	8,0	19	7,7	64	100	8	0,5	3
25830810	8,0	19	7,7	64	100	8	1,0	3
25831005	10,0	22	9,5	60	100	10	0,5	3
25831010	10,0	22	9,5	60	100	10	1,0	3
25831020	10,0	22	9,5	60	100	10	2,0	3
25831006	10,0	22	9,5	110	150	10	0,5	3
25831011	10,0	22	9,5	110	150	10	1,0	3
25831021	10,0	22	9,5	110	150	10	2,0	3
25831206	12,0	26	11,5	55	100	12	0,5	3
25831211	12,0	26	11,5	55	100	12	1,0	3
25831221	12,0	26	11,5	55	100	12	2,0	3
25831231	12,0	26	11,5	55	100	12	3,0	3
25831205	12,0	26	11,5	105	150	12	0,5	3
25831210	12,0	26	11,5	105	150	12	1,0	3
25831220	12,0	26	11,5	105	150	12	2,0	3
25831230	12,0	26	11,5	105	150	12	3,0	3
25831611	16,0	32	15,5	62	110	16	1,0	3
25831621	16,0	32	15,5	62	110	16	2,0	3
25831631	16,0	32	15,5	62	110	16	3,0	3
25831610	16,0	32	15,5	102	150	16	1,0	3
25831620	16,0	32	15,5	102	150	16	2,0	3
25831630	16,0	32	15,5	102	150	16	3,0	3
25832005	20,0	38	19,5	100	150	20	0,5	3
25832010	20,0	38	19,5	100	150	20	1,0	3



DLC Freze

Alüminyum

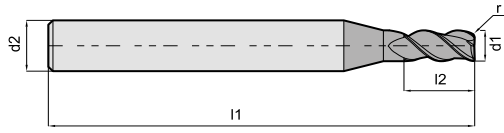
236



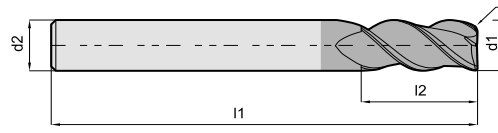
DLC Freze

Alüminyum

236



Tip A



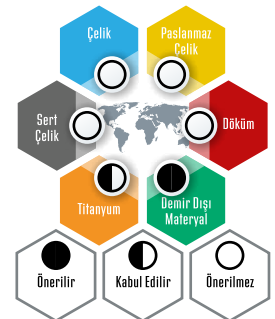
Tip B



Sipariş Kodu	d ₁ (h ₁₀)	l ₂	l ₁	d ₂ (h ₆)	r	Z	Tip
23610300	3,0	08	57	6	0,2	3	A
23610400	4,0	11	57	6	0,2	3	A
23610500	5,0	13	57	6	0,2	3	A
23610600	6,0	13	57	6	0,2	3	B
23610700	7,0	16	63	8	0,2	3	A
23610800	8,0	19	63	8	0,2	3	B
23610900	9,0	19	72	10	0,2	3	A
23611000	10,0	22	72	10	0,2	3	B
23611201	12,0	26	75	12	0,2	3	B
23611200	12,0	26	82	12	0,2	3	B
23611400	14,0	26	82	14	0,2	3	B
23611600	16,0	32	92	16	0,2	3	B
23611800	18,0	32	92	18	0,2	3	B
23612000	20,0	38	104	20	0,2	3	B



Sipariş Kodu	d ₁ (h ₁₀)	l ₂	l ₁	d ₂ (h ₆)	r	Z	Tip
23620300	3,0	08	57	6	0,2	3	A
23620400	4,0	11	57	6	0,2	3	A
23620500	5,0	13	57	6	0,2	3	A
23620600	6,0	13	57	6	0,2	3	B
23620700	7,0	16	63	8	0,2	3	A
23620800	8,0	19	63	8	0,2	3	B
23620900	9,0	19	72	10	0,2	3	A
23621000	10,0	22	72	10	0,2	3	B
23621200	12,0	26	82	12	0,2	3	B
23621400	14,0	26	82	14	0,2	3	B
23621600	16,0	32	92	16	0,2	3	B
23621800	18,0	32	92	18	0,2	3	B
23622000	20,0	38	104	20	0,2	3	B



Z1 Demir Dışı Freze

Standart Kaplamasız

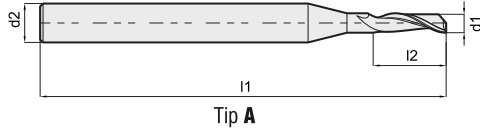
211



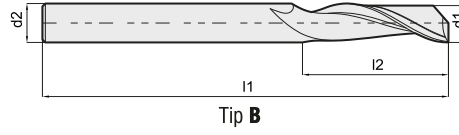
Z1 Demir Dışı Freze

Standart Kaplamasız

211



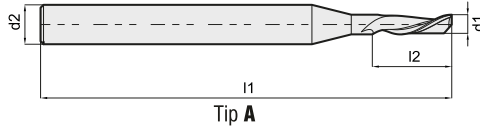
Tip A



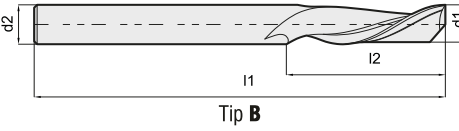
Tip B



Sipariş Kodu	d ₁ (h ₁₀)	l ₂	l ₁	d ₂ (h ₆)	Chx(45°)	Z	Tip
21110200	2,0	08	50	3	0	1	A
21110301	3,0	12	50	3	0	1	B
21110300	3,0	12	57	6	0	1	A
21110401	4,0	16	50	4	0	1	B
21110400	4,0	16	57	6	0	1	A
21110501	5,0	18	50	5	0	1	B
21110500	5,0	18	57	6	0	1	A
21110600	6,0	20	57	6	0	1	B
21110800	8,0	22	63	8	0	1	B
21111000	10,0	25	72	10	0	1	B
21111200	12,0	30	82	12	0	1	B



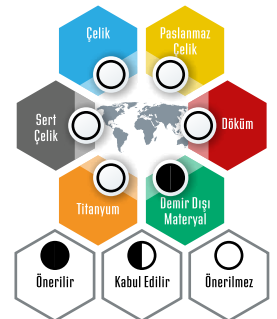
Tip A



Tip B



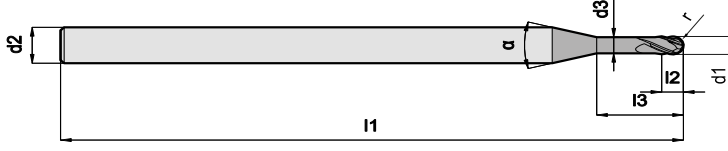
Sipariş Kodu	d ₁ (h ₁₀)	l ₂	l ₁	d ₂ (h ₆)	Chx(45°)	Z	Tip
21120200	2,0	08	50	3	0	1	A
21120301	3,0	12	50	3	0	1	B
21120300	3,0	12	57	6	0	1	A
21120401	4,0	16	50	4	0	1	B
21120400	4,0	16	57	6	0	1	A
21120501	5,0	18	50	5	0	1	B
21120500	5,0	18	57	6	0	1	A
21120600	6,0	20	57	6	0	1	B
21120800	8,0	22	63	8	0	1	B
21121000	10,0	25	72	10	0	1	B
21121200	12,0	30	82	12	0	1	B



Mikro
Küre Freze

300





Sipariş Kodu	d ₁ (h ₆)	r	l ₂	d ₃	l ₃	l ₁	d ₂ (h ₆)	Z
30001004	1,0	0,5	1,5	0,95	04	50	4	2
30001006	1,0	0,5	1,5	0,95	06	50	4	2
30001008	1,0	0,5	1,5	0,95	08	50	4	2
30001010	1,0	0,5	1,5	0,95	10	50	4	2
30001012	1,0	0,5	1,5	0,95	12	50	4	2
30001016	1,0	0,5	1,5	0,95	16	50	4	2
30001020	1,0	0,5	1,5	0,95	20	65	4	2
30001504	1,5	0,75	2,25	1,44	04	50	4	2
30001506	1,5	0,75	2,25	1,44	06	50	4	2
30001508	1,5	0,75	2,25	1,44	08	50	4	2
30001510	1,5	0,75	2,25	1,44	10	50	4	2
30001512	1,5	0,75	2,25	1,44	12	50	4	2
30001516	1,5	0,75	2,25	1,44	16	50	4	2
30001520	1,5	0,75	2,25	1,44	20	65	4	2
30002004	2,0	1,0	3,0	1,92	04	50	4	2
30002006	2,0	1,0	3,0	1,92	06	50	4	2
30002008	2,0	1,0	3,0	1,92	08	50	4	2
30002010	2,0	1,0	3,0	1,92	10	50	4	2
30002012	2,0	1,0	3,0	1,92	12	50	4	2
30002016	2,0	1,0	3,0	1,92	16	50	4	2
30002020	2,0	1,0	3,0	1,92	20	65	4	2
30002025	2,0	1,0	3,0	1,92	25	65	4	2
30002504	2,5	1,25	3,75	2,40	04	50	4	2
30002506	2,5	1,25	3,75	2,40	06	50	4	2
30002508	2,5	1,25	3,75	2,40	08	50	4	2
30002510	2,5	1,25	3,75	2,40	10	50	4	2
30002512	2,5	1,25	3,75	2,40	12	50	4	2
30002516	2,5	1,25	3,75	2,40	16	50	4	2
30002520	2,5	1,25	3,75	2,40	20	65	4	2
30002525	2,5	1,25	3,75	2,40	25	65	4	2



M Küresel Freze

Standart Kaplamalı

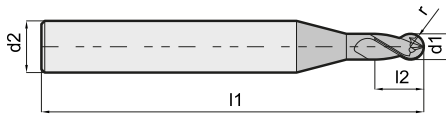
322



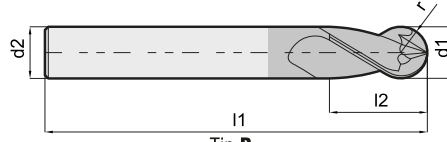
M Küresel Freze

Standart Kaplamalı

322



Tip A



Tip B



Sipariş Kodu	d ₁ (h ₉)	r	l ₂	l ₁	d ₂ (h ₆)	Z	Tip
32210101	1,0	0,5	02	39	3	2	A
32210151	1,5	0,75	03	39	3	2	A
32210201	2,0	1,0		39	3	2	A
32210251	2,5	1,25	05	39	3	2	A
32210301	3,0	1,5	07	39	3	2	B
32210300	3,0	1,5	07	57	6	2	A
32210401	4,0	2,0	08	50	4	2	B
32210400	4,0	2,0	08	57	6	2	A
32210501	5,0	2,5	10	50	5	2	B
32210500	5,0	2,5	10	57	6	2	A
32210600	6,0	3,0	10	57	6	2	B
32210800	8,0	4,0	16	63	8	2	B
32211000	10,0	5,0	19	72	10	2	B
32211200	12,0	6,0	22	82	12	2	B
32211400	14,0	7,0	22	82	14	2	B
32211600	16,0	8,0	26	92	16	2	B
32211800	18,0	9,0	26	92	18	2	B
32212000	20,0	10,0	32	104	20	2	B



M Küresel Freze

Standart Kaplamalı

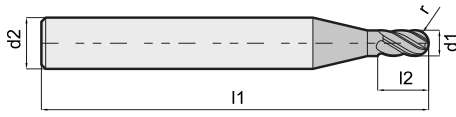
324



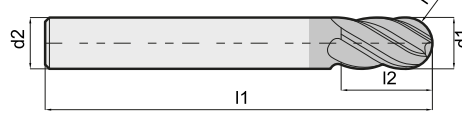
M Küresel Freze

Standart Kaplamalı

324



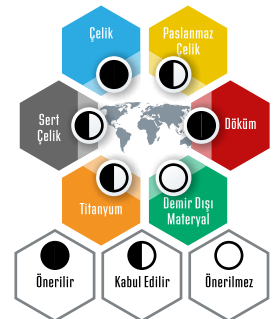
Tip A



Tip B



Sipariş Kodu	d ₁ (h ₉)	r	l ₂	l ₁	d ₂ (h ₆)	Z	Tip
32410101	1,0	0,5	02	39	3	4	A
32410151	1,5	0,75	03	39	3	4	A
32410201	2,0	1,0	04	39	3	4	A
32410251	2,5	1,25	05	39	3	4	A
32410301	3,0	1,5	07	39	3	4	B
32410300	3,0	1,5	07	57	6	4	A
32410401	4,0	2,0	08	50	4	4	B
32410400	4,0	2,0	08	57	6	4	A
32410501	5,0	2,5	10	50	5	4	B
32410500	5,0	2,5	10	57	6	4	A
32410600	6,0	3,0	10	57	6	4	B
32410800	8,0	4,0	16	63	8	4	B
32411000	10,0	5,0	19	72	10	4	B
32411200	12,0	6,0	22	82	12	4	B
32411400	14,0	7,0	22	82	14	4	B
32411600	16,0	8,0	26	92	16	4	B
32411800	18,0	9,0	26	92	18	4	B
32412000	20,0	10,0	32	104	20	4	B



L Küresel Freze

Standart Uzun Kaplamalı

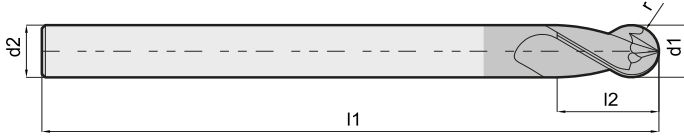
342



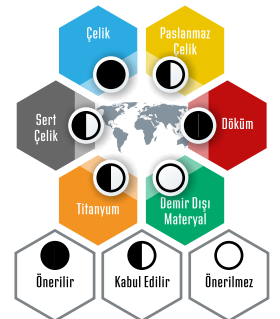
L Küresel Freze

Standart Uzun Kaplamalı

342



Sipariş Kodu	d ₁ (h ₉)	r	L ₂	L ₁	d ₂ (h ₆)	Z
34210301	3,0	1,5	07	50	3	2
34210300	3,0	1,5	07	75	3	2
34210302	3,0	1,5	07	100	3	2
34210400	4,0	2,0	08	75	4	2
34210401	4,0	2,0	08	100	4	2
34210500	5,0	2,5	10	75	5	2
34210501	5,0	2,5	10	100	5	2
34210600	6,0	3,0	10	75	6	2
34210601	6,0	3,0	10	100	6	2
34210602	6,0	3,0	10	125	6	2
34210800	8,0	4,0	16	100	8	2
34210801	8,0	4,0	16	125	8	2
34211000	10,0	5,0	19	100	10	2
34211001	10,0	5,0	19	150	10	2
34211201	12,0	6,0	22	100	12	2
34211200	12,0	6,0	22	150	12	2
34211401	14,0	7,0	22	100	14	2
34211400	14,0	7,0	22	150	14	2
34211601	16,0	8,0	26	110	16	2
34211600	16,0	8,0	26	150	16	2
34211801	18,0	9,0	26	110	18	2
34211800	18,0	9,0	26	150	18	2
34212000	20,0	10,0	32	150	20	2



L Küresel Freze

Standart Uzun Kaplamalı

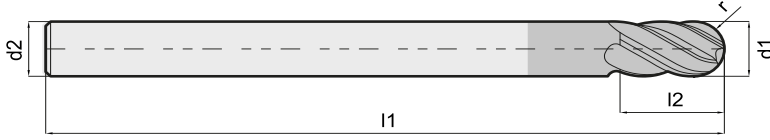
344



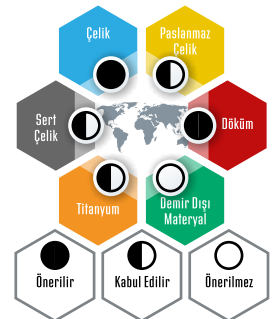
L Küresel Freze

Standart Uzun Kaplamalı

344



Sipariş Kodu	d ₁ (h ₉)	r	l ₂	l ₁	d ₂ (h ₆)	Z
34410302	3,0	1,5	07	50	3	4
34410300	3,0	1,5	07	75	3	4
34410301	3,0	1,5	07	100	3	4
34410400	4,0	2,0	08	75	4	4
34410401	4,0	2,0	08	100	4	4
34410500	5,0	2,5	10	75	5	4
34410501	5,0	2,5	10	100	5	4
34410600	6,0	3,0	10	75	6	4
34410601	6,0	3,0	10	100	6	4
34410602	6,0	3,0	10	125	6	4
34410800	8,0	4,0	16	100	8	4
34410801	8,0	4,0	16	125	8	4
34411000	10,0	5,0	19	100	10	4
34411001	10,0	5,0	19	150	10	4
34411201	12,0	6,0	22	100	12	4
34411200	12,0	6,0	22	150	12	4
34411401	14,0	7,0	22	100	14	4
34411400	14,0	7,0	22	150	14	4
34411601	16,0	8,0	26	110	16	4
34411600	16,0	8,0	26	150	16	4
34411801	18,0	9,0	26	110	18	4
34411800	18,0	9,0	26	150	18	4
34412000	20,0	10,0	32	150	20	4



≥55 HRc M Küresel Freze

Standart Kısa Kaplamalı

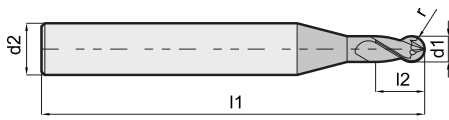
362



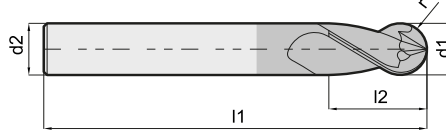
≥55 HRc M Küresel Freze

Standart Kaplamalı

362



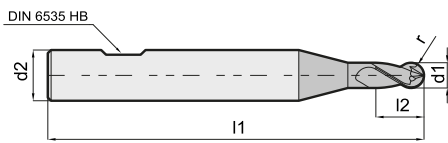
Tip A



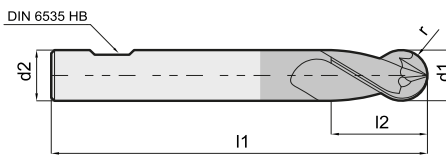
Tip B



Sipariş Kodu	d ₁ (h ₉)	r	l ₂	l ₁	d ₂ (h ₆)	Z	Tip
36210301	3,0	1,5	07	50	3	2	B
36210300	3,0	1,5	07	57	6	2	A
36210401	4,0	2,0	08	50	4	2	B
36210400	4,0	2,0	08	57	6	2	A
36210501	5,0	2,5	10	50	5	2	B
36210500	5,0	2,5	10	57	6	2	A
36210600	6,0	3,0	10	57	6	2	B
36210800	8,0	4,0	16	63	8	2	B
36211000	10,0	5,0	19	72	10	2	B
36211200	12,0	6,0	22	82	12	2	B



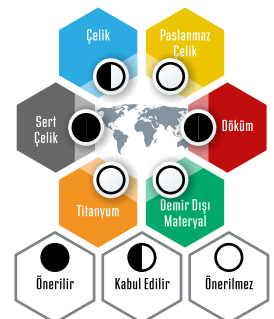
Tip A



Tip B



Sipariş Kodu	d ₁ (h ₉)	r	l ₂	l ₁	d ₂ (h ₆)	Z	Tip
36220300	3,0	1,5	07	57	6	2	A
36220400	4,0	2,5	08	57	6	2	A
36220500	5,0	2,5	10	57	6	2	A
36220600	6,0	3,0	10	57	6	2	B
36220800	8,0	4,0	16	63	8	2	B
36221000	10,0	5,0	19	72	10	2	B
36221200	12,0	6,0	22	82	12	2	B



382

≥55 HRc L Küresel Freze

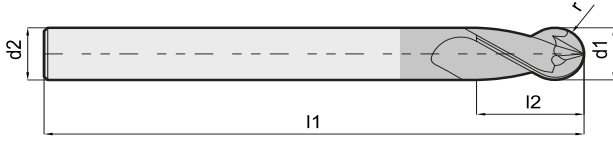
Standart Uzun Kaplamalı



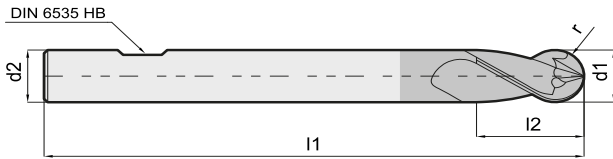
≥55 HRc L Küresel Freze

Standart Uzun Kaplamalı

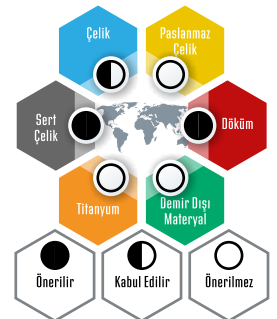
382



Sipariş Kodu	d ₁ (h ₉)	r	l ₂	l ₁	d ₂ (h ₆)	Z
38210300	3,0	1,5	07	75	3	2
38210400	4,0	2,0	08	75	4	2
38210500	5,0	2,5	10	75	5	2
38210600	6,0	3,0	10	75	6	2
38210601	6,0	3,0	10	100	6	2
38210800	8,0	4,0	16	100	8	2
38211000	10,0	5,0	19	100	10	2
38211201	12,0	6,0	22	100	12	2



Sipariş Kodu	d ₁ (h ₉)	r	l ₂	l ₁	d ₂ (h ₆)	Z
38220600	6,0	3,0	10	75	6	2
38220601	6,0	3,0	10	100	6	2
38220800	8,0	4,0	16	100	8	2
38221000	10,0	5,0	19	100	10	2
38221201	12,0	6,0	22	100	12	2



≥55 HRc Konik Küresel Freze

Standart Kaplamalı

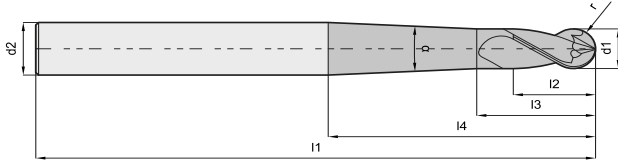
310



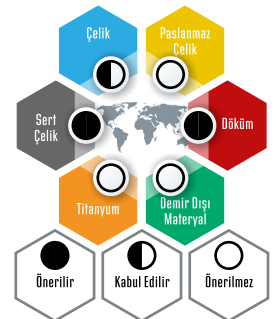
≥55 HRc Konik Küresel Freze

Standart Kaplamalı

310



Sipariş Kodu	d ₁ (h ₉)	r	l ₂	l ₃	α	l ₄	l ₁	d ₂	Z
31010201	2,0	1,0	02	04	2,50	41	80	6	2
31010301	3,0	1,5	07	11	4,51	30	65	6	2
31010302	3,0	1,5	04	08	2,85	38	75	6	2
31010303	3,0	1,5	04	08	1,65	60	100	6	2
31010401	4,0	2,0	07	11	3,32	30	65	6	2
31010402	4,0	2,0	05	09	2,67	30	75	6	2
31010403	4,0	2,0	05	09	1,18	58	100	6	2
31010501	5,0	2,5	06	10	1,33	31	75	6	2
31010502	5,0	2,5	06	10	1,75	60	100	6	2
31010601	6,0	3,0	08	12	2,38	36	75	8	2
31010602	6,0	3,0	08	12	2,52	57	100	10	2
31010801	8,0	4,0	12	16	1,52	49	100	10	2
31010802	8,0	4,0	12	16	1,40	97	150	12	2
31011001	10,0	5,0	15	19	1,83	50	100	12	2
31011002	10,0	5,0	10	14	2,50	60	125	12	2
31011003	10,0	10,0	15	19	0,80	89	150	12	2
31011201	12,0	10,0	12	14	2,50	62	140	14	2



M Alüminyum Küresel Freze

Standart Kısa Kaplamasız

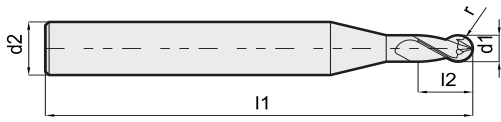
312



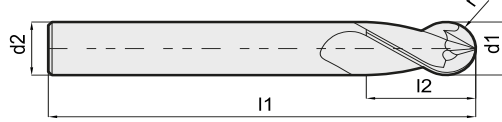
M Alüminyum Küresel Freze

Standart Kısa Kaplamasız

312



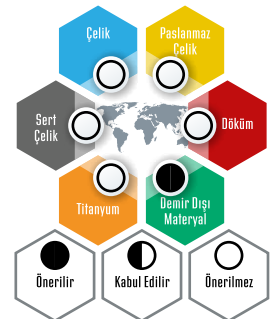
Tip A



Tip B



Sipariş Kodu	d ₁ (h ₉)	r	l ₂	l ₁	d ₂ (h ₆)	Z	Tip
31210101	1,0	0,5	02	39	3	2	A
31210151	1,5	0,75	03	39	3	2	A
31210201	2,0	1,0	04	39	3	2	A
31210251	2,5	1,25	05	39	3	2	A
31210301	3,0	1,5	07	39	3	2	B
31210300	3,0	1,5	07	57	6	2	A
31210401	4,0	2,0	08	50	4	2	B
31210400	4,0	2,0	08	57	6	2	A
31210501	5,0	2,5	10	50	5	2	B
31210500	5,0	2,5	10	57	6	2	A
31210600	6,0	3,0	10	57	6	2	B
31210800	8,0	4,0	16	63	8	2	B
31211000	10,0	5,0	19	72	10	2	B
31211200	12,0	6,0	22	82	12	2	B
31211400	14,0	7,0	22	82	14	2	B
31211600	16,0	8,0	26	92	16	2	B
31211800	18,0	9,0	26	92	18	2	B
31212000	20,0	10,0	32	104	20	2	B



L Alüminyum Küresel Freze

Standart Uzun Kaplamasız

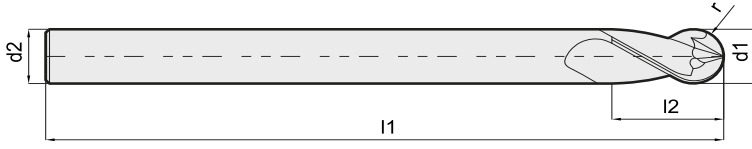
332



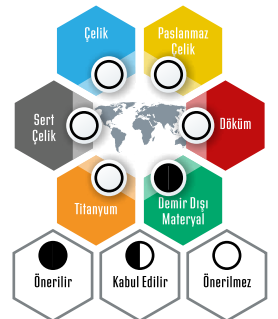
L Alüminyum Küresel Freze

Standart Uzun Kaplamasız

332



Sipariş Kodu	d ₁ (h ₉)	r	l ₂	l ₁	d ₂ (h ₆)	Z
33210301	3,0	1,5	07	50	3	2
33210300	3,0	1,5	07	75	3	2
33210302	3,0	1,5	07	100	3	2
33210400	4,0	2,0	08	75	4	2
33210401	4,0	2,0	08	100	4	2
33210500	5,0	2,5	10	75	5	2
33210501	5,0	2,5	10	100	5	2
33210600	6,0	3,0	10	75	6	2
33210601	6,0	3,0	10	100	6	2
33210602	6,0	3,0	10	125	6	2
33210800	8,0	4,0	16	100	8	2
33210801	8,0	4,0	16	125	8	2
33211000	10,0	5,0	19	100	10	2
33211001	10,0	5,0	19	150	10	2
33211201	12,0	6,0	22	100	12	2
33211200	12,0	6,0	22	150	12	2
33211401	14,0	7,0	22	100	14	2
33211400	14,0	7,0	22	150	14	2
33211601	16,0	8,0	26	110	16	2
33211600	16,0	8,0	26	150	16	2
33211801	18,0	9,0	26	110	18	2
33211800	18,0	9,0	26	150	18	2
33212000	20,0	10,0	32	150	20	2



1 D.K. M Freze

Standart Kaplamalı

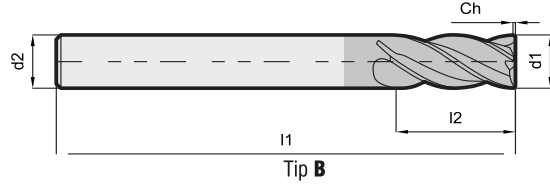
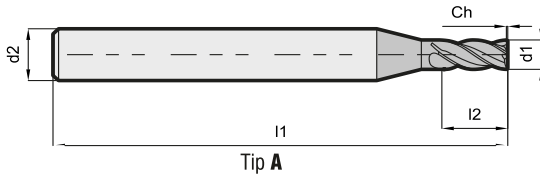
414



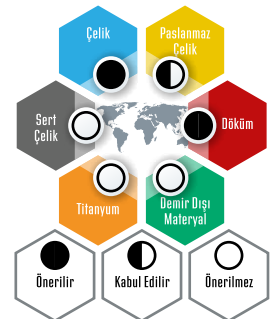
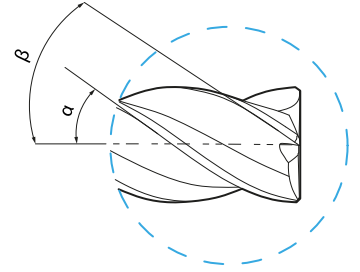
1 D.K. M Freze

Standart Kaplamalı

414



Sipariş Kodu	d ₁ (h ₁₀)	l ₂	l ₁	d ₂ (h ₆)	Chx(45°)	Z	Tip
41410200	2,0	06	57	6	0,05	4	A
41410250	2,5	06	57	6	0,06	4	A
41410300	3,0	08	57	6	0,08	4	A
41410350	3,5	13	57	6	0,10	4	A
41410400	4,0	11	57	6	0,10	4	A
41410450	4,5	13	57	6	0,12	4	A
41410500	5,0	13	57	6	0,12	4	A
41410550	5,5	13	57	6	0,15	4	A
41410600	6,0	13	57	6	0,15	4	B
41410700	7,0	16	63	8	0,18	4	A
41410800	8,0	19	63	8	0,20	4	B
41410900	9,0	19	72	10	0,23	4	A
41411000	10,0	22	72	10	0,25	4	B
41411201	12,0	26	75	12	0,30	4	B
41511201	12,0	29	75	12	0,30	4	A
41411200	12,0	26	82	12	0,30	4	B
41511200	12,0	32	82	12	0,30	4	B
41411400	14,0	26	82	14	0,35	4	B
41411600	16,0	32	92	16	0,40	4	B
41411800	18,0	32	92	18	0,45	4	B
41412000	20,0	38	104	20	0,50	4	B



1 D.K. M Freze Veldonlu

Standart Kaplamali

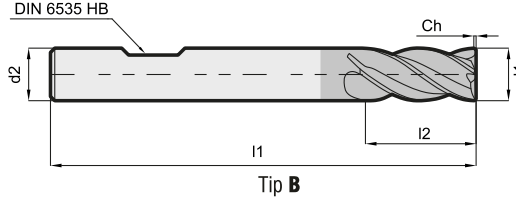
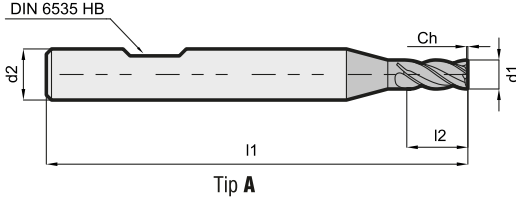
414



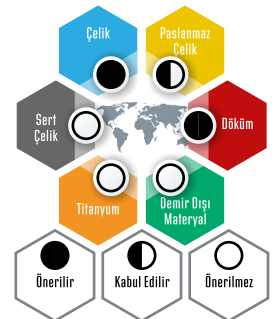
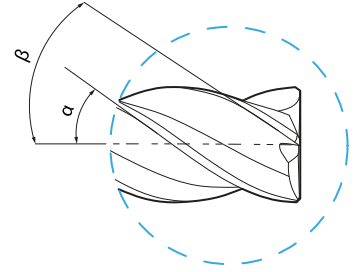
1 D.K. M Freze Veldonlu

Standart Kaplamalı

414



Sipariş Kodu	d ₁ (h ₁₀)	l ₂	l ₁	d ₂ (h ₆)	Chx(45°)	Z	Tip
41420200	2,0	06	57	6	0,05	4	A
41420250	2,5	06	57	6	0,06	4	A
41420300	3,0	08	57	6	0,08	4	A
41420350	3,5	13	57	6	0,10	4	A
41420400	4,0	11	57	6	0,10	4	A
41420450	4,5	13	57	6	0,12	4	A
41420500	5,0	13	57	6	0,12	4	A
41420550	5,5	13	57	6	0,15	4	A
41420600	6,0	13	57	6	0,15	4	B
41420700	7,0	16	63	8	0,18	4	A
41420800	8,0	19	63	8	0,20	4	B
41420900	9,0	19	72	10	0,23	4	A
41421000	10,0	22	72	10	0,25	4	B
41421201	12,0	26	75	12	0,30	4	B
41421200	12,0	26	82	12	0,30	4	B
41521200	12,0	32	82	12	0,30	4	B
41421400	14,0	26	82	14	0,35	4	B
41421600	16,0	32	92	16	0,40	4	B
41421800	18,0	32	92	16	0,45	4	B
41422000	20,0	38	104	20	0,50	4	B



5 D.K. M Freze

Standart Kaplamali

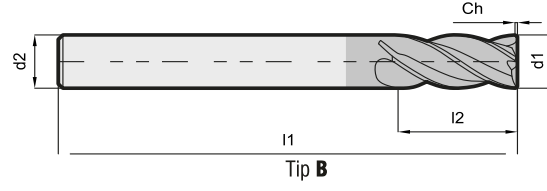
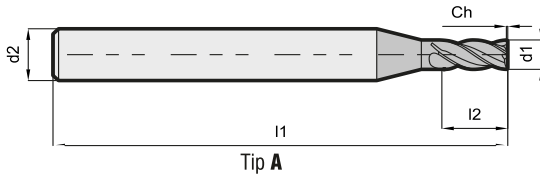
424



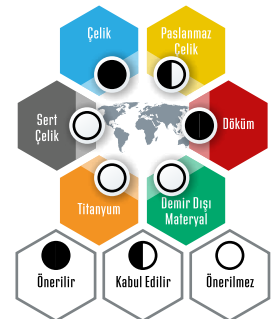
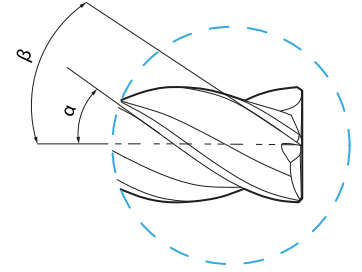
5 D.K. M Freze

Standart Kaplamalı

424



Sipariş Kodu	d ₁ (h ₁₀)	l ₂	l ₁	d ₂ (h ₆)	Chx(45°)	Z	Tip
42410200	2,0	06	57	6	0,05	4	A
42410250	2,5	06	57	6	0,06	4	A
42410300	3,0	08	57	6	0,08	4	A
42410350	3,5	13	57	6	0,10	4	A
42410400	4,0	11	57	6	0,10	4	A
42410450	4,5	13	57	6	0,12	4	A
42410500	5,0	13	57	6	0,12	4	A
42410550	5,5	13	57	6	0,15	4	A
42410600	6,0	13	57	6	0,15	4	B
42410700	7,0	16	63	8	0,18	4	A
42410800	8,0	19	63	8	0,20	4	B
42410900	9,0	19	72	10	0,23	4	A
42411000	10,0	22	72	10	0,25	4	B
42411201	12,0	26	75	12	0,30	4	B
42411200	12,0	26	82	12	0,30	4	B
42511200	12,0	32	82	12	0,30	4	B
42411400	14,0	26	82	14	0,35	4	B
42411600	16,0	32	92	16	0,40	4	B
42411800	18,0	32	92	18	0,45	4	B
42412000	20,0	38	104	20	0,50	4	B



5 D.K. M Freze Veldonlu

Standart Kaplamali

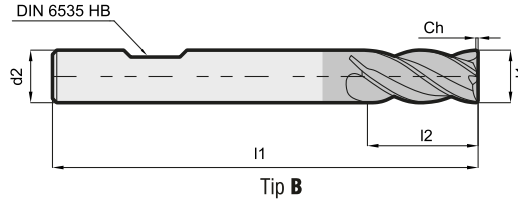
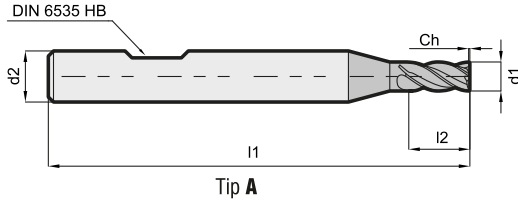
424



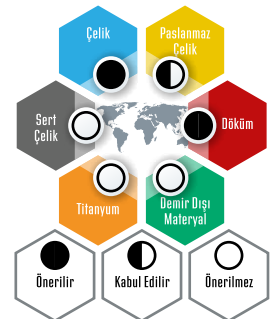
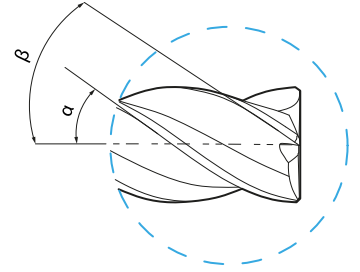
5 D.K. M Freze Veldonlu

Standart Kaplamalı

424



Sipariş Kodu	d ₁ (h ₁₀)	l ₂	l ₁	d ₂ (h ₆)	Chx(45°)	Z	Tip
42420200	2,0	06	57	6	0,05	4	A
42420250	2,5	06	57	6	0,06	4	A
42420300	3,0	08	57	6	0,08	4	A
42420350	3,5	13	57	6	0,10	4	A
42420400	4,0	11	57	6	0,10	4	A
42420450	4,5	13	57	6	0,12	4	A
42420500	5,0	13	57	6	0,12	4	A
42420550	5,5	13	57	6	0,15	4	A
42420600	6,0	13	57	6	0,15	4	B
42420700	7,0	16	63	8	0,18	4	A
42420800	8,0	19	63	8	0,20	4	B
42420900	9,0	19	72	10	0,23	4	A
42421000	10,0	22	72	10	0,25	4	B
42421201	12,0	26	75	12	0,30	4	B
42421200	12,0	26	82	12	0,30	4	B
42521200	12,0	32	82	12	0,30	4	B
42421400	14,0	26	82	14	0,35	4	B
42421600	16,0	32	92	16	0,40	4	B
42421800	18,0	32	92	16	0,45	4	B
42422000	20,0	38	104	20	0,50	4	B



Paslanmaz Freze

Standart Kaplamalı

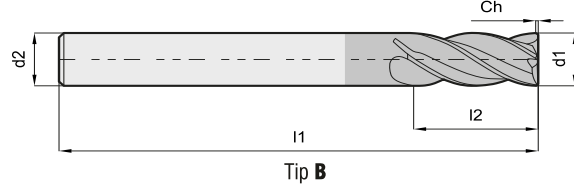
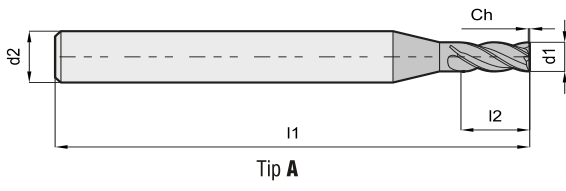
434



Paslanmaz Freze

Standart Kaplamalı

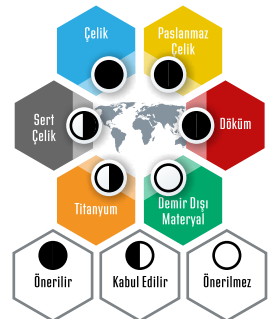
434



Sipariş Kodu	d ₁ (h ₁₀)	l ₂	l ₁	d ₂ (h ₆)	Chx(45°)	Z	Tip
43410300	3,0	08	57	6	0,08	4	A
43410350	3,5	09	57	6	0,10	4	A
43410400	4,0	11	57	6	0,10	4	A
43410450	4,5	12	57	6	0,12	4	A
43410500	5,0	13	57	6	0,12	4	A
43410550	5,5	13	57	6	0,15	4	A
43410600	6,0	13	57	6	0,15	4	B
43410700	7,0	16	63	8	0,18	4	A
43410800	8,0	19	63	8	0,20	4	B
43410900	9,0	19	72	10	0,23	4	A
43411000	10,0	22	72	10	0,25	4	B
43411200	12,0	26	82	12	0,30	4	B
43511200	12,0	32	82	12	0,30	4	B
43411400	14,0	26	82	14	0,35	4	B
43411600	16,0	32	92	16	0,40	4	B
43411800	18,0	32	92	18	0,45	4	B
43412000	20,0	38	104	20	0,50	4	B



Sipariş Kodu	d ₁ (h ₁₀)	l ₂	l ₁	d ₂ (h ₆)	Chx(45°)	Z	Tip
43420600	6,0	13	57	6	0,15	4	B
43420700	7,0	16	63	8	0,18	4	A
43420800	8,0	19	63	8	0,20	4	B
43420900	9,0	19	72	10	0,23	4	A
43421000	10,0	22	72	10	0,25	4	B
43421200	12,0	26	82	12	0,30	4	B
43521200	12,0	32	82	12	0,30	4	B
43421400	14,0	26	82	14	0,35	4	B
43421600	16,0	32	92	16	0,40	4	B
43421800	18,0	32	92	16	0,45	4	B
43422000	20,0	38	104	20	0,50	4	B



2 D.K. Freze

Standart Kaplamali

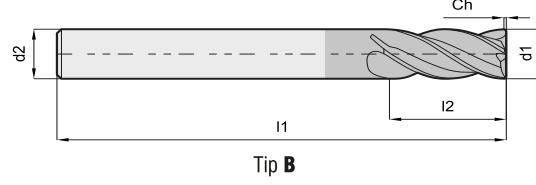
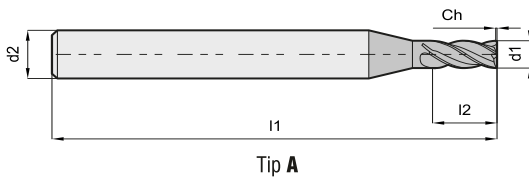
444



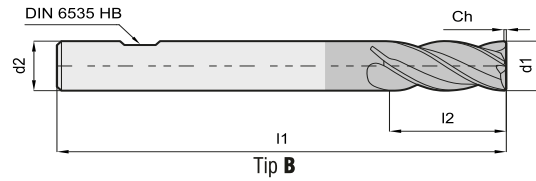
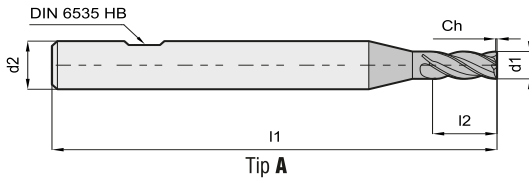
2 D.K. Freze

Standart Kaplamalı

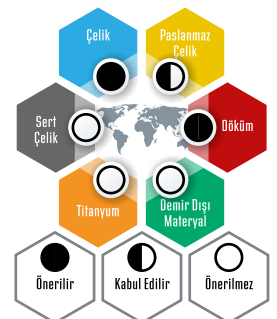
444



Sipariş Kodu	d ₁ (h ₁₀)	l ₂	l ₁	d ₂ (h ₆)	Chx(45°)	Z	Tip
44410600	6,0	13	57	6	0,15	4	B
44410700	7,0	16	63	8	0,18	4	A
44410800	8,0	19	63	8	0,20	4	B
44410900	9,0	19	72	10	0,23	4	A
44411000	10,0	22	72	10	0,25	4	B
44411200	12,0	26	82	12	0,30	4	B
44511200	12,0	32	82	12	0,30	4	B
44411400	14,0	26	82	14	0,35	4	B
44411600	16,0	32	92	16	0,40	4	B
44411800	18,0	32	92	18	0,45	4	B
44412000	20,0	38	104	20	0,50	4	B



Sipariş Kodu	d ₁ (h ₁₀)	l ₂	l ₁	d ₂ (h ₆)	Chx(45°)	Z	Tip
44420600	6,0	13	57	6	0,15	4	B
44420700	7,0	16	63	8	0,18	4	A
44420800	8,0	19	63	8	0,20	4	B
44420900	9,0	19	72	10	0,23	4	A
44421000	10,0	22	72	10	0,25	4	B
44421200	12,0	26	82	12	0,30	4	B
44521200	12,0	32	82	12	0,30	4	B
44421400	14,0	26	82	14	0,35	4	B
44421600	16,0	32	92	16	0,40	4	B
44421800	18,0	32	92	18	0,45	4	B
44422000	20,0	38	104	20	0,50	4	B



Inconel & Titanyum Freze

Standart Kaplamali

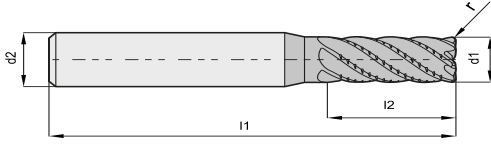
454



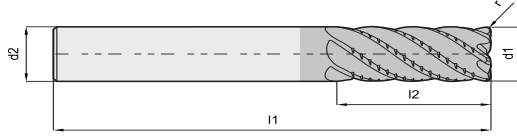
Inconel & Titanyum Freze

Standart Kaplamalı

454



Tip A



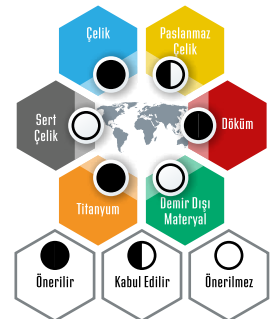
Tip B



Sipariş Kodu	d ₁ (h ₁₀)	l ₂	l ₁	d ₂ (h ₆)	r	Z	Tip
45410600	6,0	13	57	6	0,5	6	B
45410700	7,0	16	63	8	0,5	6	A
45410800	8,0	19	63	8	0,5	6	B
45410900	9,0	19	72	10	0,75	6	A
45411000	10,0	22	72	10	0,75	6	B
45411200	12,0	26	82	12	1,0	6	B
45511200	12,0	32	82	12	1,0	6	B
45411400	14,0	26	82	14	1,5	6	B
45411600	16,0	32	92	16	2,0	6	B
45411800	18,0	32	92	18	2,5	6	B
45412000	20,0	38	104	20	3,0	6	B



Sipariş Kodu	d ₁ (h ₁₀)	l ₂	l ₁	d ₂ (h ₆)	r	Z	Tip
45420600	6,0	13	57	6	0,5	6	B
45420700	7,0	16	63	8	0,5	6	A
45420800	8,0	19	63	8	0,5	6	B
45420900	9,0	19	72	10	0,75	6	A
45421000	10,0	22	72	10	0,75	6	B
45421200	12,0	26	82	12	1,0	6	B
45521200	12,0	32	82	12	1,0	6	B
45421400	14,0	26	82	14	1,5	6	B
45421600	16,0	32	92	16	2,0	6	B
45421800	18,0	32	92	18	2,5	6	B
45422000	20,0	38	104	20	3,0	6	B



Yeni Geometri Freze

Standart Kaplamalı

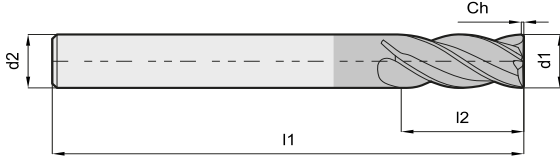
474



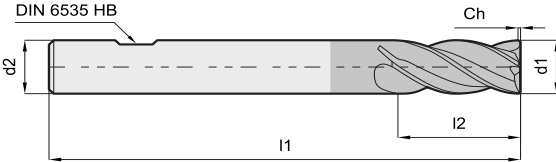
Yeni Geometri Freze

Standart Kaplamalı

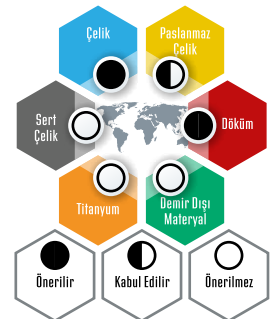
474



Sipariş Kodu	d ₁ (h ₁₀)	l ₂	l ₁	d ₂ (h ₆)	Chx(45°)	Z
47410600	6,0	13	57	6	0,15	4
47410800	8,0	19	63	8	0,20	4
47411000	10,0	22	72	10	0,25	4
47411200	12,0	26	82	12	0,30	4
47511200	12,0	32	82	12	0,30	4
47411400	14,0	26	82	14	0,35	4
47411600	16,0	32	92	16	0,40	4
47411800	18,0	32	92	16	0,45	4
47412000	20,0	38	104	20	0,50	4



Sipariş Kodu	d ₁ (h ₁₀)	l ₂	l ₁	d ₂ (h ₆)	Chx(45°)	Z
47420600	6,0	13	57	6	0,15	4
47420800	8,0	19	63	8	0,20	4
47421000	10,0	22	72	10	0,25	4
47421200	12,0	26	82	12	0,30	4
47521200	12,0	32	82	12	0,30	4
47421400	14,0	26	82	14	0,35	4
47421600	16,0	32	92	16	0,40	4
47421800	18,0	32	92	18	0,45	4
47422000	20,0	38	104	20	0,50	4



6 D.K. Freze

Standart Kaplamalı

484



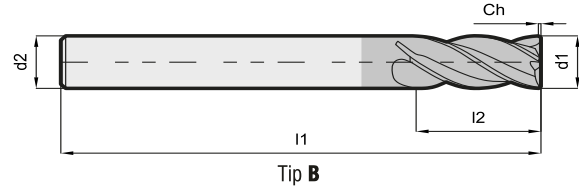
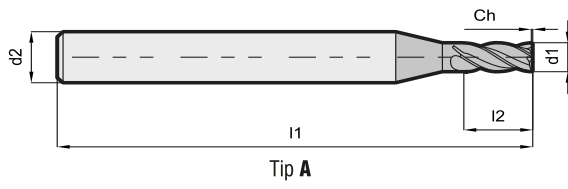
Sihirli yüzeylerin
mimarı!



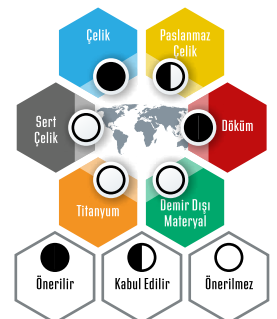
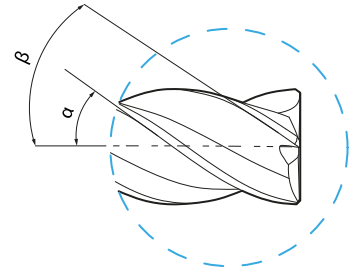
6 D.K. Freze

Standart Kaplamalı

484



Sipariş Kodu	d ₁ (h ₁₀)	l ₂	l ₁	d ₂ (h ₆)	Chx(45°)	Z	Tip
48410200	2,0	06	57	6	0,05	4	A
48410250	2,5	06	57	6	0,06	4	A
48410300	3,0	08	57	6	0,08	4	A
48410350	3,5	09	57	6	0,10	4	A
48410400	4,0	11	57	6	0,10	4	A
48410450	4,5	12	57	6	0,12	4	A
48410500	5,0	13	57	6	0,12	4	A
48410550	5,5	13	57	6	0,15	4	A
48410600	6,0	13	57	6	0,15	4	B
48410700	7,0	16	63	8	0,18	4	A
48410800	8,0	19	63	8	0,20	4	B
48410900	9,0	19	72	10	0,23	4	A
48411000	10,0	22	72	10	0,25	4	B
48411201	12,0	26	75	12	0,30	4	B
48411200	12,0	26	82	12	0,30	4	B
48511200	12,0	32	82	12	0,30	4	B
48411400	14,0	26	82	14	0,35	4	B
48411600	16,0	32	92	16	0,40	4	B
48411800	18,0	32	92	18	0,45	4	B
48412000	20,0	38	104	20	0,50	4	B
48412500	25,0	55	125	25	0,50	4	B



6 D.K. Freze Veldonlu

Standart Kaplamali

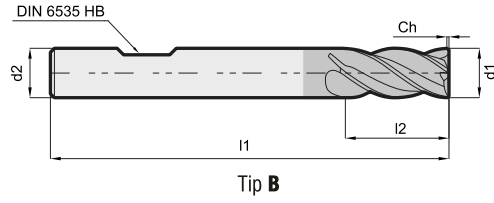
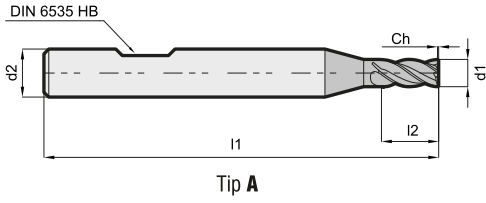
484



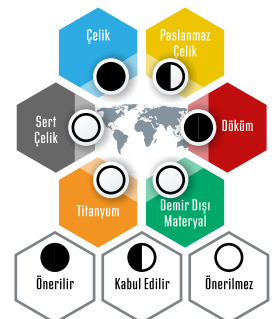
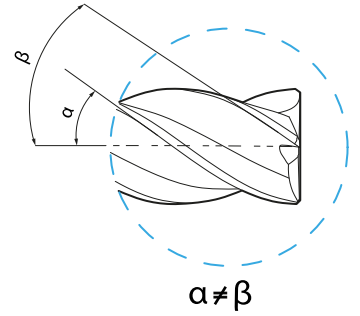
6 D.K. Freze Veldonlu

Standart Kaplamalı

484



Sipariş Kodu	d ₁ (h ₁₀)	l ₂	l ₁	d ₂ (h ₆)	Chx(45°)	Z	Tip
48420200	2,0	06	57	6	0,05	4	A
48420250	2,5	06	57	6	0,06	4	A
48420300	3,0	08	57	6	0,08	4	A
48420350	3,5	09	57	6	0,10	4	A
48420400	4,0	11	57	6	0,10	4	A
48420450	4,5	12	57	6	0,12	4	A
48420500	5,0	13	57	6	0,12	4	A
48420550	5,5	13	57	6	0,15	4	A
48420600	6,0	13	57	6	0,15	4	B
48420700	7,0	16	63	8	0,18	4	A
48420800	8,0	19	63	8	0,20	4	B
48420900	9,0	19	72	10	0,23	4	A
48421000	10,0	22	72	10	0,25	4	B
48421201	12,0	26	75	12	0,30	4	B
48421200	12,0	26	82	12	0,30	4	B
48521200	12,0	32	82	12	0,30	4	B
48421400	14,0	26	82	14	0,35	4	B
48421600	16,0	32	92	16	0,40	4	B
48421800	18,0	32	92	16	0,45	4	B
48422000	20,0	38	104	20	0,50	4	B
48422500	25,0	55	125	25	0,50	4	B



38° Rasyo Freze

Standart Kaplamali

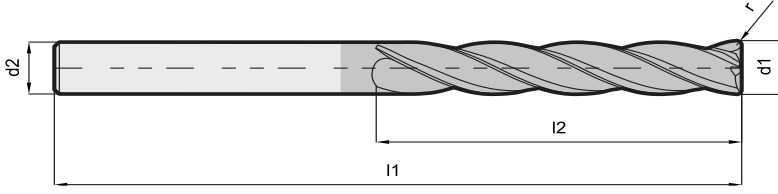
466



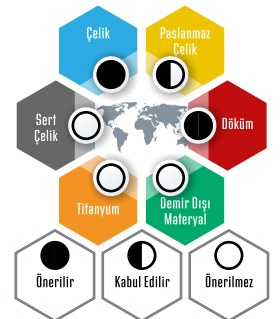
38° Rasyo Freze

Standart Kaplamalı

466



Sipariş Kodu	d ₁ (h ₁₀)	r	l ₂	l ₁	d ₂ (h ₆)	Z
46610300	3,0	0,08	15	75	3	4
46610301	3,0	0,08	15	100	3	4
46610400	4,0	0,10	20	75	4	4
46610401	4,0	0,10	20	100	4	4
46610500	5,0	0,12	20	75	5	4
46610501	5,0	0,12	20	100	5	4
46610600	6,0	0,15	25	75	6	4
46610601	6,0	0,15	30	100	6	4
46610800	8,0	0,20	40	100	8	4
46611000	10,0	0,25	45	100	10	4
46611001	10,0	0,25	45	150	10	4
46611200	12,0	0,30	47	100	12	4
46611201	12,0	0,30	47	150	12	4
46611400	14,0	0,35	50	100	14	4
46611401	14,0	0,35	65	150	14	4
46611600	16,0	0,40	50	110	16	4
46611601	16,0	0,40	75	150	16	4
46611800	18,0	0,45	50	110	18	4
46611801	18,0	0,45	75	150	18	4
46612000	20,0	0,50	75	150	20	4



Mikro

Köşe Radüslü Freze

500



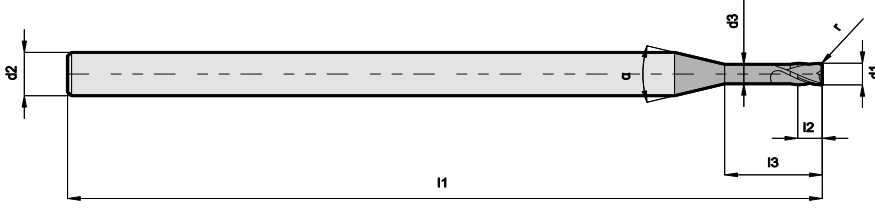
Hassas işlere
yenilikçi çözüm!



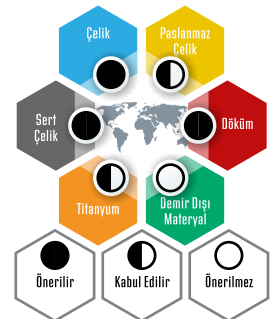
Mikro

Köşe Radüslü Freze

500



Sipariş Kodu	d ₁ (h ₈)	r	l ₂	d ₃	l ₃	l ₁	d ₂ (h ₆)	z
50001004	1,0	0,1	1,5	0,95	04	50	4	2
50001006	1,0	0,1	1,5	0,95	06	50	4	2
50001008	1,0	0,1	1,5	0,95	08	50	4	2
50001010	1,0	0,1	1,5	0,95	10	50	4	2
50001012	1,0	0,1	1,5	0,95	12	50	4	2
50001016	1,0	0,1	1,5	0,95	16	50	4	2
50001504	1,5	0,15	2,25	1,44	04	50	4	2
50001506	1,5	0,15	2,25	1,44	06	50	4	2
50001508	1,5	0,15	2,25	1,44	08	50	4	2
50001510	1,5	0,15	2,25	1,44	10	50	4	2
50001512	1,5	0,15	2,25	1,44	12	50	4	2
50001516	1,5	0,15	2,25	1,44	16	50	4	2
50001520	1,5	0,15	2,25	1,44	20	65	4	2
50002004	2,0	0,2	3,0	1,92	04	50	4	2
50002006	2,0	0,2	3,0	1,92	06	50	4	2
50002008	2,0	0,2	3,0	1,92	08	50	4	2
50002010	2,0	0,2	3,0	1,92	10	50	4	2
50002012	2,0	0,2	3,0	1,92	12	50	4	2
50002016	2,0	0,2	3,0	1,92	16	50	4	2
50002020	2,0	0,2	3,0	1,92	20	65	4	2
50002025	2,0	0,2	3,0	1,92	25	65	4	2
50012008	2,0	0,5	3,0	1,92	08	50	4	2
50012012	2,0	0,5	3,0	1,92	12	50	4	2
50012016	2,0	0,5	3,0	1,92	16	50	4	2
50012020	2,0	0,5	3,0	1,92	20	65	4	2
50002506	2,5	0,25	3,75	2,40	06	50	4	2
50002510	2,5	0,25	3,75	2,40	10	50	4	2
50002512	2,5	0,25	3,75	2,40	12	50	4	2
50002516	2,5	0,25	3,75	2,40	16	50	4	2
50002520	2,5	0,25	3,75	2,40	20	65	4	2
50002525	2,5	0,25	3,75	2,40	25	65	4	2



Köşe Radüslü r0,5 Freze

Standart Kaplamalı

514

524

544

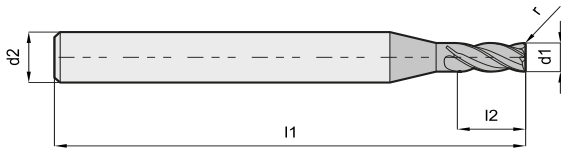
554



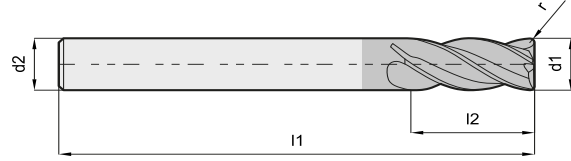
Köşe Radüslü r0,5 Freze

Standart Kaplamalı

514



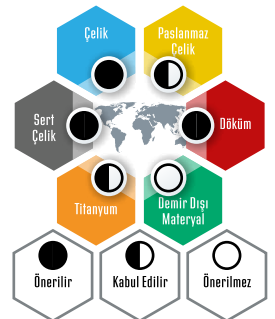
Tip A



Tip B



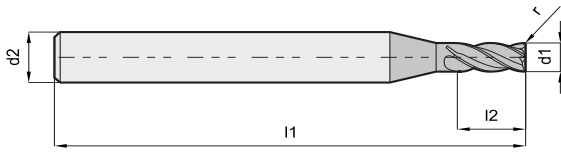
Sipariş Kodu	d ₁ (h ₁₀)	r	l ₂	l ₁	d ₁ (h ₆)	Z	Tip
51410301	3,0	0,5	08	39	3	4	B
51410304	3,0	0,5	08	50	3	4	B
51410306	3,0	0,5	08	57	6	4	A
51410302	3,0	0,5	08	75	3	4	B
51410303	3,0	0,5	08	100	3	4	B
51410401	4,0	0,5	11	50	4	4	B
51410406	4,0	0,5	11	57	6	4	A
51410402	4,0	0,5	11	75	4	4	B
51410403	4,0	0,5	11	100	4	4	B
51410501	5,0	0,5	13	50	5	4	B
51410506	5,0	0,5	13	57	6	4	A
51410502	5,0	0,5	13	75	5	4	B
51410503	5,0	0,5	13	100	5	4	B
51410601	6,0	0,5	13	57	6	4	B
51410602	6,0	0,5	13	75	6	4	B
51410603	6,0	0,5	13	100	6	4	B
51410604	6,0	0,5	13	150	6	4	B
51410801	8,0	0,5	19	63	8	4	B
51410802	8,0	0,5	19	100	8	4	B
51410803	8,0	0,5	19	150	8	4	B
51411001	10,0	0,5	22	72	10	4	B
51411002	10,0	0,5	22	100	10	4	B
51411003	10,0	0,5	22	150	10	4	B
51411206	12,0	0,5	26	75	12	4	B
51411201	12,0	0,5	26	82	12	4	B
51411202	12,0	0,5	26	100	12	4	B
51411203	12,0	0,5	26	150	12	4	B
51411401	14,0	0,5	26	82	14	4	B
51411402	14,0	0,5	26	100	14	4	B
51411403	14,0	0,5	26	150	14	4	B
51411601	16,0	0,5	32	92	16	4	B
51411602	16,0	0,5	32	110	16	4	B
51411603	16,0	0,5	32	150	16	4	B



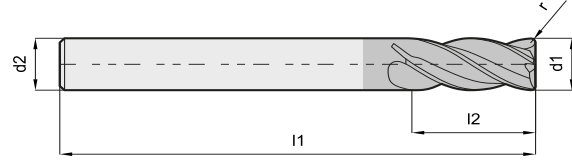
Köşe Radüslü r1,0 Freze

Standart Kaplamalı

524



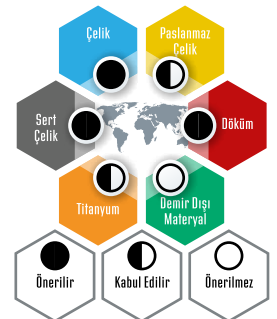
Tip A



Tip B



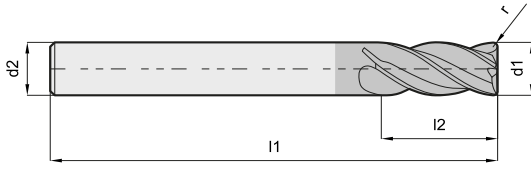
Sipariş Kodu	d ₁ (h ₁₀)	r	l ₂	l ₁	d ₁ (h ₆)	Z	Tip
52410301	3,0	1,0	08	39	3	4	B
52410304	3,0	1,0	08	50	3	4	B
52410306	3,0	1,0	08	57	6	4	A
52410302	3,0	1,0	08	75	3	4	B
52410303	3,0	1,0	08	100	3	4	B
52410401	4,0	1,0	11	50	4	4	B
52410406	4,0	1,0	11	57	6	4	A
52410402	4,0	1,0	11	75	4	4	B
52410403	4,0	1,0	11	100	4	4	B
52410501	5,0	1,0	13	50	5	4	B
52410506	5,0	1,0	13	57	6	4	A
52410502	5,0	1,0	13	75	5	4	B
52410503	5,0	1,0	13	100	5	4	B
52410601	6,0	1,0	13	57	6	4	B
52410602	6,0	1,0	13	75	6	4	B
52410603	6,0	1,0	13	100	6	4	B
52410604	6,0	1,0	13	150	6	4	B
52410801	8,0	1,0	19	63	8	4	B
52410802	8,0	1,0	19	100	8	4	B
52410803	8,0	1,0	19	150	8	4	B
52411001	10,0	1,0	22	72	10	4	B
52411002	10,0	1,0	22	100	10	4	B
52411003	10,0	1,0	22	150	10	4	B
52411206	12,0	1,0	26	75	12	4	B
52411201	12,0	1,0	26	82	12	4	B
52411202	12,0	1,0	26	100	12	4	B
52411203	12,0	1,0	26	150	12	4	B
52411401	14,0	1,0	26	82	14	4	B
52411402	14,0	1,0	26	100	14	4	B
52411403	14,0	1,0	26	150	14	4	B
52411601	16,0	1,0	32	92	16	4	B
52411602	16,0	1,0	32	110	16	4	B
52411603	16,0	1,0	32	150	16	4	B



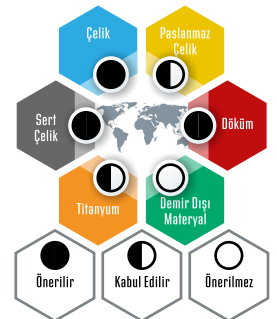
Köşe Radüslü r2,0 Freze

Standart Kaplamalı

544



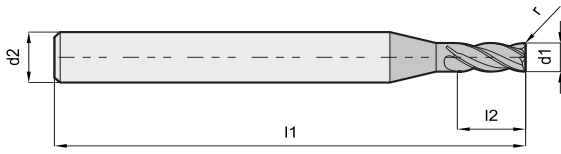
Sipariş Kodu	d ₁ (h ₁₀)	r	l ₂	l ₁	d ₁ (h ₆)	Z
54410601	6,0	2,0	13	57	6	4
54410602	6,0	2,0	13	75	6	4
54410603	6,0	2,0	13	100	6	4
54410604	6,0	2,0	13	150	6	4
54410801	8,0	2,0	19	63	8	4
54410802	8,0	2,0	19	100	8	4
54410803	8,0	2,0	19	150	8	4
54411001	10,0	2,0	22	72	10	4
54411002	10,0	2,0	22	100	10	4
54411003	10,0	2,0	22	150	10	4
54411206	12,0	2,0	26	75	12	4
54411201	12,0	2,0	26	82	12	4
54411202	12,0	2,0	26	100	12	4
54411203	12,0	2,0	26	150	12	4
54411401	14,0	2,0	26	82	14	4
54411402	14,0	2,0	26	100	14	4
54411403	14,0	2,0	26	150	14	4
54411601	16,0	2,0	32	92	16	4
54411602	16,0	2,0	32	110	16	4
54411603	16,0	2,0	32	150	16	4
54411801	18,0	2,0	32	92	18	4
54411802	18,0	2,0	32	110	18	4
54411803	18,0	2,0	32	150	18	4
54412001	20,0	2,0	38	105	20	4
54412002	20,0	2,0	38	150	20	4



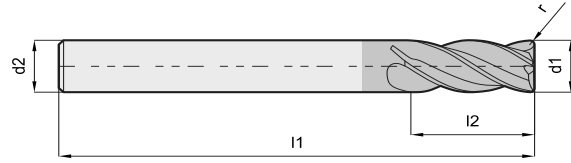
Köşe Radüslü r3,0 Freze

Standart Kaplamalı

554



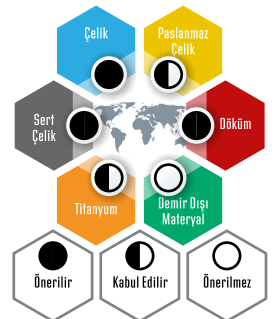
Tip A



Tip B



Sipariş Kodu	d ₁ (h ₁₀)	r	l ₂	l ₁	d ₁ (h ₆)	Z	Tip
55411001	10,0	3,0	22	72	10	4	B
55411002	10,0	3,0	22	100	10	4	B
55411003	10,0	3,0	22	150	10	4	B
55411206	12,0	3,0	26	75	12	4	B
55411201	12,0	3,0	26	82	12	4	B
55411202	12,0	3,0	26	100	12	4	B
55411203	12,0	3,0	26	150	12	4	B
55411401	14,0	3,0	26	82	14	4	B
55411402	14,0	3,0	26	100	14	4	B
55411403	14,0	3,0	26	150	14	4	B
55411601	16,0	3,0	32	92	16	4	B
55411602	16,0	3,0	32	110	16	4	B
55411603	16,0	3,0	32	150	16	4	B
55411801	18,0	3,0	32	92	18	4	B
55411802	18,0	3,0	32	110	18	4	B
55411803	18,0	3,0	32	150	18	4	B
55412001	20,0	3,0	38	105	20	4	B
55412002	20,0	3,0	38	150	20	4	B





6 D.K Köşe Radüslü Freze

Standart Kısa Kaplamalı

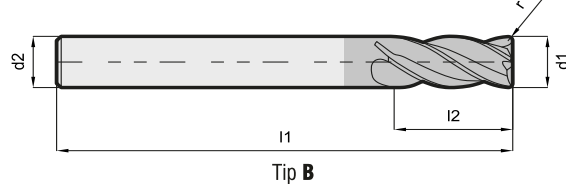
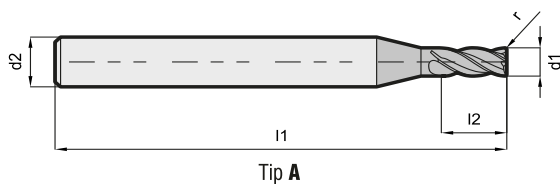
564



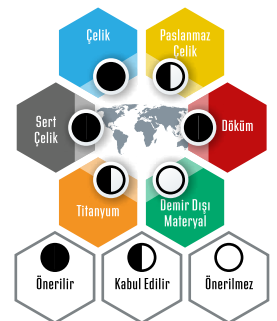
6 D.K Köşe Radüslü Freze

Standart Kısa Kaplamalı

564



Sipariş Kodu	d ₁ (h ₁₀)	r	l ₂	l ₁	d ₂ (h ₆)	Z	Tip
56410306	3,0	0,5	08	50	3	4	B
56410305	3,0	0,5	08	57	6	4	A
56410311	3,0	1,0	08	50	3	4	B
56410310	3,0	1,0	08	57	6	4	A
56410406	4,0	0,5	11	50	4	4	B
56410405	4,0	0,5	11	57	6	4	A
56410411	4,0	1,0	11	50	4	4	B
56410410	4,0	1,0	11	57	6	4	A
56410506	5,0	0,5	13	50	5	4	B
56410505	5,0	0,5	13	57	6	4	A
56410511	5,0	1,0	13	50	5	4	B
56410510	5,0	1,0	13	57	6	4	A
56410605	6,0	0,5	13	57	6	4	B
56410610	6,0	1,0	13	57	6	4	B
56410805	8,0	0,5	19	63	8	4	B
56410810	8,0	1,0	19	63	8	4	B
56411005	10,0	0,5	22	72	10	4	B
56411010	10,0	1,0	22	72	10	4	B
56411020	10,0	2,0	22	72	10	4	B
56411205	12,0	0,5	26	82	12	4	B
56411210	12,0	1,0	26	82	12	4	B
56411220	12,0	2,0	26	82	12	4	B
56411230	12,0	3,0	26	82	12	4	B
56411405	14,0	0,5	26	82	14	4	B
56411410	14,0	1,0	26	82	14	4	B
56411420	14,0	2,0	26	82	14	4	B
56411430	14,0	3,0	26	82	14	4	B
56411610	16,0	1,0	32	92	16	4	B
56411620	16,0	2,0	32	92	16	4	B
56411630	16,0	3,0	32	92	16	4	B
56411810	18,0	1,0	32	92	18	4	B
56411820	18,0	2,0	32	92	18	4	B
56412010	20,0	1,0	38	104	20	4	B
56412020	20,0	2,0	38	104	20	4	B
56412030	20,0	3,0	38	104	20	4	B



5 D.K Köşe Radüslü Freze

Standart Kısa Kaplamalı

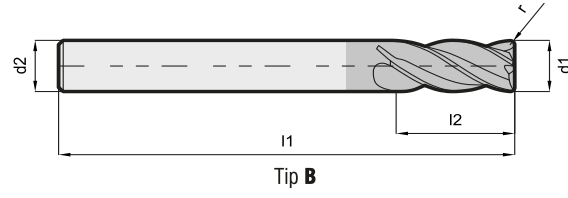
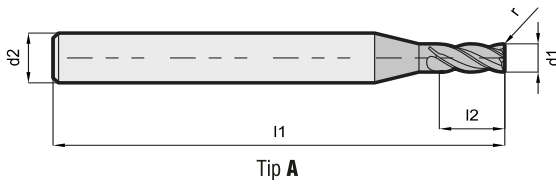
574



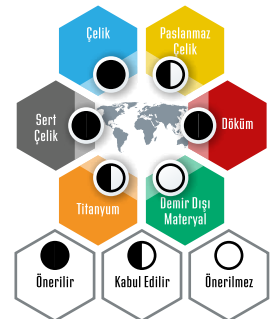
5 D.K Köşe Radüslü Freze

Standart Kısa Kaplamalı

574



Sipariş Kodu	d ₁ (h ₁₀)	r	l ₂	l ₁	d ₂ (h ₆)	Z	Tip
57410306	3,0	0,5	08	50	3	4	B
57410305	3,0	0,5	08	57	6	4	A
57410311	3,0	1,0	08	50	3	4	B
57410310	3,0	1,0	08	57	6	4	A
57410406	4,0	0,5	11	50	4	4	B
57410405	4,0	0,5	11	57	6	4	A
57410411	4,0	1,0	11	50	4	4	B
57410410	4,0	1,0	11	57	6	4	A
57410506	5,0	0,5	13	50	5	4	B
57410505	5,0	0,5	13	57	6	4	A
57410511	5,0	1,0	13	50	5	4	B
57410510	5,0	1,0	13	57	6	4	A
57410605	6,0	0,5	13	57	6	4	B
57410610	6,0	1,0	13	57	6	4	B
57410805	8,0	0,5	19	63	8	4	B
57410810	8,0	1,0	19	63	8	4	B
57411005	10,0	0,5	22	72	10	4	B
57411010	10,0	1,0	22	72	10	4	B
57411020	10,0	2,0	22	72	10	4	B
57411205	12,0	0,5	26	82	12	4	B
57411210	12,0	1,0	26	82	12	4	B
57411220	12,0	2,0	26	82	12	4	B
57411230	12,0	3,0	26	82	12	4	B
57411405	14,0	0,5	26	82	14	4	B
57411410	14,0	1,0	26	82	14	4	B
57411420	14,0	2,0	26	82	14	4	B
57411430	14,0	3,0	26	82	14	4	B
57411610	16,0	1,0	32	92	16	4	B
57411620	16,0	2,0	32	92	16	4	B
57411630	16,0	3,0	32	92	16	4	B
57411810	18,0	1,0	32	92	18	4	B
57411820	18,0	2,0	32	92	18	4	B
57412010	20,0	1,0	38	104	20	4	B
57412020	20,0	2,0	38	104	20	4	B
57412030	20,0	3,0	38	104	20	4	B



38° Köşe Radüslü Freze

Standart Uzun Kaplamalı

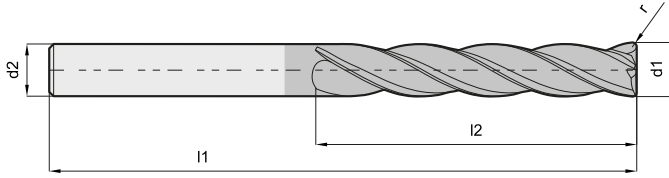
584



38° Köşe Radüslü Freze

Standart Uzun Kaplamalı

584



Sipariş Kodu	d ₁ (h ₁₀)	r	l ₂	l ₁	d ₂ (h ₆)	Z
58410305	3,0	0,5	15	75	3	4
58410310	3,0	1,0	15	75	3	4
58410405	4,0	0,5	20	75	4	4
58410410	4,0	1,0	20	75	4	4
58410505	5,0	0,5	20	75	5	4
58410510	5,0	1,0	20	75	5	4
58410605	6,0	0,5	25	75	6	4
58410610	6,0	1,0	25	75	6	4
58410606	6,0	0,5	30	100	6	4
58410611	6,0	1,0	30	100	6	4
58410805	8,0	0,5	40	100	8	4
58410810	8,0	1,0	40	100	8	4
58411005	10,0	0,5	45	100	10	4
58411010	10,0	1,0	45	100	10	4
58411205	12,0	0,5	47	100	12	4
58411210	12,0	1,0	47	100	12	4
58411220	12,0	2,0	47	100	12	4
58411405	14,0	0,5	47	100	14	4
58411410	14,0	1,0	47	100	14	4
58411420	14,0	2,0	47	100	14	4
58411605	16,0	0,5	50	110	16	4
58411610	16,0	1,0	50	110	16	4
58411620	16,0	2,0	50	110	16	4
58411630	16,0	3,0	50	110	16	4
58411805	18,0	0,5	55	110	18	4
58411810	18,0	1,0	55	110	18	4
58411820	18,0	2,0	55	110	18	4
58412005	20,0	0,5	60	110	20	4
58412010	20,0	1,0	60	110	20	4
58412020	20,0	2,0	60	110	20	4
58412030	20,0	3,0	60	110	20	4



≥55 HRc M Köşe Radüslü Freze

Standart Kısa Kaplamalı

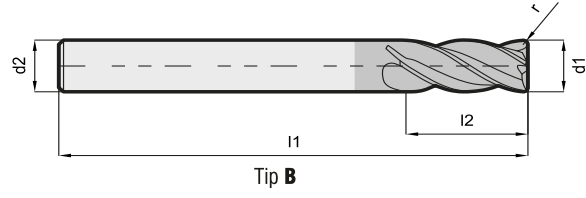
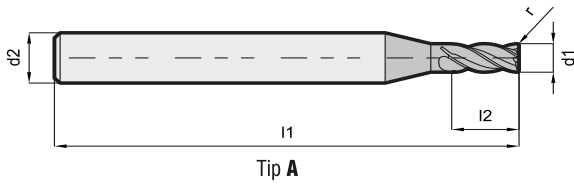
614



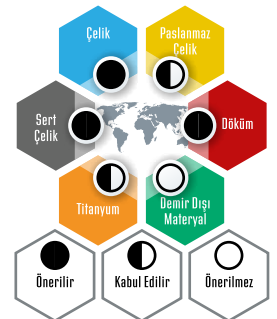
≥55 HRc M Köşe Radüslü Freze

Standart Kısa Kaplamalı

614



Sipariş Kodu	d ₁ (h ₁₀)	r	l ₂	l ₁	d ₂ (h ₆)	Z	Tip
61410301	3,0	0,5	08	50	3	4	B
61410306	3,0	0,5	08	57	6	4	A
61410311	3,0	1,0	08	50	3	4	B
61410316	3,0	1,0	08	57	6	4	A
61410401	4,0	0,5	11	50	4	4	B
61410406	4,0	0,5	11	57	6	4	A
61410411	4,0	1,0	11	50	4	4	B
61410416	4,0	1,0	11	57	6	4	A
61410501	5,0	0,5	13	50	5	4	B
61410506	5,0	0,5	13	57	6	4	A
61410511	5,0	1,0	13	50	5	4	B
61410516	5,0	1,0	13	57	6	4	A
61410601	6,0	0,5	13	57	6	4	B
61410611	6,0	1,0	13	57	6	4	B
61410801	8,0	0,5	19	63	8	4	B
61410811	8,0	1,0	19	63	8	4	B
61411001	10,0	0,5	22	72	10	4	B
61411011	10,0	1,0	22	72	10	4	B
61411201	12,0	0,5	26	82	12	4	B
61411211	12,0	1,0	26	82	12	4	B



≥55 HRc L Köşe Radüslü Freze

Standart Uzun Kaplamalı

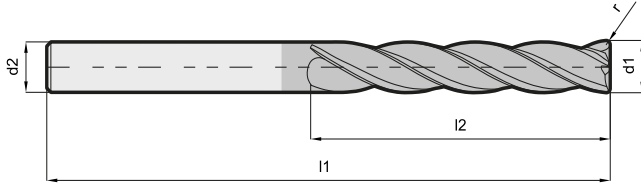
624



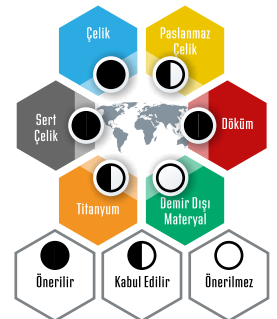
≥55 HRc L Köşe Radüslü Freze

Standart Uzun Kaplamalı

624



Sipariş Kodu	d ₁ (h ₁₀)	r	l ₂	l ₁	d ₂ (h ₆)	Z
62410302	3,0	0,5	08	75	3	4
62410312	3,0	1,0	08	50	3	4
62410402	4,0	0,5	11	75	4	4
62410412	4,0	1,0	11	75	4	4
62410502	5,0	0,5	13	75	5	4
62410512	5,0	1,0	13	75	5	4
62410602	6,0	0,5	13	75	6	4
62410612	6,0	1,0	13	75	6	4
62410603	6,0	0,5	13	100	6	4
62410613	6,0	1,0	13	100	6	4
62410802	8,0	0,5	19	100	8	4
62410812	8,0	1,0	19	100	8	4
62411002	10,0	0,5	22	100	10	4
62411012	10,0	1,0	22	100	10	4
62411202	12,0	0,5	26	100	12	4
62411212	12,0	1,0	26	100	12	4



≥55 HRc HBDØ L Köşe Radius

Standart Uzun Kaplamalı

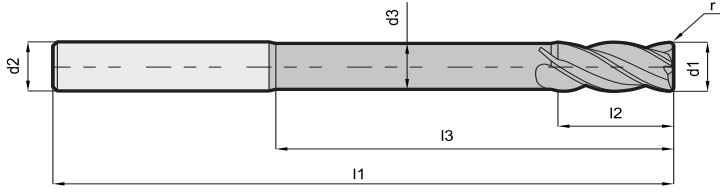
674



≥55 HRc HBDØ L Köşe Radius

Standart Uzun Kaplamalı

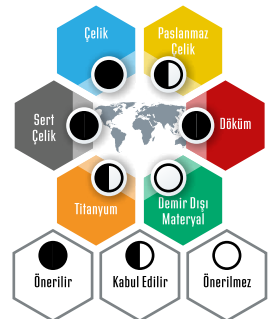
674



Sipariş Kodu	d ₁ (h ₁₀)	r	l ₂	d ₃	l ₃	l ₁	d ₂ (h ₆)	z
67410301	3,0	0,5	4,5	2,90	47	75	3	4
67410311	3,0	1,0	4,5	2,90	47	75	3	4
67410401	4,0	0,5	6,0	3,90	47	75	4	4
67410411	4,0	1,0	6,0	3,90	47	75	4	4
67410501	5,0	0,5	7,5	4,80	47	75	5	4
67410511	5,0	1,0	7,5	4,80	47	75	5	4
67410601	6,0	0,5	9,0	5,70	39	75	6	4
67410611	6,0	1,0	9,0	5,70	39	75	6	4
67410602	6,0	0,5	9,0	5,70	64	100	6	4
67410612	6,0	1,0	9,0	5,70	64	100	6	4
67410801	8,0	0,5	12,0	7,60	64	100	8	4
67410812	8,0	1,0	12,0	7,60	64	100	8	4
67411001	10,0	0,5	15,0	9,50	60	100	10	4
67411011	10,0	1,0	15,0	9,50	60	100	10	4
67411201	12,0	0,5	18,0	11,50	55	100	12	4
67411211	12,0	1,0	18,0	11,50	55	100	12	4



Sipariş Kodu	d ₁ (h ₁₀)	r	l ₂	d ₃	l ₃	l ₁	d ₂ (h ₆)	z
67420601	6,0	0,5	9,0	5,70	39	75	6	4
67420611	6,0	1,0	9,0	5,70	39	75	6	4
67420602	6,0	0,5	9,0	5,70	64	100	6	4
67420612	6,0	1,0	9,0	5,70	64	100	6	4
67420801	8,0	0,5	12,0	7,60	64	100	8	4
67420812	8,0	1,0	12,0	7,60	64	100	8	4
67421001	10,0	0,5	15,0	9,50	60	100	10	4
67421011	10,0	1,0	15,0	9,50	60	100	10	4
67421201	12,0	0,5	18,0	11,50	55	100	12	4
67421211	12,0	1,0	18,0	11,50	55	100	12	4



Köşe Yuvarlama Freze

Standart Kaplamalı

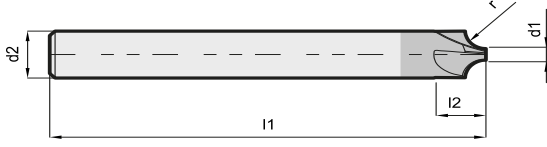
302



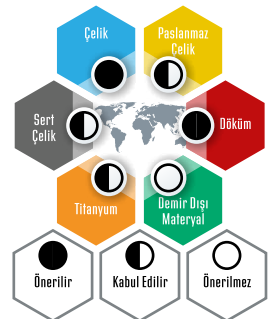
Köşe Yuvarlama Freze

Standart Kaplamalı

302



Sipariş Kodu	d1 (h ₁₀)	r	l ₂	l ₁	d ₂ (h ₆)	Z
30205006	5,0	0,5	07	57	6	4
30207506	4,5	0,75	07	57	6	4
30210006	4,0	1,0	07	57	6	4
30210008	6,0	1,0	10	63	8	4
30215008	5,0	1,5	10	63	8	4
30220008	4,0	2,0	10	63	8	4
30210010	8,0	1,0	12	72	10	4
30215010	7,0	1,5	12	72	10	4
30220010	6,0	2,0	12	72	10	4
30225010	5,0	2,5	12	72	10	4
30225012	7,0	2,5	14	82	12	4
30230012	6,0	3,0	14	82	12	4



Düz Kanallı Rayba

Standart Kaplamalı

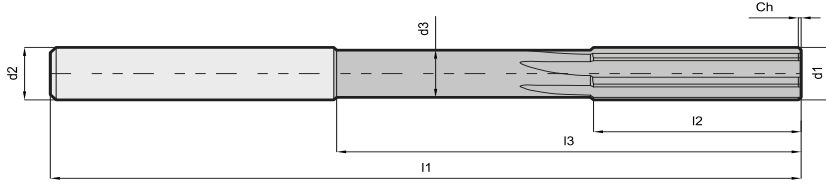
701



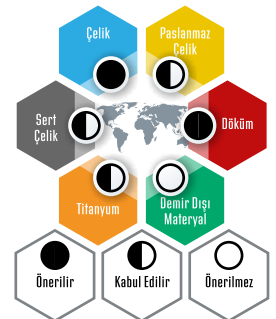
Düz Kanallı Rayba

Standart Kaplamalı

701



Sipariş Kodu	d ₁ (H ₇)	Chx(45°)	l ₂	d ₃	l ₃	l ₁	d ₂ (h ₆)	Z
70110300	3,0	0,3	15	2,80	31	61	3	4
70110400	4,0	0,3	19	3,70	47	75	4	4
70110500	5,0	0,5	23	4,60	50	86	5	6
70110600	6,0	0,5	26	5,60	57	93	6	6
70110800	8,0	0,6	33	7,50	81	120	8	6
70111000	10,0	0,7	38	9,00	93	135	10	6
70111200	12,0	0,8	44	11,00	106	150	12	6
70111400	14,0	1,0	50	13,00	112	157	14	8
70111600	16,0	1,0	50	15,00	112	157	16	8
70111800	18,0	1,0	50	16,50	112	157	18	8
70112000	20,0	1,0	50	18,00	112	157	20	8



Helisel Kanallı Rayba

Standart Kaplamalı

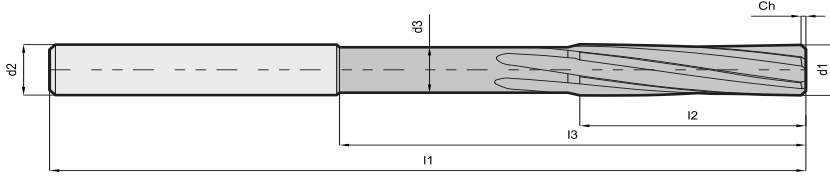
702



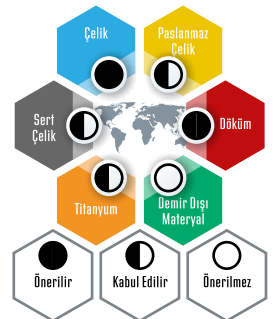
Helisel Kanallı Rayba

Standart Kaplamalı

702



Sipariş Kodu	d ₁ (H ₇)	Chx(45°)	l ₂	d ₃	l ₃	l ₁	d ₂ (h ₆)	Z
70210300	3,0	0,3	15	2,80	31	61	3	4
70210400	4,0	0,3	19	3,70	47	75	4	4
70210500	5,0	0,5	23	4,60	50	86	5	6
70210600	6,0	0,5	26	5,60	57	93	6	6
70210800	8,0	0,6	33	7,50	81	120	8	6
70211000	10,0	0,7	38	9,00	93	135	10	6
70211200	12,0	0,8	44	11,00	106	150	12	6
70211400	14,0	1,0	50	13,00	112	157	14	8
70211600	16,0	1,0	50	15,00	112	157	16	8
70211800	18,0	1,0	50	16,50	112	157	18	8
70212000	20,0	1,0	50	18,00	112	157	20	8



Formüller



Kesme
Hızı

$$V_c = \frac{\pi \times d_1 \times n}{1000}$$

İlerleme
Hızı

$$V_f = n \times f_z$$

Devir
Sayısı

$$n = \frac{1000 \times V_c}{\pi \times d_1}$$

V_c : Kesme Hızı (m/min)

d_1 : Takım Çapı (mm)

n : Devir Sayısı (rpm)

V_f : İlerleme (mm/min)

f_z : Diş Başı İlerleme (mm/tooth)

Matkap ve Rayba Kesme Değerleri

100

Kesme Hızları		Diş Başı İlerleme	
Malzeme Cinsi	(Vc m/min)	Çap	fz (mm/dev)
Alaşımsız Çelik	80-120	1-1.5	0.012-0.018
İmalat Çeliği	70-110	1.5-2	0.018-0.025
İslah Çeliği	65-100	2-2.5	0.025-0.030
Takım Çeliği	55-70	2.5-2.9	0.030-0.040
Paslanmaz	45-65		
Krom Kobalt Alaşım	50-55		
Gri Dökme Demir	80-120		
Grafit	110-130		
Titanyum	40-70		
Sertleştirilmiş Çelik	25-50		
Alüminyum	35-250		

122-142-146-171-173-105-107-190-191

Kesme Hızları		Diş Başı İlerleme	
Malzeme Cinsi	(Vc m/min)	Çap	fz (mm/dev)
Alaşımsız Çelik	80-95	3-4	0.03-0.1
İmalat Çeliği	70-90	4-6	0.06-0.12
İslah Çeliği	65-80	6-8	0.09-0.18
Takım Çeliği	55-70	8-10	0.1-0.2
Paslanmaz	45-55	10-12	0.12-0.20
Krom Kobalt Alaşım	40-50	12-14	0.12-0.25
Gri Dökme Demir	100-120	14-16	0.14-0.28
Grafit	120-130	16-18	0.14-0.28
Titanyum	30-40	18-20	0.15-0.35
Sertleştirilmiş Çelik	40-55		
Alüminyum	80-300		

* 190 ve 191 kodlu takımlar için kesme verileri %30 azaltılmalıdır.

124-144-148-172-174-106-135

Kesme Hızları		Diş Başı İlerleme	
Malzeme Cinsi	(Vc m/min)	Çap	fz (mm/dev)
Alaşımsız Çelik	110-130	3-4	0.03-0.13
İmalat Çeliği	100-125	4-6	0.06-0.15
İslah Çeliği	100-125	6-8	0.09-0.20
Takım Çeliği	65-95	8-10	0.1-0.25
Paslanmaz	50-65	10-12	0.12-0.27
Krom Kobalt Alaşım	50-60	12-14	0.12-0.30
Gri Dökme Demir	140-190	14-16	0.14-0.32
Grafit	120-150	16-18	0.14-0.32
Titanyum	45-75	18-20	0.15-0.40
Sertleştirilmiş Çelik	45-60		
Alüminyum	90-400		

158-136

Kesme Hızları		Diş Başı İlerleme	
Malzeme Cinsi	(Vc m/min)	Çap	fz (mm/dev)
Alaşımsız Çelik	70-100	3-4	0.03-0.11
İmalat Çeliği	80-110	4-6	0.06-0.12
İslah Çeliği	70-95	6-8	0.08-0.18
Takım Çeliği	60-85	8-10	0.08-0.22
Paslanmaz	45-65	10-12	0.11-0.25
Krom Kobalt Alaşım	45-55	12-14	0.11-0.25
Gri Dökme Demir	90-125	14-16	0.13-0.27
Grafit	90-120	16-18	0.14-0.30
Titanyum	45-65	18-20	0.15-0.35
Sertleştirilmiş Çelik	45-65		
Alüminyum	80-325		

168-169

Kesme Hızları		Diş Başı İlerleme	
Malzeme Cinsi	(Vc m/min)	Çap	fz (mm/dev)
Alaşımsız Çelik	65-85	3-4	0.02-0.1
İmalat Çeliği	60-85	4-6	0.05-0.12
İslah Çeliği	50-75	6-8	0.07-0.15
Takım Çeliği	50-80	8-10	0.08-0.17
Paslanmaz	45-60	10-12	0.1-0.2
Krom Kobalt Alaşım	35-50	12-14	0.12-0.25
Gri Dökme Demir	85-105	14-16	0.13-0.20
Grafit	110-130	16-18	0.15-0.25
Titanyum	40-60	18-20	0.15-0.25
Sertleştirilmiş Çelik	40-55		
Alüminyum	70-250		

701-702

Kesme Hızları		Diş Başı İlerleme	
Malzeme Cinsi	(Vc m/min)	Çap	fz (mm/dev)
Alaşımsız Çelik	20-30	3-4	0.060-0.090
İmalat Çeliği	25-25	4-6	0.070-0.100
İslah Çeliği	15-20	6-8	0.100-0.130
Takım Çeliği	10-15	8-10	0.100-0.130
Paslanmaz	15-20	10-12	0.130-0.160
Krom Kobalt Alaşım	10-20	12-14	0.140-0.170
Gri Dökme Demir	20-30	14-16	0.170-0.200
Grafit	-	16-18	0.180-0.210
Titanyum	10-15	18-20	0.200-0.230
Sertleştirilmiş Çelik	07-15		
Alüminyum	30-50		

Formüller



Kesme
Hızı

$$V_c = \frac{\pi \times d_1 \times n}{1000}$$

İlerleme
Hızı

$$V_f = n \times f_z \times f_n$$

Devir
Sayısı

$$n = \frac{1000 \times V_c}{\pi \times d_1}$$

V_c : Kesme Hızı (m/min)

d_1 : Takım Çapı (mm)

n : Devir Sayısı (rpm)

V_f : İlerleme (mm/min)

f_n : Diş Sayısı

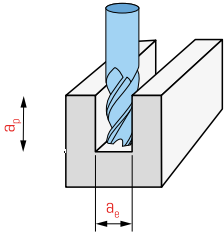
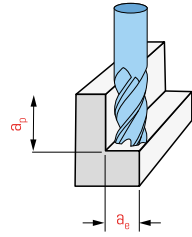
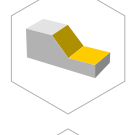
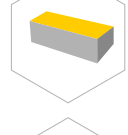
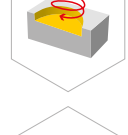
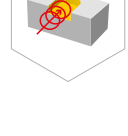
f_z : Diş Başı İlerleme (mm/tooth)

Karbür parmak frezeler için genel öneriler

- Titreşim durumunda ilerlemeyi ve hızı azaltın.
- Paslanmaz çeliğe kanal açarken iş milini ve diş başına ilerlemeyi azaltmak gerekli olabilir.
- Kenar frezelemede, gerekli yüzey kalitesini elde etmek için ilerlemeyi değiştirilebilir.
- Takımlardan iyi performans alabilmek için yüksek hassasiyetli CNC kullanılmalıdır.

Düz ve Köşe Radüslü Freze Kesme Değerleri

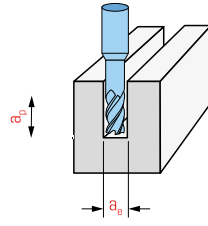
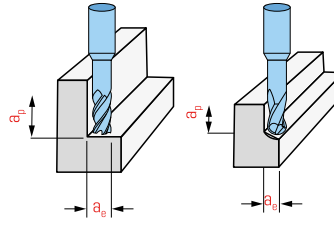
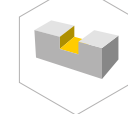
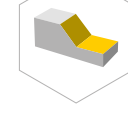
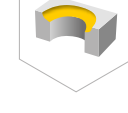
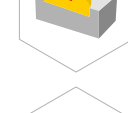
224-242-243-244-264-514-524-544-554

Malzeme	Kanal Frezeleme $a_p = 0,5xD$ V_c (m/dk)	Kenar Frezeleme $a_e = (0,2-0,3)xD$ V_c (m/dk)	Çalışma Alanları
			     
Alaşımsız Çelik	95 – 125	150 – 180	
İmalat Çeliği	90 – 120	140 – 170	
İslah Çeliği	80 – 110	130 – 160	
Takım Çeliği	60 – 90	120 – 150	
Paslanmaz	60 – 90	70 – 110	
Krom Kobalt Alaşım	50 – 70	60 – 90	
Gri Dökme Demir	100 – 130	250 – 280	
Grafit	250 – 300	300 – 400	
Titanyum	-	-	
Sertleştirilmiş Çelik	-	-	
Alüminyum	-	-	

Diş Başı İlerleme fz (mm/dev)			
Çap	$a_p = 0,5xD$	$a_p = 1xD$	$a_p = 0,5xD$
3	0,005 – 0,010	0,030 – 0,035	0,035 – 0,040
4	0,010 – 0,015	0,035 – 0,040	0,040 – 0,045
5	0,015 – 0,020	0,040 – 0,045	0,045 – 0,050
6	0,020 – 0,025	0,045 – 0,050	0,050 – 0,055
8	0,025 – 0,030	0,050 – 0,055	0,055 – 0,065
10	0,030 – 0,040	0,055 – 0,065	0,065 – 0,075
12	0,040 – 0,050	0,065 – 0,075	0,070 – 0,080
14	0,050 – 0,060	0,070 – 0,080	0,075 – 0,085
16	0,060 – 0,070	0,075 – 0,085	0,080 – 0,090
18	0,070 – 0,080	0,080 – 0,090	0,085 – 0,095
20	0,080 – 0,095	0,085 – 0,100	0,090 – 0,105

Mikro Freze Kesme Değerleri

200-300-500

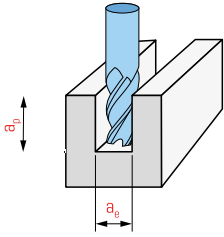
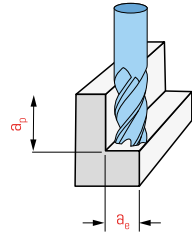
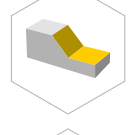
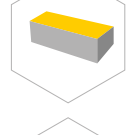
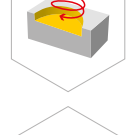
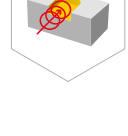
Malzeme	Kanal Frezeleme $a_e = 0,1xD$ V_c (m/dk)	Kenar Frezeleme $a_p = 0,2xD$ V_c (m/dk)	Çalışma Alanları
			       
Alaşımsız Çelik	175 – 220	175 – 220	
İmalat Çeliği	175 – 215	175 – 215	
İslah Çeliği	140 – 180	140 – 180	
Takım Çeliği	110 – 170	110 – 170	
Paslanmaz	70 – 120	70 – 120	
Krom Kobalt Alaşım	60 – 100	60 – 100	
Gri Dökme Demir	100 – 150	100 – 150	
Grafit	-	-	
Titanyum	30 – 65	30 – 65	
Sertleştirilmiş Çelik	70 – 90	70 – 90	
Alüminyum	-	-	

Diş Başı İlerleme fz (mm/dev)

Çap	$a_e = 0,2xD$	$a_e = 0,1xD$	$a_e = 0,2xD$	$a_e = 0,1xD$
1	0,012 – 0,016	0,018 – 0,023	0,012 – 0,016	0,018 – 0,023
1,5	0,015 – 0,020	0,023 – 0,028	0,015 – 0,020	0,023 – 0,028
2	0,020 – 0,025	0,028 – 0,035	0,020 – 0,025	0,028 – 0,035
2,5	0,025 – 0,030	0,035 – 0,040	0,025 – 0,030	0,035 – 0,040

Alüminyum Freze Kesme Değerleri

212-213-232-233-252-253-235-255-237-257-238-258-236

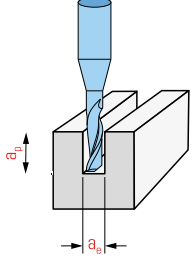
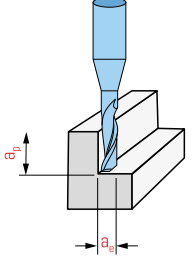
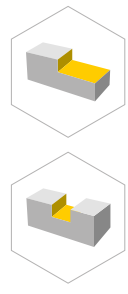
Malzeme	Kanal Frezeleme $a_p = 1xD$ V_c (m/dk)	Kenar Frezeleme $a_p = 1,5xD$ V_c (m/dk)	Çalışma Alanları
			     
Alaşımsız Çelik	-	-	
İmalat Çeliği	-	-	
İslah Çeliği	-	-	
Takım Çeliği	-	-	
Paslanmaz	-	-	
Krom Kobalt Alaşım	-	-	
Gri Dökme Demir	-	-	
Grafit	-	-	
Titanyum	-	-	
Sertleştirilmiş Çelik	-	-	
Alüminyum	240 - 300	340 - 400	
Bakır	200 - 250	300 - 350	

Diş Başı İlerleme f_z (mm/dev)			
Çap	$a_p = 1xD$	$a_e = 0,3xD$	$a_e = 0,15xD$
1	0,030 - 0,040	0,040 - 0,080	0,060 - 0,120
2	0,040 - 0,050	0,070 - 0,010	0,100 - 0,150
3	0,055 - 0,065	0,100 - 0,105	0,150 - 0,200
4	0,065 - 0,070	0,100 - 0,105	0,170 - 0,220
5	0,070 - 0,075	0,130 - 0,180	0,190 - 0,240
6	0,075 - 0,085	0,150 - 0,200	0,200 - 0,260
8	0,080 - 0,090	0,150 - 0,200	0,210 - 0,280
10	0,085 - 0,095	0,150 - 0,250	0,220 - 0,300
12	0,090 - 0,100	0,150 - 0,250	0,260 - 0,320
14	0,095 - 0,105	0,180 - 0,230	0,280 - 0,340
16	0,100 - 0,110	0,200 - 0,300	0,300 - 0,360
18	0,100 - 0,110	0,200 - 0,300	0,320 - 0,380
20	0,105 - 0,115	0,230 - 0,330	0,340 - 0,400

* 236 kodlu takım için kesme hızı % 30 fazla alınmalıdır.

Tek Ağızlı Freze Kesme Değerleri

211

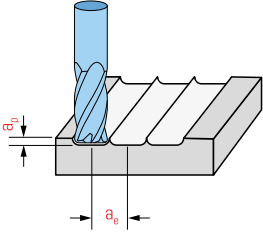
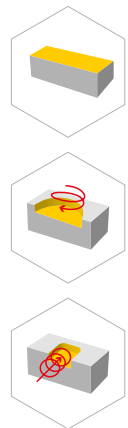
Malzeme	Kanal Frezeleme $ap = 1xD-1,5xD$ Vc (m/dk)	Kenar Frezeleme $ap = 1,5xD$ Vc (m/dk)	Çalışma Alanları
			
Alaşımsız Çelik	-	-	
İmalat Çeliği	-	-	
İslah Çeliği	-	-	
Takım Çeliği	-	-	
Paslanmaz	-	-	
Krom Kobalt Alaşım	-	-	
Gri Dökme Demir	-	-	
Grafit	-	-	
Titanyum	-	-	
Sertleştirilmiş Çelik	-	-	
Alüminyum	275 - 350	325 - 450	
Fleksi	300 - 375	375 - 500	

Diş Başı İlerleme fz (mm/dev)

Çap	$ap = 1,5xD$	$ap = 1xD$	$ae = 0,3xD$	$ae = 0,15xD$
2	0,060	0,070	0,120	0,180
3	0,080	0,090	0,150	0,190
4	0,100	0,110	0,190	0,220
5	0,110	0,120	0,200	0,240
6	0,130	0,140	0,210	0,250
8	0,150	0,160	0,250	0,290
10	0,170	0,180	0,300	0,325
12	0,200	0,210	0,325	0,380

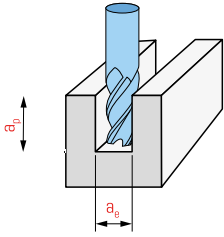
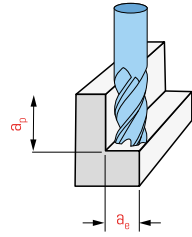
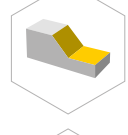
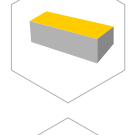
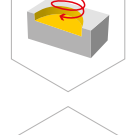
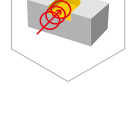
Hız Freze Kesme Değerleri

291-292-293

Malzeme	Yüzey Frezeleme				Çalışma Alanları
					
	Vc (m/dk)	fz max. (mm)	ap max. (mm)	ae max. (mm)	
Alaşımsız Çelik	275 – 300	0,040 x D	0,06 x D	0,6 x D	
İmalat Çeliği	230 – 260	0,035 x D	0,04 x D	0,6 x D	
İslah Çeliği	220 – 250	0,030 x D	0,04 x D	0,6 x D	
Takım Çeliği	210 – 240	0,025 x D	0,03 x D	0,6 x D	
Paslanmaz	-	-	-	-	
Krom Kobalt Alaşım	-	-	-	-	
Gri Dökme Demir	160 – 200	0,045 x D	0,06 x D	0,6 x D	
Grafit	-	-	-	-	
Titanyum	-	-	-	-	
Sertleştirilmiş Çelik	60 – 100	0,010 x D	0,04 x D	0,6 x D	
Alüminyum	-	-	-	-	
Bakır	160 – 200	0,040 x D	0,07 x D	0,6 x D	

Değişken Kanallı Freze Kesme Değerleri

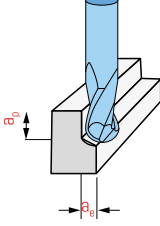
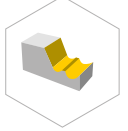
414-424-434-444-454-474-484-466-564-574-584

Malzeme	Kanal Frezeleme $ap = 1,5D-1xD$ Vc (m/dk)	Kanal Frezeleme $ap = 1D-0,5xD$ Vc (m/dk)	Kenar Frezeleme $ap = 1,5D$ Vc (m/dk)	Çalışma Alanları
				     
Alaşımsız Çelik	100 – 130	175 – 200	150 – 200	
İmalat Çeliği	70 – 90	120 – 160	150 – 180	
İslah Çeliği	70 – 90	120 – 160	125 – 160	
Takım Çeliği	40 – 75	70 – 130	100 – 150	
Paslanmaz	15 – 35	25 – 40	20 – 30	
Krom Kobalt Alaşım	15 – 30	30 – 50	35 – 60	
Gri Dökme Demir	70 – 100	120 – 160	150 – 200	
Grafit	-	-	-	
Titanyum	40 – 60	50 – 75	60 – 90	
Sertleştirilmiş Çelik	15 – 25	25 – 35	30 – 40	
Alüminyum	-	-	-	

Diş Başı İlerleme fz (mm/dev)						
Çap	$ap=1,5xD$	$ap=1xD$	$ap=0,5xD$	$ae=0,35xD$	$ae=0,275xD$	$ae=0,2xD$
2	0,008 – 0,012	0,007 – 0,011	0,015 – 0,020	0,008 – 0,012	0,010 – 0,015	0,015 – 0,020
3	0,010 – 0,012	0,012 – 0,017	0,018 – 0,022	0,013 – 0,017	0,016 – 0,020	0,021 – 0,025
4	0,012 – 0,016	0,015 – 0,019	0,019 – 0,023	0,015 – 0,019	0,021 – 0,025	0,028 – 0,036
5	0,015 – 0,019	0,018 – 0,022	0,022 – 0,026	0,018 – 0,022	0,025 – 0,029	0,033 – 0,037
6	0,018 – 0,022	0,020 – 0,024	0,026 – 0,030	0,020 – 0,024	0,028 – 0,032	0,036 – 0,040
8	0,023 – 0,027	0,027 – 0,033	0,033 – 0,037	0,028 – 0,032	0,035 – 0,039	0,053 – 0,057
10	0,027 – 0,033	0,032 – 0,038	0,037 – 0,043	0,033 – 0,037	0,042 – 0,046	0,058 – 0,062
12	0,032 – 0,038	0,038 – 0,044	0,044 – 0,050	0,039 – 0,043	0,049 – 0,053	0,066 – 0,070
14	0,033 – 0,039	0,039 – 0,045	0,045 – 0,051	0,040 – 0,044	0,050 – 0,054	0,067 – 0,071
16	0,042 – 0,048	0,052 – 0,058	0,062 – 0,068	0,059 – 0,063	0,070 – 0,074	0,092 – 0,096
18	0,045 – 0,055	0,050 – 0,060	0,067 – 0,077	0,069 – 0,075	0,085 – 0,095	0,095 – 0,105
20	0,050 – 0,060	0,055 – 0,065	0,085 – 0,095	0,085 – 0,095	0,105 – 0,115	0,120 – 0,130
25	0,055 – 0,065	0,065 – 0,075	0,090 – 0,100	0,090 – 0,100	0,110 – 0,120	0,130 – 0,140

Küre Freze Kesme Değerleri

322-324-342-344

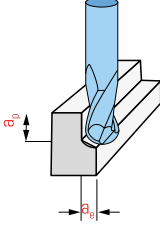
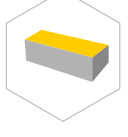
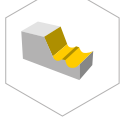
Malzeme	Kenar Frezeleme $a_p = 0,1 \times D$ V_c (m/dk)	Çalışma Alanları
		  
Alaşımsız Çelik	200 – 230	
İmalat Çeliği	190 – 230	
İslah Çeliği	180 – 210	
Takım Çeliği	140 – 180	
Paslanmaz	80 – 120	
Krom Kobalt Alaşım	70 – 100	
Gri Dökme Demir	270 – 320	
Grafit	300 – 400	
Titanyum	-	
Sertleştirilmiş Çelik	-	
Alüminyum	-	

Diş Başı İlerleme fz (mm/dev)

Çap	$a_e = 0,3 \times D$	$a_e = 0,2 \times D$
1	0,015 – 0,021	0,019 – 0,025
2	0,021 – 0,025	0,025 – 0,029
3	0,025 – 0,029	0,029 – 0,033
4	0,029 – 0,033	0,033 – 0,037
5	0,030 – 0,034	0,034 – 0,038
6	0,039 – 0,043	0,043 – 0,047
8	0,046 – 0,050	0,050 – 0,054
10	0,051 – 0,055	0,055 – 0,059
12	0,056 – 0,060	0,060 – 0,064
14	0,061 – 0,065	0,065 – 0,069
16	0,065 – 0,070	0,070 – 0,075
18	0,070 – 0,075	0,075 – 0,080
20	0,075 – 0,080	0,080 – 0,085

Alüminyum Küre Freze Kesme Değerleri

312-332

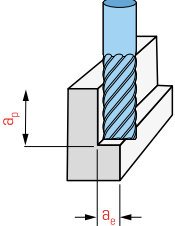
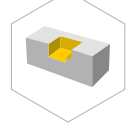
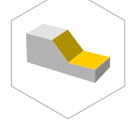
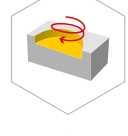
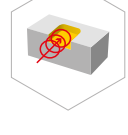
Malzeme	Kenar Frezeleme $a_p = 1,5 \times D$ V_c (m/dk)	Çalışma Alanları
		  
Alaşımsız Çelik	-	
İmalat Çeliği	-	
İslah Çeliği	-	
Takım Çeliği	-	
Paslanmaz	-	
Krom Kobalt Alaşım	-	
Gri Dökme Demir	-	
Grafit	-	
Titanyum	-	
Sertleştirilmiş Çelik	-	
Alüminyum	225 - 300	
Plastik	350 - 450	

Diş Başı İlerleme f_z (mm/dev)

Çap	$a_e = 0,3 \times D$	$a_e = 0,1 \times D$
1	0,100 - 0,140	0,100 - 0,140
2	0,140 - 0,180	0,140 - 0,180
3	0,180 - 0,220	0,400 - 0,440
4	0,200 - 0,240	0,480 - 0,520
5	0,220 - 0,260	0,500 - 0,540
6	0,230 - 0,270	0,530 - 0,570
8	0,260 - 0,300	0,560 - 0,600
10	0,280 - 0,320	0,580 - 0,620
12	0,320 - 0,360	0,620 - 0,660
14	0,420 - 0,460	0,650 - 0,690
16	0,520 - 0,560	0,680 - 0,720
18	0,550 - 0,590	0,750 - 0,780
20	0,580 - 0,620	0,780 - 0,820

Sık Ağızlı Freze Kesme Değerleri

276-286

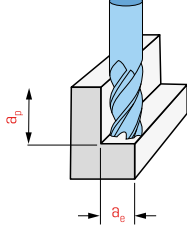
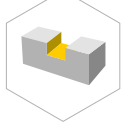
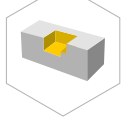
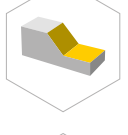
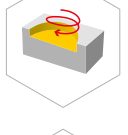
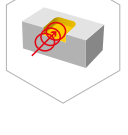
Malzeme	Kenar Frezeleme $a_p = 2 \times D$ V_c (m/dk)	Çalışma Alanları
		     
Alaşımsız Çelik	-	
İmalat Çeliği	-	
İslah Çeliği	-	
Takım Çeliği	100 - 150	
Paslanmaz	60 - 100	
Krom Kobalt Alaşım	60 - 90	
Gri Dökme Demir	-	
Grafit	-	
Titanyum	50 - 80	
Sertleştirilmiş Çelik	20 - 60	
Alüminyum	-	

Diş Başı İlerleme f_z (mm/dev)

Çap	$a_e = 0,25 \times D$	$a_e = 0,1 \times D$
4	0,010 - 0,015	0,014 - 0,018
5	0,012 - 0,016	0,018 - 0,022
6	0,016 - 0,020	0,022 - 0,026
8	0,025 - 0,030	0,043 - 0,047
10	0,033 - 0,037	0,049 - 0,053
12	0,035 - 0,039	0,055 - 0,059
14	0,038 - 0,042	0,061 - 0,066
16	0,043 - 0,047	0,067 - 0,071
18	0,046 - 0,050	0,073 - 0,077
20	0,050 - 0,055	0,078 - 0,083

Freze Kesme Değerleri

274-284-294-614-624-674

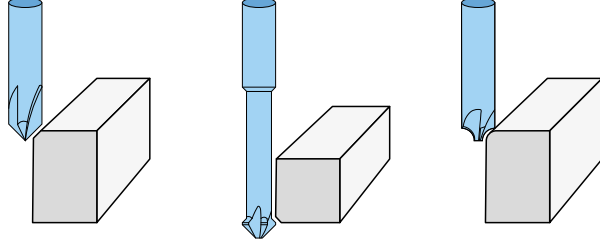
Malzeme	Kenar Frezeleme $a_p = 1xD$ V_c (m/dk)	Çalışma Alanları
		     
Alaşımsız Çelik	-	
İmalat Çeliği	-	
İslah Çeliği	-	
Takım Çeliği	100 - 150	
Paslanmaz	-	
Krom Kobalt Alaşım	-	
Gri Dökme Demir	70 - 100	
Grafit	-	
Titanyum	-	
Sertleştirilmiş Çelik	60 - 90	
Alüminyum	-	

Diş Başı İlerleme f_z (mm/dev)

Çap	$a_e = 0,25xD$	$a_e = 0,1xD$
3	0,025 - 0,029	0,030 - 0,034
4	0,027 - 0,031	0,038 - 0,042
5	0,029 - 0,033	0,038 - 0,042
6	0,029 - 0,033	0,039 - 0,043
8	0,036 - 0,040	0,051 - 0,055
10	0,047 - 0,051	0,059 - 0,063
12	0,050 - 0,055	0,065 - 0,070

Pah Freze Kesme Değerleri

202-203-302-192

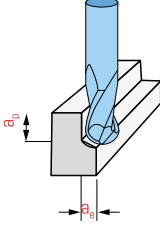
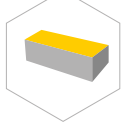
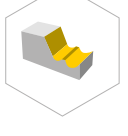
Malzeme	Kenar Frezeleme Vc (m/dk)	Çalışma Alanları
		
Alaşımsız Çelik	120 - 150	
İmalat Çeliği	110 - 140	
İslah Çeliği	100 - 140	
Takım Çeliği	80 - 120	
Paslanmaz	60 - 100	
Krom Kobalt Alaşım	35 - 70	
Gri Dökme Demir	80 - 130	
Grafit	-	
Titanyum	50 - 80	
Sertleştirilmiş Çelik	40 - 75	
Alüminyum	-	

Diş Başı İlerleme fz (mm/dev)

Çap	ap = 0,25xD
6	0,025 - 0,040
8	0,030 - 0,050
10	0,040 - 0,075
12	0,050 - 0,090

Küre Freze Kesme Değerleri

362-382-310

Malzeme	Kenar Frezeleme $a_p = (0,25-0,10) \times D$ V_c (m/dk)	Çalışma Alanları
		  
Alaşımsız Çelik	-	
İmalat Çeliği	-	
İslah Çeliği	-	
Takım Çeliği	160 - 200	
Paslanmaz	80 - 120	
Krom Kobalt Alaşım	60 - 100	
Gri Dökme Demir	-	
Grafit	-	
Titanyum	-	
Sertleştirilmiş Çelik	50 - 100	
Alüminyum	-	

Diş Başı İlerleme fz (mm/dev)

Çap	$a_e = 0,25 \times D$	$a_e = 0,1 \times D$
2	0,045 - 0,049	0,050 - 0,054
3	0,048 - 0,052	0,060 - 0,064
4	0,049 - 0,053	0,068 - 0,072
5	0,053 - 0,057	0,075 - 0,079
6	0,057 - 0,061	0,085 - 0,089
8	0,059 - 0,063	0,089 - 0,093
10	0,066 - 0,072	0,104 - 0,110
12	0,075 - 0,085	0,115 - 0,125

Sertlik Dönüşüm Tablosu

R _m [N/mm ²]	HV 10	HB	HRC
240	75	71	
255	80	76	
270	85	81	
285	90	86	
305	95	90	
320	100	95	
335	105	100	
350	110	105	
370	115	109	
385	120	114	
400	125	119	
415	130	124	
430	135	128	
450	140	133	
465	145	138	
480	150	143	
495	155	147	
510	160	152	
530	165	157	
545	170	162	
560	175	166	
575	180	171	
595	185	176	
610	190	181	
625	195	185	
640	200	190	
660	205	195	
675	210	199	
690	215	204	
705	220	209	
720	225	214	
740	230	219	
755	235	223	
770	240	228	
785	245	233	
800	250	238	22
820	255	242	23
835	260	247	24
860	268	255	25
870	272	258	26
900	280	266	27

R _m [N/mm ²]	HV 10	HB	HRC
920	287	273	28
940	293	278	29
970	302	287	30
995	310	295	31
1020	317	301	32
1050	327	311	33
1080	336	319	34
1110	345	328	35
1140	355	337	36
1170	364	346	37
1200	373	354	38
1230	382	363	39
1260	392	372	40
1300	403	383	41
1330	413	393	42
1360	423	402	43
1400	434	413	44
1440	446	424	45
1480	458	435	46
1530	473	449	47
1570	484	460	48
1620	497	472	49
1680	514	488	50
1730	527	501	51
1790	544	517	52
1845	560	532	53
1910	578	549	54
1980	596	567	55
2050	615	584	56
2140	639	607	57
	655	622	58
	675		59
	698		60
	720		61
	745		62
	773		63
	800		64
	829		65
	864		66
	900		67
	940		68

Tolerans Tablosu –1

ISO Delik Toleransları (ISO 286–2)																				
over inc.	3	6	10	18	30	40	50	65	80	100	120	140	160	180	200	225	250	280	315	355
	6	10	18	30	40	50	65	80	100	120	140	160	180	200	225	250	280	315	355	400
							mikrometre (um)													
E6	28 20	34 25	43 32	53 40	66 50		79 60		94 72		110 85		129 100		142 110		161 125			
E7	32 20	40 25	50 32	61 40	75 50		90 60		107 72		125 85		146 100		162 110		185 125			
E11	95 20	115 25	142 32	170 40	210 50		250 60		292 72		335 85		390 100		430 110		485 125			
E12	140 20	175 25	212 32	250 40	300 50		360 60		422 72		485 85		560 100		630 110		695 125			
E13	200 20	245 25	302 32	370 40	440 50		520 60		612 72		715 85		820 100		920 110		+1015 125			
F6	18 10	22 13	27 16	33 20	41 2		49 30		58 36		68 43		79 50		88 56		98 62			
F7	22 10	28 13	34 16	41 20	50 25		60 30		71 36		83 43		96 50		108 56		119 62			
F8	28 10	35 13	43 16	53 20	64 25		76 30		90 36		106 43		122 50		137 56		151 62			
G6	12 4	14 5	17 6	20 7	25 9		29 10		34 12		39 14		44 15		49 17		54 18			
G7	16 4	20 5	24 6	28 7	34 9		40 10		47 12		54 14		61 15		69 17		75 18			
G8	22 4	27 5	33 6	40 7	48 9		56 10		66 12		77 14		87 15		98 17		107 18			
H6	8 0	9 0	11 0	13 0	16 0		19 0		22 0		25 0		29 0		32 0		36 0			
H7	12 0	15 0	18 0	21 0	25 0		30 0		35 0		40 0		46 0		52 0		57 0			
H8	18 0	22 0	27 0	33 0	39 0		46 0		54 0		63 0		72 0		81 0		89 0			
H9	30 0	36 0	43 0	52 0	62 0		74 0		87 0		100 0		115 0		130 0		140 0			
H10	48 0	58 0	70 0	84 0	100 0		120 0		140 0		160 0		185 0		210 0		230 0			
H11	75 0	90 0	110 0	130 0	160 0		190 0		220 0		250 0		290 0		320 0		360 0			
J6	5 –3	5 –4	6 –5	8 –5	10 –6		13 –6		16 –6		18 –7		22 –7		25 –7		29 –7			
J7	6 –6	8 –7	10 –8	12 –9	14 –11		18 –12		22 –13		26 –14		30 –16		36 –16		39 –18			
J8	10 –8	12 –10	15 –12	20 –13	24 –15		28 –18		34 –20		41 –22		47 –25		55 –26		60 –29			
JS6	4 –4	+4.5 –4.5	+5.5 –5.5	+6.5 –6.5	8 –8		+9.5 –9.5		11 –11		+12.5 –12.5		+14.5 –14.5		16 –16		18 –18			
JS7	6 –6	+7.5 –7.5	9 –9	+10.5 –10.5	+12.5 –12.5		15 –15		+17.5 –17.5		20 –20		23 –23		26 –26		+28.5 –28.5			
JS8	9 –9	11 –11	+13.5 –13.5	+16.5 –16.5	+19.5 –19.5		23 –23		27 –27		+31.5 –31.5		36 –36		+40.5 –40.5		+44.5 –44.5			

Tolerans Tablosu –2

ISO Delik Toleransları (ISO 286–2)																				
over	3	6	10	18	30	40	50	65	80	100	120	140	160	180	200	225	250	280	315	355
inc.	6	10	18	30	40	50	65	80	100	120	140	160	180	200	225	250	280	315	355	400
							mikrometre (um)													
K6	2 -6	2 -7	2 -9	2 -11	3 -13		4 -15	4 -18	4 -21		5 -24	5 -27	7 -29							
K7	3 -9	5 -10	6 -12	6 -15	7 -18		9 -21	10 -25	12 -28		13 -33	16 -36	17 -40							
K8	5 -13	6 -16	8 -19	10 -23	12 -27		14 -32	16 -38	20 -43		22 -50	25 -56	28 -61							
M6	-1 -9	-3 -12	-4 -15	-4 -17	-4 -20		-5 -24	-6 -28	-8 -33		-8 -37	-9 -41	-10 -46							
M7	0 -12	0 -15	0 -18	0 -21	0 -25		0 -30	0 -35	0 -40		0 -46	0 -52	0 -57							
M8	2 -16	1 -21	2 -25	4 -29	5 -34		5 -41	6 -48	8 -55		9 -63	9 -72	11 -78							
N6	-5 -13	-7 -16	-9 -20	-11 -24	-12 -28		-14 -33	-16 -38	-20 -45		-22 -51	-25 -57	-26 -62							
N7	-4 -16	-4 -19	-5 -23	-7 -28	-8 -33		-9 -38	-10 -45	-12 -52		-14 -60	-14 -66	-16 -73							
N8	-2 -20	-3 -25	-3 -30	-3 -36	-3 -42		-4 -50	-4 -58	-4 -67		-5 -77	-5 -86	-5 -94							
P6	-9 -17	-12 -21	-15 -26	-18 -31	-21 -37		-26 -45	-30 -52	-36 -61		-41 -70	-47 -79	-51 -87							
P7	-8 -20	-9 -24	-11 -29	-14 -35	-17 -42		-21 -51	-24 -59	-28 -68		-33 -79	-36 -88	-41 -98							
P8	-12 -30	-15 -37	-18 -45	-22 -55	-26 -65		-32 -78	-37 -91	-43 -106		-50 -122	-56 -137	-62 -151							

Tolerans Tablosu –3

ISO Delik Toleransları (ISO 286–2)																					
over	3	6	10	18	30	40	50	65	80	100	120	140	160	180	200	225	250	280	315	355	
inc.	6	10	18	30	40	50	65	80	100	120	140	160	180	200	225	250	280	315	355	400	
						mikrometre (um)															
d6	-30 -38	-40 -49	-50 -61	-65 -78	-80 -96	-100 -119	-120 -142	-145 -170	-170 -199	-190 -222	-210 -246										
e6	-20 -28	-25 -34	-32 -43	-40 -53	-50 -66	-60 -79	-72 -94	-85 -110	-100 -129	-110 -142	-125 -161										
e13	-20 -200	-25 -245	-32 -302	-40 -370	-50 -440	-60 -520	-72 -612	-85 -715	-100 -820	-110 -920	-125 -1015										
f5	-10 -15	-13 -19	-16 -24	-20 -29	-25 -36	-30 -43	-36 -51	-43 -61	-50 -70	-56 -79	-62 -87										
f6	-10 -18	-13 -22	-16 -27	-20 -33	-25 -41	-30 -49	-36 -58	-43 -68	-50 -79	-56 -88	-62 -98										
f7	-10 -22	-13 -28	-16 -34	-20 -41	-25 -50	-30 -60	-36 -71	-43 -83	-50 -96	-56 -108	-62 -119										
g5	-4 -9	-5 -11	-6 -14	-7 -16	-9 -20	-10 -23	-12 -27	-14 -32	-15 -35	-17 -40	-18 -43										
g6	-4 -12	-5 -14	-6 -17	-7 -20	-9 -25	-10 -29	-12 -34	-14 -39	-15 -44	-17 -49	-18 -54										
g7	-4 -16	-5 -20	-6 -24	-7 -28	-9 -34	-10 -40	-12 -47	-14 -54	-15 -61	-17 -69	-18 -75										
h4	0 -4	0 -4	0 -5	0 -6	0 -7	0 -8	0 -10	0 -12	0 -14	0 -16	0 -18										
h5	0 -5	0 -6	0 -8	0 -9	0 -11	0 -13	0 -15	0 -18	0 -20	0 -23	0 -25										
h6	0 -8	0 -9	0 -11	0 -13	0 -16	0 -19	0 -22	0 -25	0 -29	0 -32	0 -36										
h7	0 -12	0 -15	0 -18	0 -21	0 -25	0 -30	0 -35	0 -40	0 -46	0 -52	0 -57										
h8	0 -18	0 -22	0 -27	0 -33	0 -39	0 -46	0 -54	0 -63	0 -72	0 -81	0 -89										
h9	0 -30	0 -36	0 -43	0 -52	0 -62	0 -74	0 -87	0 -100	0 -115	0 -130	0 -140										
h10	0 -48	0 -58	0 -70	0 -84	0 -100	0 -120	0 -140	0 -160	0 -185	0 -210	0 -230										
h11	0 -75	0 -90	0 -110	0 -130	0 -160	0 -190	0 -220	0 -250	0 -290	0 -320	0 -360										
h12	0 -120	0 -150	0 -180	0 -210	0 -250	0 -300	0 -350	0 -400	0 -460	0 -520	0 -570										
j5	3 -2	4 -2	5 -3	5 -4	6 -5	6 -7	6 -9	7 -11	7 -13	7 -16	7 -18										
j6	6 -2	7 -2	8 -3	9 -4	11 -5	12 -7	13 -9	14 -11	16 -13	16 -16	18 -18										
j7	8 -4	10 -5	12 -6	13 -8	15 -10	18 -12	20 -15	22 -18	25 -21	26 -26	29 -28										
js5	+2.5 -2.5	3 -3	4 -4	+4.5 -4.5	+5.5 -5.5	+6.5 -6.5	+7.5 -7.5	9 -9	10 -10	+11.5 -11.5	+12.5 -12.5										
js6	4 -4	+4.5 -4.5	+5.5 -5.5	+6.5 -6.5	8 -8	+9.5 -9.5	11 -11	+12.5 -12.5	+14.5 -14.5	16 -16	18 -18										

Tolerans Tablosu –4

ISO Delik Toleransları (ISO 286-2)																				
over	3	6	10	18	30	40	50	65	80	100	120	140	160	180	200	225	250	280	315	355
inc.	6	10	18	30	40	50	65	80	100	120	140	160	180	200	225	250	280	315	355	400
							mikrometre (um)													
js7	6 -6	+7.5 -7.5	9 -9	+10.5 -10.5	+12.5 -12.5		15 -15	+17.5 -17.5		20 -20		23 -23		26 -26		+28.5 -28.5				
k5	6 1	7 1	9 1	11 2	13 2		15 2	18 3		21 3		24 4		27 4		29 4				
k6	9 1	10 1	12 1	15 2	18 2		21 2	25 3		28 3		33 4		36 4		40 4				
k7	13 1	16 1	19 1	23 2	27 2		32 2	38 3		43 3		50 4		56 4		61 4				
m5	9 4	12 6	15 7	17 8	20 9		24 11	28 13		33 15		37 17		43 20		46 21				
m6	12 4	15 6	18 7	21 8	25 9		30 11	35 13		40 15		46 17		52 20		57 21				
m7	16 4	21 6	25 7	29 8	34 9		41 11	48 13		55 15		63 17		72 20		78 21				
n5	13 8	16 10	20 12	24 15	28 17		33 20	38 23		45 27		51 31		57 34		62 37				
n6	16 8	19 10	23 12	28 15	33 17		39 20	45 23		52 27		60 31		66 34		73 37				
n7	20 8	25 10	30 12	36 15	42 17		50 20	58 23		67 27		77 31		86 34		94 37				
p5	17 12	21 15	26 18	31 22	37 26		45 32	52 37		61 43		70 50		79 56		87 62				
p6	20 12	24 15	29 18	35 22	42 26		51 32	59 37		68 43		79 50		88 56		98 62				



Handwriting practice area consisting of 20 horizontal lines. The lines are evenly spaced and extend across the width of the page, alternating between white and light grey backgrounds.

Stamina Cutting Tools olarak, size şunları sunuyoruz:

Geniş ürün yelpazesi: Frezeler, matkaplar, raybalar, broşlar, torna takımları ve daha fazlası dahil olmak üzere geniş bir yelpazede karbür kesici takımlar sunuyoruz.

Özel çözümler: İhtiyaçlarınıza özel olarak tasarlanmış kesici takımlar geliştirmek için sizinle yakın bir şekilde çalışıyoruz.

Mükemmel müşteri hizmeti: Müşterilerimize en iyi hizmeti sunmaya ve onların işlerini daha verimli ve karlı hale getirmeye kararlıyız.

Stamina Cutting Tools ile iş birliği yapmak, size şunları sağlar:

Artırılmış verimlilik: Kesici takımlarımız, işleme sürelerini kısaltarak ve daha yüksek hassasiyet sağlayarak üretiminizi optimize etmeye yardımcı olur.

Daha düşük maliyetler: Kesici takımlarımızın uzun ömrü ve yüksek performansı, üretim maliyetlerinizi düşürmenize yardımcı olur.

Geliştirilmiş ürün kalitesi: Kesici takımlarımızın hassasiyeti ve keskinliği, daha yüksek kaliteli ürünler üretmenizi sağlar.

Stamina Cutting Tools ile geleceğe yatırım yapın. Hemen bizimle iletişime geçerek ihtiyaçlarınızı görüşün ve size en uygun çözümleri sunalım.

STAMINA

CUTTING TOOLS

Yeni Karaman Mah. Sanayi Cad. No: 150 A OSMANGAZI / BURSA

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