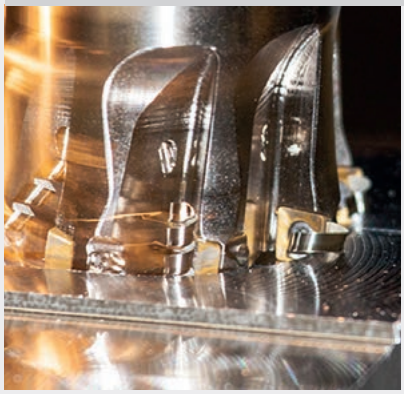
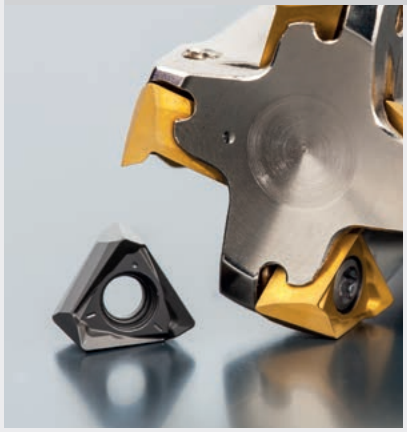
PRAMET

Yeni ürünler 2017.1

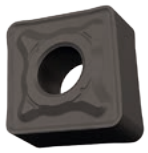
FREZELEME TAKIM VE UÇLARI



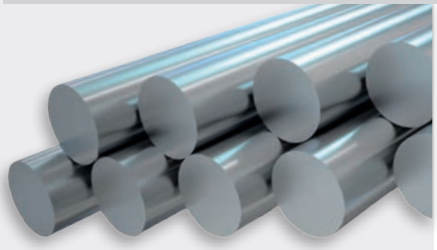
FREZELEME UÇLARI



TORNA UÇLARI



KABUK SOYMA UÇLARI



2017 M127

Bu broşürde yalnızca yeni ürünler yer almaktadır. Bu simge mevcut ürün yelpazesinin nerede olduğunu belirlemek ve Pramet 2017 kataloğundaki ilgili sayfa numarasını belirtmek için kullanılır.

FREZELEME TAKIM VE UÇLARI

ÇOK YÖNLÜ YÜZEY, KENAR VE KOPYA FREZELEME TAKIMLARI

Herkes tarafından beğenilen OEHT yüzey frezeleme serisi, sekizgen (OD), yuvarlak (RD) ve kare (SD) şeklindeki uçların aynı takıma bağlanabileceği çok yönlü yeni takım serisi ile genişletilmiştir.

ÖZELLİKLER & FAYDALAR

- Çok çeşitli uygulamalar için geniş kapsamlı frezeleme takımları ve farklı kesici uçları, şekilleri ve geometrileri:
  - Kabadan finişe
  - Yüzey frezeleme, kenar frezeleme, kanal frezeleme, dalma ve rampalama
  - Geniş kapsamlı iş parçası malzemeleri
- Tüm uç tipleri aynı radyal ve eksenel kenar konumuna sahiptir - CNC programlama veya manuel işlemler için faydalıdır.
- **Çok yönlü takım -** Birden fazla uygulama için tek takım
- **Operatörler için kullanım kolaylığı -** Karışık üretim için aynı takım
- **Ekonomik -** 8 kesme kenarlı ODXT uçlar
- **Verimli -** SDXT uçlar ile daha yüksek kesme derinliği

UÇ TİPLERİ

OD

SEKİZGEN

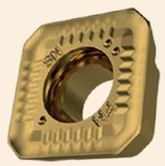
Yüzey ve kenar frezeleme

- 8 kesme kenarlı

RD

YUVARLAK

Yüksek ilerlemeli kaba, sığ profil frezeleme, rampalama



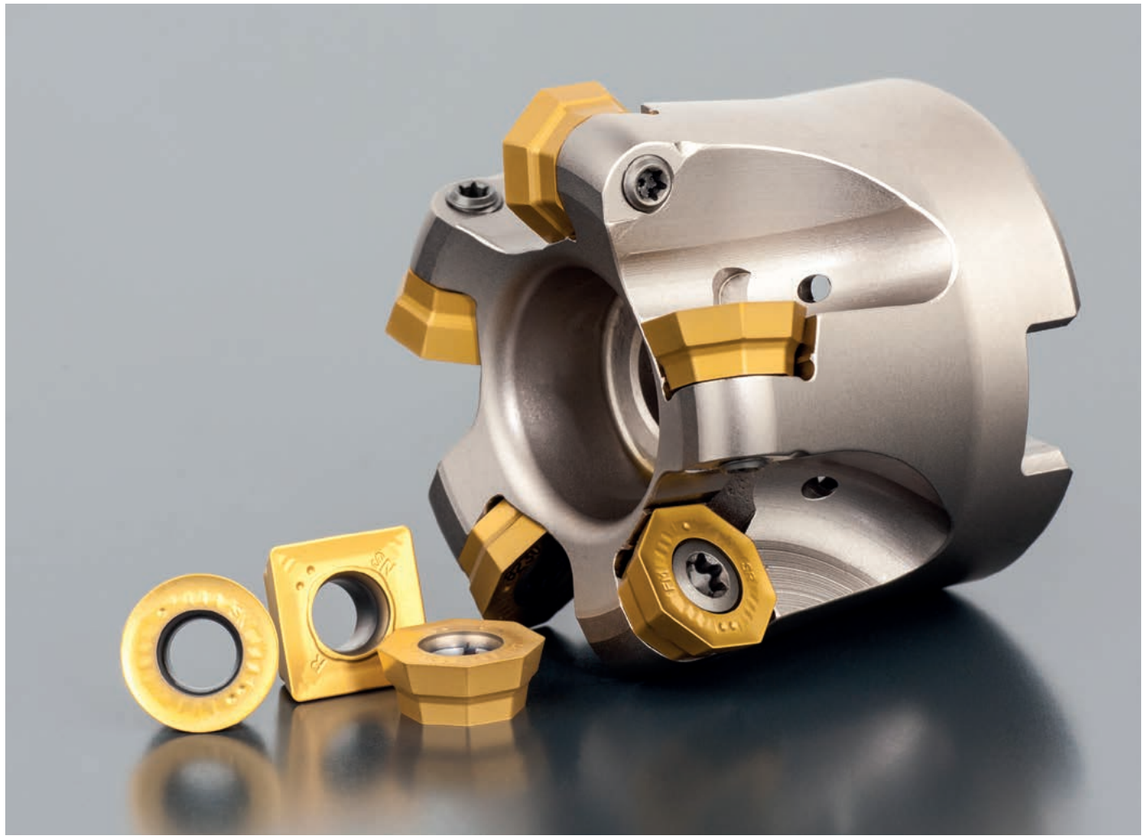
SD

KARE

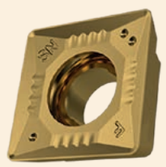
4 kesme kenarına sahip ekonomik kare kenar frezeleme

PRAMET

SOD05 / ODMT 05 FREZELEME TAKIM VE UÇLARI



UÇ GEOMETRİLERİ

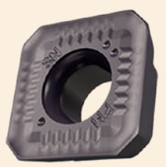


F

F GEOMETRİ

Düşük karbonlu çelikler ve demir dışı malzemeler için birincil seçim

- Pozitif geometri
- Finiş

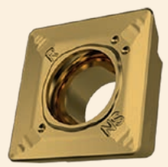


FM

FM GEOMETRİ

Çelikler,paslanmaz çelikler

- Koruyucu pahlı pozitif geometri
- Üniversal - yarı finiş ve orta işleme



R

R GEOMETRİ

Çelikler,döküm demirler

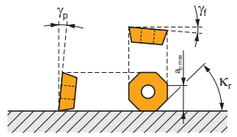
- Olumsuz kesme şartları için uygun

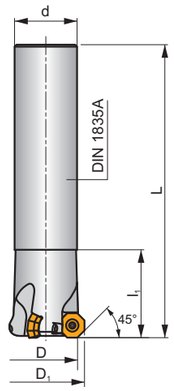
SOD05

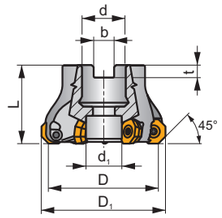
P M K N S

S

κ_r	45°
a_{pmax}	3,0 (10,0) mm





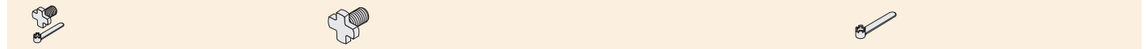


h_m	0,03 - 0,15
h_m	0,03 - 0,12

	ISO	D	D_1	L	d	d_1	l_1	k_r	b	t	γ_f°	γ_p°			max.		kg			
DIN 1835A	**32N3R045A25-SOD05-C**	24,7	32	130	25	–	45	45	–	–	-10	8	3	–	17700	#	0,41	GI326	FA049	–
	40N3R045A32-SOD05-C	32,6	40	150	32	–	45	45	–	–	-7	8	3	–	15800	#	0,83	GI326	FA040	–
	40A03R-S45OD05-C	32,7	40	40	16	14	–	45	8,4	5,6	-10	8	3	–	15800	#	0,16	GI326	FA042	–
	50A04R-S45OD05-C	42,6	50	40	22	18	–	45	10,4	6,3	-7	8	4	–	14100	#	0,24	GI326	FA043	–
	50A05R-S45OD05-C	42,6	50	40	22	18	–	45	10,4	6,3	-7	8	5	–	14100	#	0,25	GI326	FA043	–
	63A05R-S45OD05-C	55,6	63	40	22	18	–	45	10,4	6,3	-7	8	5	#	12600	#	0,36	GI326	FA043	–
ISO 6462 DIN 8030	**63A06R-S45OD05-C**	55,6	63	40	22	18	–	45	10,4	6,3	-7	8	6	#	12600	#	0,36	GI326	FA043	–
	80A06R-S45OD05-C	72,6	80	50	27	38	–	45	12,4	7	-7	8	6	#	11100	#	0,62	GI326	FA041	AC001
	80A08R-S45OD05-C	72,6	80	50	27	38	–	45	12,4	7	-7	8	8	#	11100	#	0,65	GI326	FA041	AC001
	100A07R-S45OD05-C	92,6	100	50	32	45	–	45	14,4	8	-7	8	7	#	10000	#	1,06	GI326	FA041	AC002
	125A08R-S45OD05-C	117,6	125	63	40	56	–	45	16,4	9	-7	8	8	#	8900	#	2,19	GI326	FA041	AC003

GI326	OD.. 0505..	RD.. 1205..	SDKT 1205..	SDMT 1205..SN

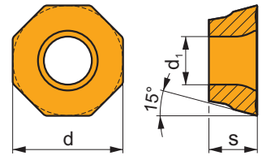
FA040	US 45014-T20P	5	M 5	13	Flag T20P	–	–
FA041	US 45014-T20P	5	M 5	13	–	SDR T20P-T	–
FA042	US 45014-T20P	5	M 5	13	–	SDR T20P-T	HS 90835
FA043	US 45014-T20P	5	M 5	13	–	SDR T20P-T	HS 1030C
FA049	US 45011-T20P	5	M 5	11	Flag T20P	–	–

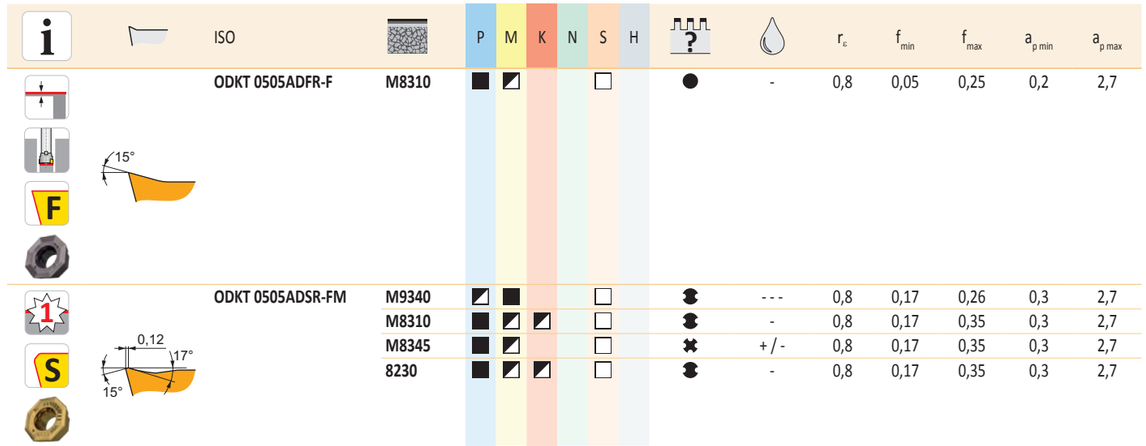


AC001	KS 1230	K.FMH27
AC002	KS 1635	K.FMH32
AC003	KS 2040	K.FMH40

ODKT 05IM

	d	d_1	s
0505	12,700	5,5	5,56

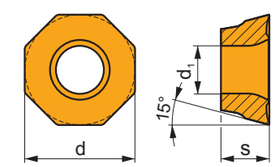




	ISO		P	M	K	N	S	H			r_ε	f_{min}	f_{max}	$a_{p\,min}$	$a_{p\,max}$
	ODKT 0505ADFR-F	**M8310**	■	◪			□		●	-	0,8	0,05	0,25	0,2	2,7
	ODKT 0505ADSR-FM	**M9340**	◪	■			□		●	- - -	0,8	0,17	0,26	0,3	2,7
		M8310	■	◪	◪		□		●	-	0,8	0,17	0,35	0,3	2,7
		M8345	■	◪			□		✖	+ / -	0,8	0,17	0,35	0,3	2,7
		8230	■	◪	◪		□		●	-	0,8	0,17	0,35	0,3	2,7

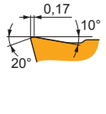
ODMT 05IM

	d	d_1	s
0505	12,700	5,5	5,56



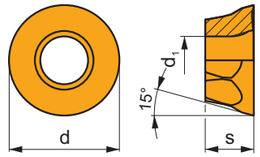
	ISO		P	M	K	N	S	H			r_ε	f_{min}	f_{max}	$a_{p\,min}$	$a_{p\,max}$
	ODMT 0505ADSR-FM	**M9340**	◪	■			□		●	- - -	0,8	0,17	0,26	0,3	3,0
		M8340	■	◪	◪		□		✖	+ / -	0,8	0,17	0,35	0,3	3,0

ISO		P	M	K	N	S	H			r_ε	f_{min}	f_{max}	$a_{p\,min}$	$a_{p\,max}$
ODMT 050508SN-R	**M9340**	◪						✖	- - -	0,8	0,23	0,34	0,3	3,0
	8230	■		■				✖	-	0,8	0,23	0,45	0,3	3,0

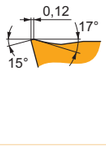


RDGT 12IM

	d	d_1	s
1205	12,700	5,5	5,56

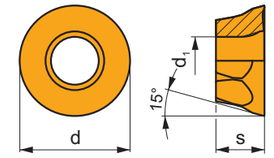


ISO		P	M	K	N	S	H			r_ε	f_{min}	f_{max}	$a_{p\,min}$	$a_{p\,max}$
RDGT 120500FN-F	**M8310**	■	◪			□		●	-	–	0,05	0,25	0,2	6,0
RDGT 120500SN-FM	**M8345**	■	◪			□		●	+ / -	–	0,12	0,35	0,2	6,0
	8230	■	◪	◪		□		●	-	–	0,12	0,35	0,2	6,0

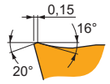


RDMT 12IM

	d	d_1	s
1205	12,700	5,5	5,56

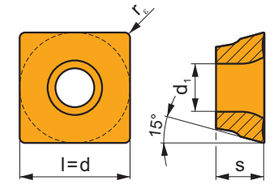


ISO		P	M	K	N	S	H			r_ε	f_{min}	f_{max}	$a_{p\,min}$	$a_{p\,max}$
RDMT 120500SN-R	**M9340**	◪						⬢	- - -	–	0,17	0,34	0,3	6,0
	M8340	■		◪				⬢	+ / -	–	0,17	0,45	0,3	6,0
	8230	■	◪			□		⬢	- - -	–	0,17	0,45	0,3	6,0

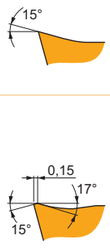


SDKT 12IM

	d	d_1	l	s
1205	12,700	5,5	12,700	5,56

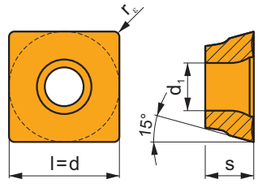


ISO		P	M	K	N	S	H			r_ε	f_{min}	f_{max}	$a_{p\,min}$	$a_{p\,max}$
SDKT 1205PDFR-F	**8215**	■	◪		◪	□		●	-	0,8	0,05	0,25	0,2	10,0
SDKT 1205PDSR-FM	**M8345**	■	◪			□		⬢	+ / -	0,8	0,15	0,35	0,2	10,0
	8230	■	◪	◪		□		⬢	-	0,8	0,15	0,35	0,2	10,0
SDKT 1205AESN-FM	**M8345**	■	◪			□		✖	+ / -	–	0,15	0,35	0,2	10,0
	8230	■	◪	◪		□		⬢	-	–	0,15	0,35	0,2	10,0



SDMT 12IM

	d	d_1	l	s
1205	12,700	5,5	12,700	5,56



	ISO		P	M	K	N	S	H			r_ε	f_{min}	f_{max}	$a_{p\,min}$	$a_{p\,max}$
S	SDMT 120508SN-F	M8310	■	◪			□		●	-	0,8	0,15	0,30	0,3	10,0
		8230	■	◪		□	□		●	-	0,8	0,15	0,30	0,3	10,0
S	SDMT 120508SN-FM	M8345	■	◪			□		●	+ / -	0,8	0,15	0,35	0,3	10,0
✖	SDMT 120508SN-R	M9340	◪						✖	- - -	0,8	0,17	0,34	0,3	10,0
		M8345	■						✖	+ / -	0,8	0,17	0,45	0,3	10,0
		8230	■		■				✖	-	0,8	0,17	0,45	0,3	10,0
S	SDMT 1205AESN-R	M8340	■		◪				✖	+ / -	–	0,17	0,45	0,3	10,0
		8230	■		■				✖	-	–	0,17	0,45	0,3	10,0

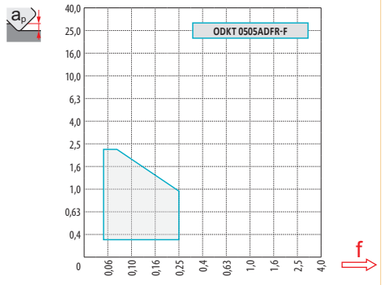
ISO		f_{min}	f_{max}	M9340	M8310	M8340	M8345	8215	8230
P	●	0,07	0,30	320	329	293	212	315	288
	●	0,07	0,25	284	297	257	180	275	252
	✖	0,07	0,15	252	266	221	153	234	216
M	●	0,07	0,25	189	198	176	126	189	171
	●	0,07	0,20	171	176	153	108	162	153
	✖	0,07	0,15	149	158	131	90	140	131
K	●	0,07	0,30	-	311	275	-	297	275
	●	0,07	0,25	-	284	243	-	261	239
	✖	0,07	0,15	-	252	212	-	221	207
N	●	0,07	0,30	-	-	-	-	792	725
	●	0,07	0,25	-	-	-	-	689	639
	✖	0,07	0,15	-	-	-	-	590	549
S	●	0,07	0,25	95	99	86	63	95	86
	●	0,07	0,20	86	86	77	54	81	77
	✖	0,07	0,15	72	77	63	45	68	63

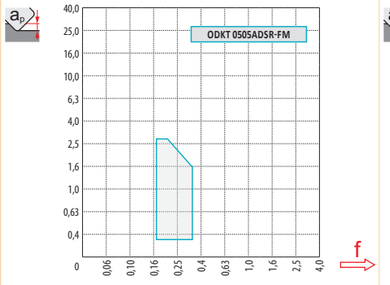
a_e / D	0,05	0,10	0,15	0,20	0,25	0,30	0,40	0,50	0,60	0,70	0,75	0,80	0,90	1,00
X.V	1,48	1,35	1,27	1,22	1,19	1,16	1,11	1,08	1,05	1,03	1,00	1,00	1,00	1,00
⇨X.f	2,87	2,05	1,69	1,48	1,33	1,23	1,09	0,75	0,94	0,90	0,89	0,88	0,88	1,00
⇨X.f	0,64	0,64	0,64	0,64	0,64	0,65	0,65	0,67	0,68	0,71	0,72	0,74	0,79	1,00

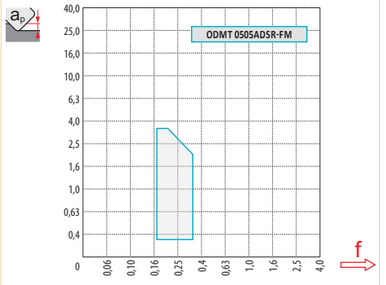
	ODKT 05-F	ODKT 05-FM	ODMT 05-FM	ODMT 05-R
r_ε	0,4	0,8	0,8	0,8
a	1,00	1,00	–	–

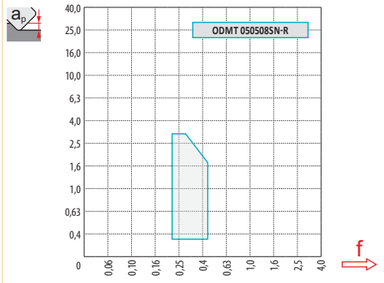
	RDGT 12-F	RDGT 12-FM	RDGT 12-R
r_ε	6,35	6,35	6,35
a	–	–	–

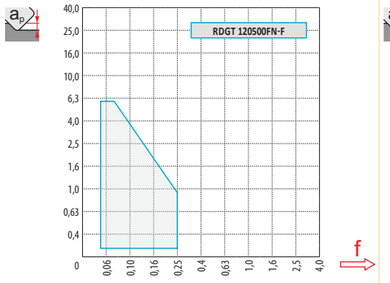
	SDKT 12-F	SDKT 12-FM	SDMT 12-F	SDMT 12-R
r_ε	0,8	0,8	0,8	0,8
a	2,30	2,30	–	–

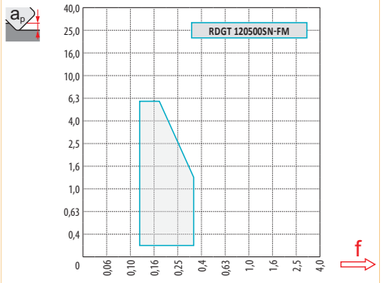


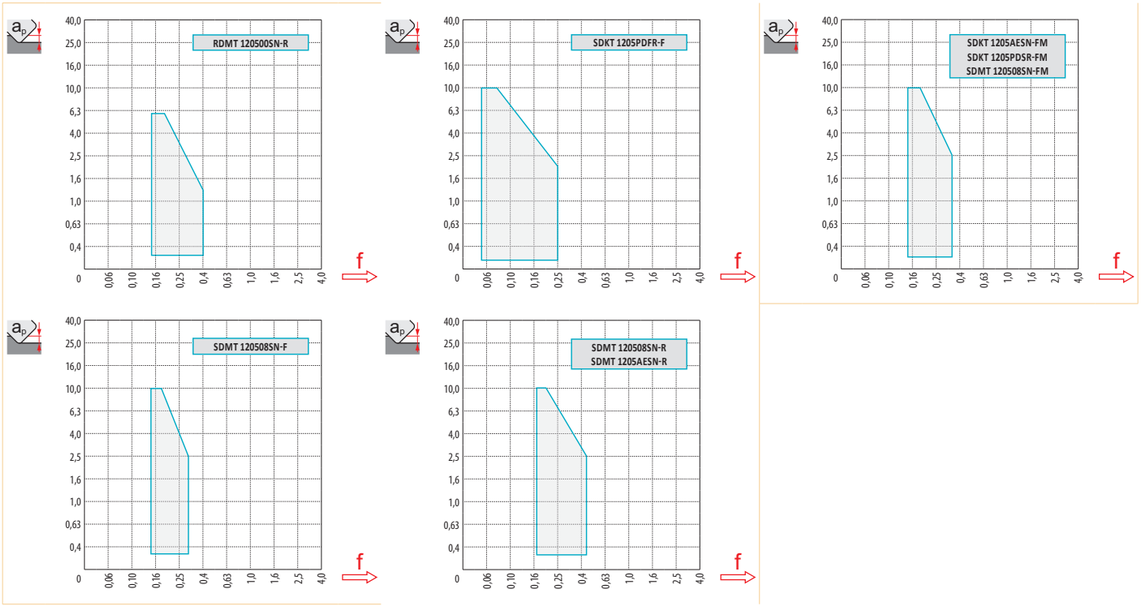












R

D	ap 0,25	0,50	0,60	0,70	0,80	1,00	1,25	1,50	2,00	3,00	4,00	5,00	6,00
32	23,43	24,80	25,23	25,62	25,99	26,63	27,33	27,94	28,94	30,39	31,31	31,83	32,00
40	31,43	32,80	33,23	33,62	33,99	34,63	35,33	35,94	36,94	38,39	39,31	39,83	40,00
50	41,43	42,80	43,23	43,62	43,99	44,63	45,33	45,94	46,94	48,39	49,31	49,83	50,00
63	54,43	55,80	56,23	56,62	56,99	57,63	58,33	58,94	59,94	61,39	62,31	62,83	63,00
80	71,43	72,80	73,23	73,62	73,99	74,63	75,33	75,94	76,94	78,39	79,31	79,83	80,00
100	91,43	92,80	93,23	93,62	93,99	94,63	95,33	95,94	96,94	98,39	99,31	99,83	100,00
125	116,43	117,80	118,23	118,62	118,99	119,63	120,33	120,94	121,94	123,39	124,31	124,83	125,00

D	X.v	f_{max}
32	1,36	0,28
40	1,40	0,31
50	1,43	0,33
63	1,47	0,37
80	1,52	0,42
100	1,57	0,47
125	1,62	0,52

S

max
10,0

S

ap	1,0	5,0	10,0
1 f	0,35	0,21	0,15

D	O αmax °	O ap/l	R αmax °	R ap/l
50	4,1	7,05/100	3,8	6,2/95
63	2,7	4,6/100	2,5	4,25/100
80	1,8	3/100	1,7	2,85/100
100	1,7	2,85/100	1,6	2,65/100
125	0,7	1,1/100	0,3	0,4/100

D	O dmin	O dmax	O smax Dmin	O smax dmax	R dmin	R dmax	R smax Dmin	R smax dmax
50	78,0	100,0	4,5	4,5	78,0	100,0	4,5	4,5
50	78,0	100,0	4,5	4,5	78,0	100,0	4,5	4,5
63	105,0	126,0	4,5	4,5	105,0	126,0	4,5	4,5
63	105,0	126,0	4,5	4,5	105,0	126,0	4,5	4,5
80	138,0	160,0	4,5	4,5	138,0	160,0	4,5	4,5
80	138,0	160,0	4,5	4,5	138,0	160,0	4,5	4,5
100	178,0	200,0	4,5	4,5	178,0	200,0	4,5	4,5
125	229,0	250,0	4,0	4,5	230,0	250,0	4,0	4,5

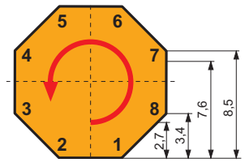
ap	O	R
	2,4	2,3

PRAMET

R	R											
D	µm	3	5	10	15	20	30	40	50	60	80	100
32	f_e	0,620	0,800	1,131	1,386	1,600	1,960	2,263	2,530	2,771	3,200	3,578
40		0,693	0,894	1,265	1,549	1,789	2,191	2,530	2,828	3,098	3,578	4,000
50		0,775	1,000	1,414	1,732	2,000	2,449	2,828	3,162	3,464	4,000	4,472
63		0,869	1,122	1,587	1,944	2,245	2,750	3,175	3,550	3,888	4,490	5,020
80		0,980	1,265	1,789	2,191	2,530	3,098	3,578	4,000	4,382	5,060	5,657
100		1,095	1,414	2,000	2,449	2,828	3,464	4,000	4,472	4,899	5,657	6,325
125		1,225	1,581	2,236	2,739	3,162	3,873	4,472	5,000	5,477	6,325	7,071

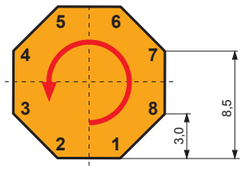
r_ε	µm	3	5	10	15	20	30	40	50	60	80	100
6,0	f_e	0,379	0,490	0,693	0,849	0,980	1,200	1,386	1,549	1,697	1,960	2,191

ODKT 05

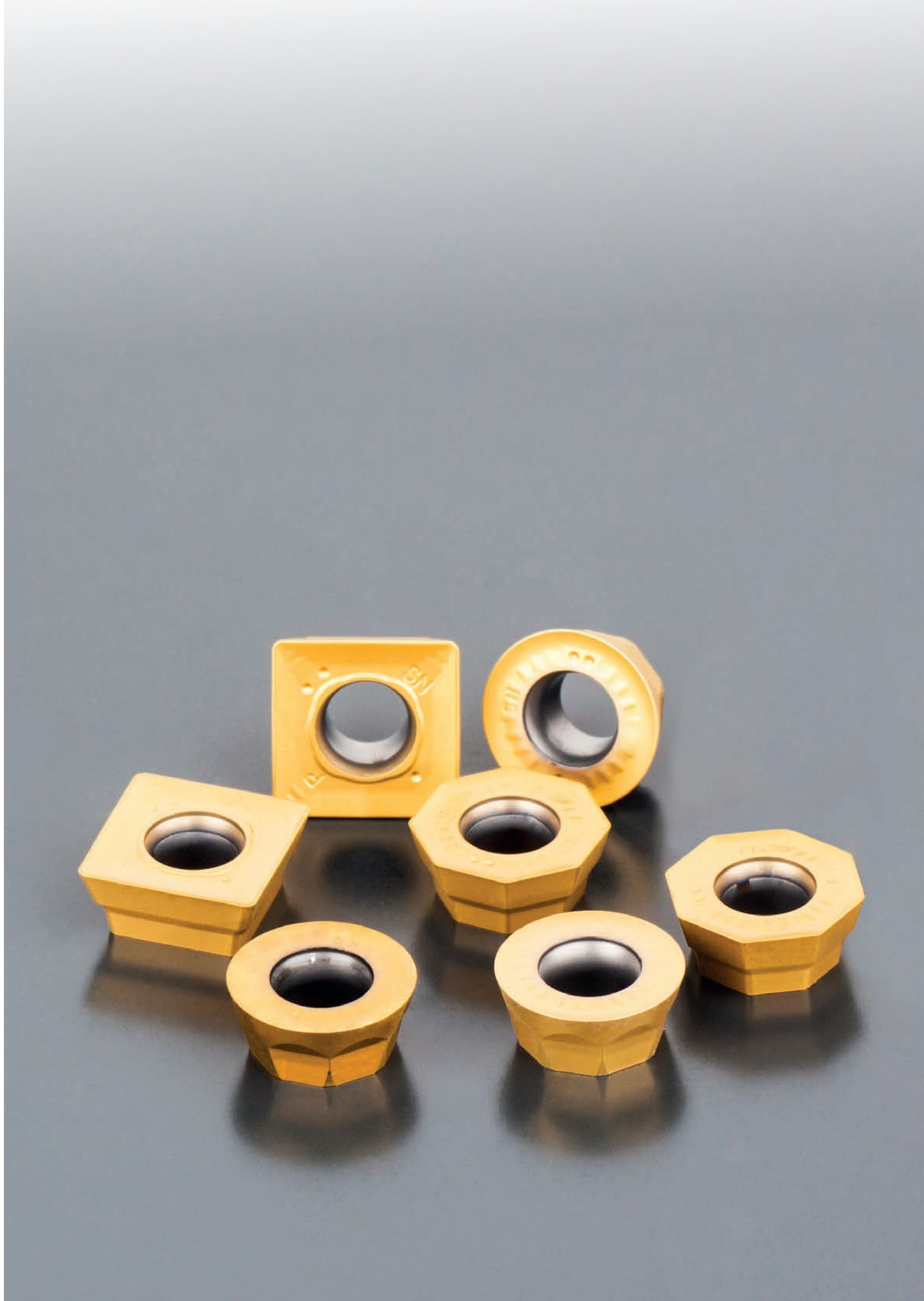


a_p	
–> 2,7	8
–> 3,4	7
–> 7,6	4
–> 8,5	2

ODMT 05



a_p	
–> 3,0	8
–> 8,5	4



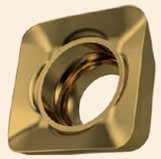
EKONOMİK KENAR FREZELEME TAKIMLARI

Ekonomik frezeleme ürün yelpazesi düşük kesme derinlikleri için küçük çaplı takımlar ile genişletilmiştir.
Genel işleme için ekonomik 4 kesme kenarlı yeni SOMT uçlar.

ÖZELLİKLER & FAYDALAR

- Küçük çaplı takımlar - geniş aralık 12-40 mm
- 4 kesme kenarlı tek taraflı
- Uç radusu 0,4 ve 0,8 mm
- 4,5 mm'ye varan kesme derinliği
- Çeliklerin ve paslanmaz çeliklerin frezelenmesi için yüksek performans kaliteleri
- Kenar,yüzey ve sığ kanal frezeleme ve dalma için
- **Düşük maliyetler -** kesme kenarı başı fiyat
- **Verimlilik -** yüksek ağız sayısı
- Hafif makinelerde küçük parçaların frezelenmesi için uygundur
- Torna-frezeleme için ideal takım çap aralığı

UÇ GEOMETRİLERİ



M

M GEOMETRİ

Özellikle hafif ve orta işlemeler için uygundur.

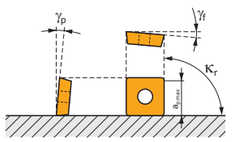
- Özellikle çelikler, paslanmaz çelikler ve dökme demir için uygundur.
- Dar pozitif T kenarlı keskin geometri

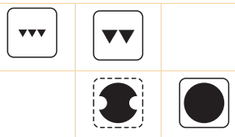
SSO05O

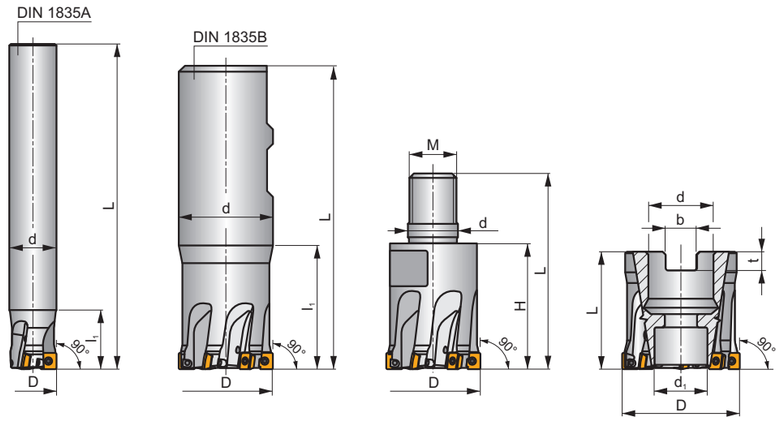
P M K N S

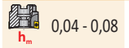
S

κ_r	90°
a_{pmax}	4,5 mm









0,04 - 0,08

0,04 - 0,06

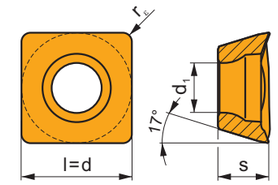
ISO	D	L	d	d_1	l_1	H	M	k_r	b	t	γ_f°	γ_p°	max.	kg
12A2R018A10-SSO05O-C	12	90	10	–	18	–	–	90	–	–	-8	8	2	–
12A2R018A12-SSO05O-C	12	90	12	–	18	–	–	90	–	–	-8	8	2	–
16A3R020A14-SSO05O-C	16	110	14	–	20	–	–	90	–	–	-5	8	3	–
16A3R020A16-SSO05O-C	16	110	16	–	20	–	–	90	–	–	-5	8	3	–
20A4R020A18-SSO05O-C	20	125	18	–	20	–	–	90	–	–	-5	8	4	#
20A4R020A20-SSO05O-C	20	125	20	–	20	–	–	90	–	–	-5	8	4	#
25A5R024A25-SSO05O-C	25	140	25	–	24	–	–	90	–	–	-5	8	5	#
20A4R032B20-SSO05O-C	20	83	20	–	32	–	–	90	–	–	-5	8	4	#
25A5R042B25-SSO05O-C	25	99	25	–	42	–	–	90	–	–	-5	8	5	#
32A6R042B32-SSO05O-C	32	103	32	–	42	–	–	90	–	–	-4,5	8	6	#
40A8R050B32-SSO05O-C	40	111	32	–	50	–	–	90	–	–	-4	8	8	#
12A2R020M06-SSO05O-C	12	35	6,5	–	–	20	M6	90	–	–	-8	8	2	–
16A3R023M08-SSO05O-C	16	41	8,5	–	–	23	M8	90	–	–	-5	8	3	–
20A4R030M10-SSO05O-C	20	49	10,5	–	–	30	M10	90	–	–	-5	8	4	#
25A5R035M12-SSO05O-C	25	57	12,5	–	–	35	M12	90	–	–	-5	8	5	#
32A6R043M16-SSO05O-C	32	66	17	–	–	43	M16	90	–	–	-4,5	8	6	#
32A06R-S90SO05O-C	32	32	16	12,4	–	–	–	90	8,4	5,6	-4,5	8	6	#
40A08R-S90SO05O-C	40	40	22	18,1	–	–	–	90	10,4	6,3	-4	8	8	#

		Nm							
SQ330	US 62204-T07P	0,8	M 2,2	4,1	Flag T07P	–	–	–
SQ332	US 62204-T07P	0,8	M 2,2	4,1	–	D-T07P/T09P	FG-15	HS 90835
SQ333	US 62204-T07P	0,8	M 2,2	4,1	–	D-T07P/T09P	FG-15	HS 1030C

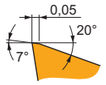
GI327	SOMT 0502..

SOMT 05

	d	d_1	l	s
0502	5,570	2,5	5,570	2,63



ISO		P	M	K	N	S	H	?		r_ε	f_{min}	f_{max}	$a_{p\,min}$	$a_{p\,max}$
SOMT 050204SR-M	**M9340**	◪	■			◪		●	- - -	0,4	0,03	0,09	0,4	4,5
	M6330	◪	■			◪		⬣	-	0,4	0,03	0,12	0,4	4,5
	M8310	■	◪	◪		◪		●	-	0,4	0,03	0,12	0,4	4,5
	M8340	■	■	◪		◪		⬣	+ / -	0,4	0,03	0,12	0,4	4,5
	8215	■	◪	◪	□	◪		●	-	0,4	0,03	0,12	0,4	4,5
SOMT 050208SR-M	**M6330**	◪	■			◪		⬣	-	0,8	0,03	0,12	0,4	4,5
	M8340	■	■	◪		◪		⬣	+ / -	0,8	0,03	0,12	0,4	4,5
	8215	■	◪	◪	□	◪		⬣	-	0,8	0,03	0,12	0,4	4,5

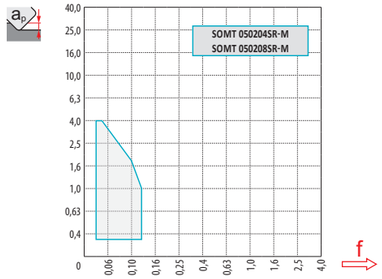


ISO		f_{min}	f_{max}	M9340	M6330	M8310	M8340	8215
P	●	0,03	0,12	280	255	290	260	280
	⬣	0,03	0,08	250	225	260	225	240
	✖	0,03	0,05	220	200	235	195	205
M	●	0,03	0,12	165	165	175	155	165
	⬣	0,03	0,08	150	145	155	135	140
	✖	0,03	0,05	130	125	140	115	120
K	●	0,03	0,12	-	-	275	240	260
	⬣	0,03	0,08	-	-	250	215	230
	✖	0,03	0,05	-	-	220	185	195
N	●	0,03	0,12	-	-	-	-	1010
	⬣	0,03	0,08	-	-	-	-	880
	✖	0,03	0,05	-	-	-	-	450
S	●	0,03	0,12	80	80	85	75	80
	⬣	0,03	0,08	75	70	75	65	70
	✖	0,03	0,05	60	60	65	55	60

PRAMET

a_e / D	0,05	0,10	0,15	0,20	0,25	0,30	0,40	0,50	0,60	0,70	0,75	0,80	0,90	1,00
X.V	1,48	1,35	1,27	1,22	1,19	1,16	1,11	1,08	1,05	1,03	1,00	1,00	1,00	1,00
⇨X.f	2,87	2,05	1,69	1,48	1,33	1,23	1,09	0,75	0,94	0,90	0,89	0,88	0,88	1,00
⇨X.f	0,64	0,64	0,64	0,64	0,64	0,65	0,65	0,67	0,68	0,71	0,72	0,74	0,79	1,00

	SOMT 05-M	
r_ε	0,4	0,8
a	–	–



1,5

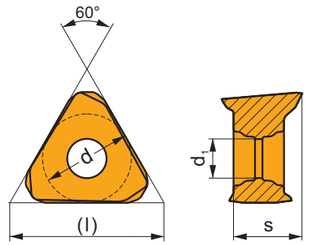
a_p	1,0	2,0	4,0
1 ⇨f	0,12	0,08	0,03

FREZELEME UÇLARI

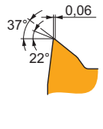
PRAMET

TNGX 10

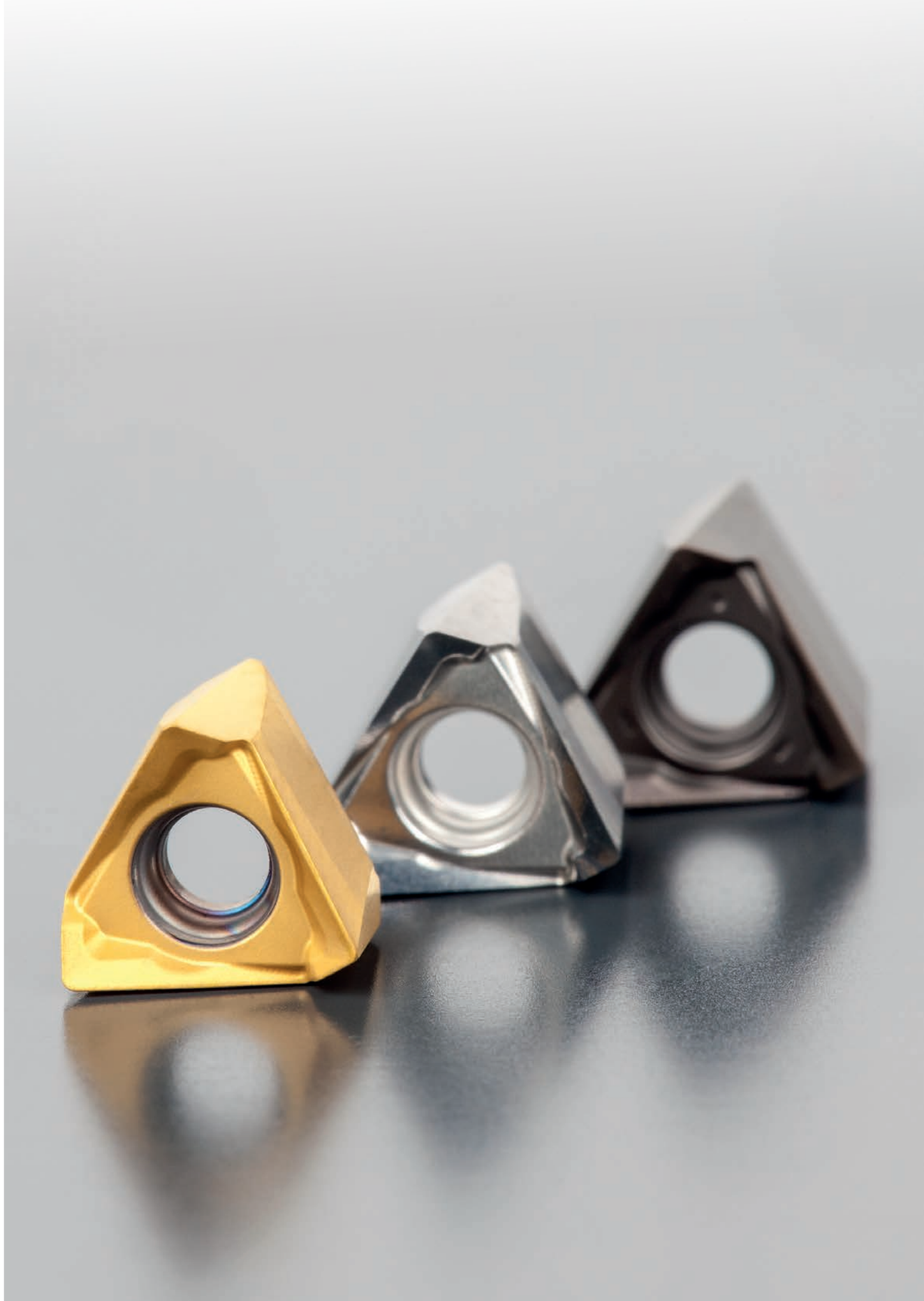
	d	d_1	l	s
1004	6,000	2,8	10,39	4,69



2017
M127

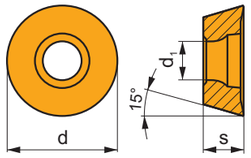
	ISO		P	M	K	N	S	H			r_ε	f_{min}	f_{max}	$a_{p\,min}$	$a_{p\,max}$
	TNGX 100404SR-F	**M6330**	◪	■			◪		●	-	0,4	0,03	0,11	0,1	5,0
	**TNGX 100408SR-F**	**M6330**	◪	■			◪		●	-	0,8	0,03	0,11	0,1	5,0
	TNGX 100408SR-M	**M6330**	◪	■			◪		⬢	-	0,8	0,05	0,15	0,3	5,0

ISO		f_{min}	f_{max}	M6330
P	●	0,05	0,15	224
	⬢	0,05	0,11	200
	✖	0,05	0,08	175
M	●	0,05	0,12	147
	⬢	0,05	0,05	130
	✖	0,05	0,06	112
K	●	0,05	0,15	-
	⬢	0,05	0,10	-
	✖	0,05	0,08	-
N	●	0,05	0,20	-
	⬢	0,05	0,15	-
	✖	0,05	0,10	-
S	●	0,05	0,12	74
	⬢	0,05	0,08	63
	✖	0,05	0,06	56

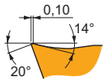


RDMT 07

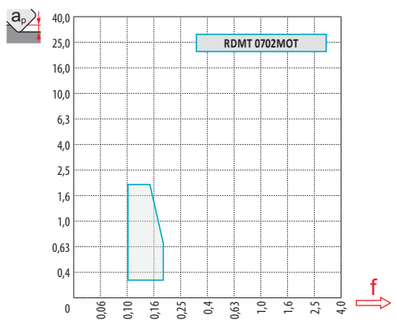
	d	d_1	s
0702	7,000	2,8	2,38



ISO		P	M	K	N	S	H			r_ε	f_{min}	f_{max}	$a_{p\,min}$	$a_{p\,max}$
RDMT 0702MOT	M8325	■	◪	□				⬢	-	–	0,10	0,20	0,3	2,0

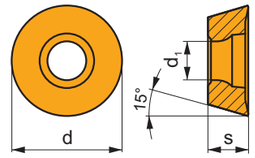


ISO		f_{min}	f_{max}	M8325
P	●	0,10	0,20	308
	⬢	0,10	0,17	275
	✖	0,10	0,15	242
M	●	0,10	0,20	182
	⬢	0,10	0,17	165
	✖	0,10	0,15	143
K	●	0,10	0,20	292
	⬢	0,10	0,17	259
	✖	0,10	0,15	231
N	●	0,10	0,20	-
	⬢	0,10	0,17	-
	✖	0,10	0,15	-
S	●	0,10	0,20	-
	⬢	0,10	0,15	-
	✖	0,10	0,10	-
H	●	0,10	0,20	-
	⬢	0,10	0,15	-
	✖	0,10	0,10	-

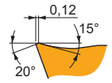


RDMT 10

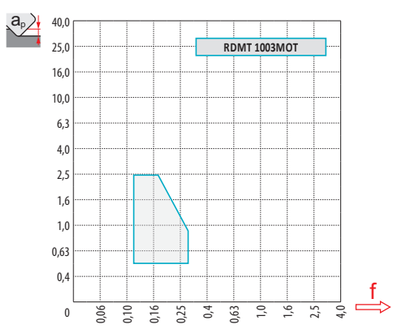
	d	d_1	s
1003	10,000	3,9	3,18



ISO		P	M	K	N	S	H			r_ε	f_{min}	f_{max}	$a_{p\,min}$	$a_{p\,max}$
RDMT 1003MOT	M8325	■	◪	□				⬢	-	–	0,12	0,30	0,5	2,5
	M8345	■	◪					✖	+ / -	–	0,12	0,30	0,5	2,5

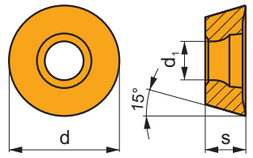


ISO		f_{min}	f_{max}	M8325	M8345
P	●	0,10	0,30	308	259
	⬢	0,10	0,25	275	220
	✖	0,10	0,15	242	187
M	●	0,10	0,30	182	154
	⬢	0,10	0,25	165	132
	✖	0,10	0,15	143	110
K	●	0,10	0,30	292	-
	⬢	0,10	0,25	259	-
	✖	0,10	0,15	231	-
N	●	0,10	0,30	-	-
	⬢	0,10	0,25	-	-
	✖	0,10	0,15	-	-
S	●	0,10	0,30	-	77
	⬢	0,10	0,25	-	66
	✖	0,10	0,15	-	55
H	●	0,10	0,30	-	-
	⬢	0,10	0,20	-	-
	✖	0,10	0,12	-	-



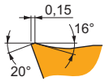
RDMT 12

	d	d_1	s
12T3	12,000	3,9	3,97

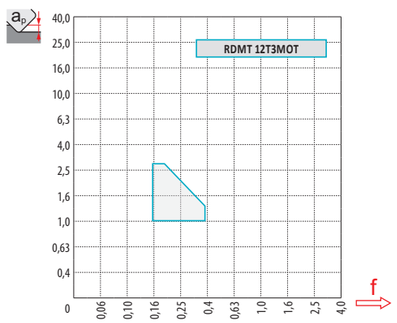


ISO		P	M	K	N	S	H			r_ε	f_{min}	f_{max}	$a_{p\,min}$	$a_{p\,max}$
RDMT 12T3MOT	M8325	■	◪	□				●	-	–	0,15	0,35	1,0	3,0
	M8345	■	◪					✖	+ / -	–	0,15	0,35	1,0	3,0

HFC, S

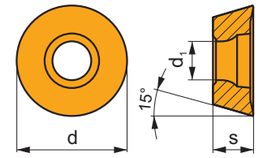


ISO		f_{min}	f_{max}	M8325	M8345
P	●	0,10	0,35	308	259
	●	0,10	0,30	275	220
	✖	0,10	0,20	242	187
M	●	0,10	0,35	182	154
	●	0,10	0,30	165	132
	✖	0,10	0,20	143	110
K	●	0,10	0,35	292	-
	●	0,10	0,30	259	-
	✖	0,10	0,20	231	-
N	●	0,10	0,35	-	-
	●	0,10	0,30	-	-
	✖	0,10	0,20	-	-
S	●	0,10	0,30	-	77
	●	0,10	0,25	-	66
	✖	0,10	0,15	-	55
H	●	0,10	0,30	-	-
	●	0,10	0,20	-	-
	✖	0,10	0,15	-	-



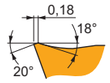
RDMT 16

	d	d_1	s
1604	16,000	5,2	4,76

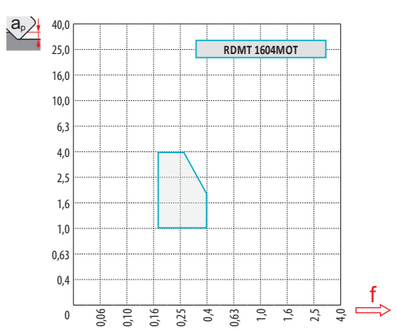


ISO		P	M	K	N	S	H			r_ε	f_{min}	f_{max}	$a_{p\,min}$	$a_{p\,max}$
RDMT 1604MOT	M8325	■	◪	□				●	-	–	0,18	0,40	1,0	4,0
	M8345	■	◪					✖	+ / -	–	0,18	0,40	1,0	4,0

HFC, S



ISO		f_{min}	f_{max}	M8325	M8345
P	●	0,10	0,40	308	259
	●	0,10	0,30	275	220
	✖	0,10	0,18	242	187
M	●	0,10	0,30	182	154
	●	0,10	0,25	165	132
	✖	0,10	0,17	143	110
K	●	0,10	0,40	292	-
	●	0,10	0,30	259	-
	✖	0,10	0,18	231	-
N	●	0,10	0,40	-	-
	●	0,10	0,30	-	-
	✖	0,10	0,18	-	-
S	●	0,10	0,30	-	77
	●	0,10	0,25	-	66
	✖	0,10	0,17	-	55
H	●	0,10	0,25	-	-
	●	0,10	0,20	-	-
	✖	0,10	0,15	-	-



PRAMET

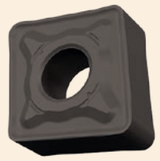
NRM

PASLANMAZ ÇELİKLERİN KABA TORNALANMASI İÇİN NEGATİF UÇLAR

Yeni negatif uçlar, paslanmaz çelikler ve yumuşak çeliklerin kaba ve yarı-kaba tornalama uygulamaları için geliştirildi.
Hem çift taraflı hem büyük tek taraflı uçlar için NRM talaş kırıcı mevcuttur.

ÖZELLİKLER & FAYDALAR

- Geniş kesme derinliği kapsamı
- Geniş talaş kanalı
- Çift taraflı uçlar kaba ve yarı kaba uygulamalar için kullanılabilir
- Tek taraflı uçlar daha düşük ilerleme ve kesme derinlikleri için kullanılabilir
- İş parçası sertleşmesi riski olmaksızın paslanmaz çeliklerin kaba tornalanması
- **Seri üretim** için tasarlanmıştır - yüksek performans ve daha yüksek ilerlemeler
- Daha düşük ilerlemelerde dahi paslanmaz çeliklerde **mükemmel talaş kırma**
- Geniş uygulama alanında **iyi talaş tahliyesi**



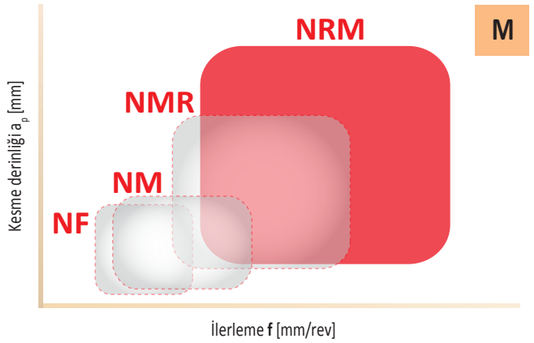
NRM

NRM TALAŞ KIRICI

Kaba ve yarı-kaba

- Geniş T kenarlı pozitif geometri
- Paslanmaz çelikler ve yumuşak çelikler için
- Çift taraflı ve tek taraflı uçlar

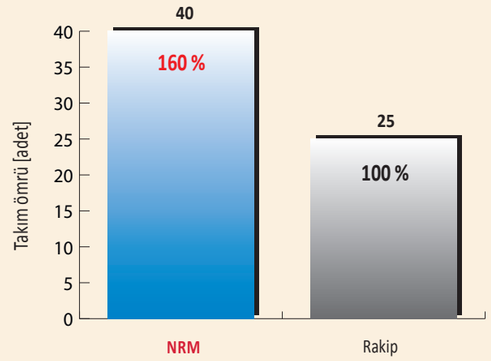
UYGULAMA ALANI



ÖRNEK UYGULAMA

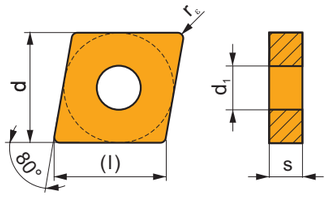
Malzeme:	DIN 1.4301
Malzeme grubu:	M
Kesici uç:	CNMG 120408-NRM: T7335

Kesme hızı	v_c	150	m/dk
İlerleme	f	0,27	mm/dev
Kesme derinliği	a_p	4	mm



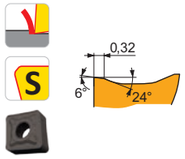
CNMG

	d	d_1	l	s
1204	12,700	5,16	12,9	4,76
1606	15,875	6,35	16,1	6,35
1906	19,050	7,94	19,3	6,35
2509	25,400	9,12	25,8	9,525



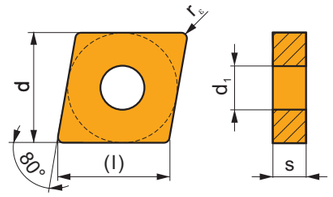
2017 T50

ISO		P	M	K	N	S	H			r_ε	f_{min}	f_{max}	$a_{p\,min}$	$a_{p\,max}$
CNMG 120408-NRM	**T7325**	◪	■			□		●	++	0,8	0,23	0,55	0,8	7,0
	T7335	◪	■			□		●	++	0,8	0,23	0,55	0,8	7,0
	T9315	■						●	++	0,8	0,23	0,55	0,8	7,0
CNMG 120412-NRM	**T7325**	◪	■			□		●	++	1,2	0,25	0,70	1,2	7,0
	T7335	◪	■			□		●	+++	1,2	0,25	0,70	1,2	7,0
	T9315	■						●	++	1,2	0,25	0,70	1,2	7,0
CNMG 120416-NRM	**T7325**	◪	■			□		●	++	1,6	0,30	0,75	1,6	7,0
	T7335	◪	■			□		●	+++	1,6	0,30	0,75	1,6	7,0
	T9315	■						●	++	1,6	0,30	0,75	1,6	7,0
CNMG 160608-NRM	**T7325**	◪	■			□		●	++	0,8	0,27	0,60	0,8	8,0
	T7335	◪	■			□		●	+++	0,8	0,27	0,60	0,8	8,0
	T9315	■						●	++	0,8	0,27	0,60	0,8	8,0
CNMG 160612-NRM	**T7325**	◪	■			□		●	++	1,2	0,28	0,70	1,2	8,0
	T7335	◪	■			□		●	+++	1,2	0,28	0,70	1,2	8,0
	T9315	■						●	++	1,2	0,28	0,70	1,2	8,0
CNMG 160616-NRM	**T7325**	◪	■			□		●	++	1,6	0,30	0,80	1,6	8,0
	T7335	◪	■			□		●	+++	1,6	0,30	0,80	1,6	8,0
	T9315	■						●	++	1,6	0,30	0,80	1,6	8,0
CNMG 190608-NRM	**T7325**	◪	■			□		●	++	0,8	0,28	0,60	0,8	10,0
	T7335	◪	■			□		●	+++	0,8	0,28	0,60	0,8	10,0
	T9315	■						●	++	0,8	0,28	0,60	0,8	10,0
CNMG 190612-NRM	**T7325**	◪	■			□		●	++	1,2	0,32	0,70	1,2	10,0
	T7335	◪	■			□		●	+++	1,2	0,32	0,70	1,2	10,0
	T9315	■						●	++	1,2	0,32	0,70	1,2	10,0
CNMG 190616-NRM	**T7325**	◪	■			□		●	+++	1,6	0,32	0,80	1,6	10,0
	T7335	◪	■			□		●	+++	1,6	0,32	0,80	1,6	10,0
	T9315	■						●	++	1,6	0,32	0,80	1,6	10,0
CNMG 250924-NRM	**T7325**	◪	■			□		✖	+++	2,4	0,35	1,00	2,0	15,0
	T7335	◪	■			□		✖	+++	2,4	0,35	1,00	2,0	15,0
	T9315	■						●	+++	2,4	0,35	1,00	2,0	15,0



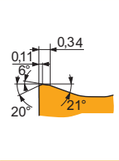
CNMM

	d	d_1	l	s
2509	25,400	9,12	25,8	9,525



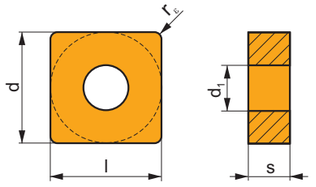
2017 T57

ISO		P	M	K	N	S	H			r_ε	f_{min}	f_{max}	$a_{p\,min}$	$a_{p\,max}$
CNMM 250924-NRM	**T7325**	◪	■			□		✖	+++	2,4	0,35	1,00	2,0	16,0
	T7335	◪	■			□		✖	+++	2,4	0,35	1,00	2,0	16,0
	T9315	■						●	+++	2,4	0,35	1,00	2,0	16,0



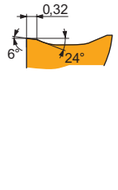
SNMG

	d	d_1	l	s
1204	12,700	5,16	12,700	4,76
1506	15,875	6,35	15,875	6,35
1906	19,050	7,94	19,050	6,35
2507	25,400	9,12	25,400	7,94
2509	25,400	9,12	25,400	9,525

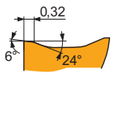


2017 T91

ISO		P	M	K	N	S	H			r_ε	f_{min}	f_{max}	$a_{p\,min}$	$a_{p\,max}$
SNMG 120408-NRM	**T7325**	◪	■			□		●	++	0,8	0,23	0,55	0,8	7,0
	T7335	◪	■			□		●	++	0,8	0,23	0,55	0,8	7,0
	T9315	■						●	++	0,8	0,23	0,55	0,8	7,0
SNMG 120412-NRM	**T7325**	◪	■			□		●	++	1,2	0,25	0,70	1,2	7,0
	T7335	◪	■			□		●	++	1,2	0,25	0,70	1,2	7,0
	T9315	■						●	++	1,2	0,25	0,70	1,2	7,0
SNMG 150612-NRM	**T7325**	◪	■			□		●	++	1,2	0,28	0,70	1,2	8,0
	T7335	◪	■			□		●	+++	1,2	0,28	0,70	1,2	8,0
	T9315	■						●	++	1,2	0,28	0,70	1,2	8,0
SNMG 150616-NRM	**T7325**	◪	■			□		●	++	1,6	0,30	0,80	1,6	8,0
	T7335	◪	■			□		●	+++	1,6	0,30	0,80	1,6	8,0
	T9315	■						●	++	1,6	0,30	0,80	1,6	8,0
SNMG 190612-NRM	**T7325**	◪	■			□		●	++	1,2	0,32	0,70	1,2	10,0
	T7335	◪	■			□		●	+++	1,2	0,32	0,70	1,2	10,0
	T9315	■						●	++	1,2	0,32	0,70	1,2	10,0
SNMG 190616-NRM	**T7325**	◪	■			□		●	++	1,6	0,32	0,80	1,6	10,0
	T7335	◪	■			□		●	+++	1,6	0,32	0,80	1,6	10,0
	T9315	■						●	++	1,6	0,32	0,80	1,6	10,0
SNMG 250724-NRM	**T7325**	◪	■			□		✖	++	2,4	0,35	1,00	2,0	14,0
	T7335	◪	■			□		✖	+++	2,4	0,35	1,00	2,0	14,0
	T9315	■						●	++	2,4	0,35	1,00	2,0	14,0
SNMG 250924-NRM	**T7325**	◪	■			□		✖	++	2,4	0,35	1,00	2,0	15,0

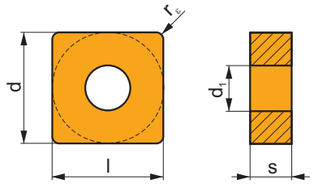


ISO		P	M	K	N	S	H			r_ε	f_{min}	f_{max}	$a_{p\,min}$	$a_{p\,max}$
SNMG 250924-NRM	**T7335**	■	■			□		✖	+++	2,4	0,35	1,00	2,0	15,0
	T9315	■						●	++	2,4	0,35	1,00	2,0	15,0



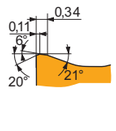
SNMM

	d	d_1	l	s
2507	25,400	9,12	25,400	7,94
2509	25,400	9,12	25,400	9,525

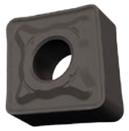


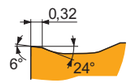
2017 T95

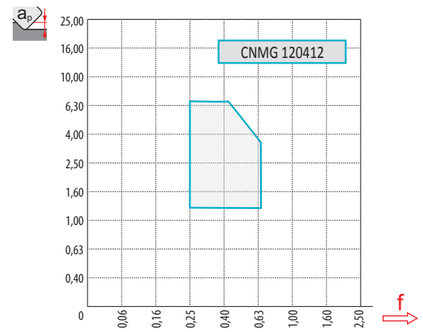
ISO		P	M	K	N	S	H			r_ε	f_{min}	f_{max}	$a_{p\,min}$	$a_{p\,max}$
SNMM 250716-NRM	**T7325**	■	■			□		✖	++	1,6	0,32	0,90	1,6	14,0
	T7335	■	■			□		✖	+++	1,6	0,32	0,90	1,6	14,0
	T9315	■						●	++	1,6	0,32	0,90	1,6	14,0
SNMM 250724-NRM	**T7325**	■	■			□		✖	++	2,4	0,35	1,00	2,0	14,0
	T7335	■	■			□		✖	+++	2,4	0,35	1,00	2,0	14,0
	T9315	■						●	++	2,4	0,35	1,00	2,0	14,0
SNMM 250924-NRM	**T7325**	■	■			□		✖	++	2,4	0,35	1,00	2,0	16,0
	T7335	■	■			□		✖	+++	2,4	0,35	1,00	2,0	16,0
	T9315	■						●	++	2,4	0,35	1,00	2,0	16,0



NRM

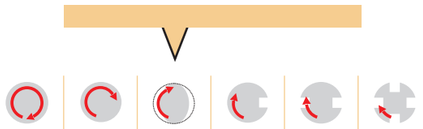






P	M	K	N	S	H
■	■			□	

f	0,23 – 1,0
a_p	0,8 – 16,0



CNMG, CNMM, SNMG, SNMM

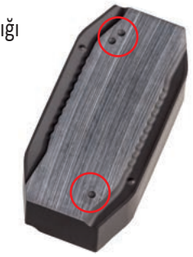
KABUK SOYMA UÇLARI

PASLANMAZ ÇELİKLER İÇİN KABUK SOYMA UÇLARI

Özellikle paslanmaz çeliklerin işlenmesi için yeni talaş kırıcı geliştirildi. Ayrıca çelik ve süper alaşımlar için de uygundur.

ÖZELLİKLER & FAYDALAR

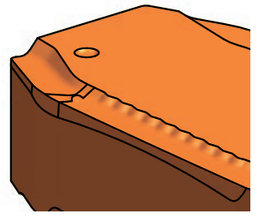
- Paslanmaz çelikler için tasarlanan yeni talaş kırıcı
- Güçlü kesme geometrisi
- Arttırılmış kesme kenarı dayanıklılığı
- Kesme kenarı tanıma işaretleri



Kesme kenarı seçenekleri

Sert malzemeler için S01
Orta sertlik için S02
Yumuşak malzemeler veya düşük rijitlik için S03

- Geliştirilmiş talaş kontrolü sayesinde **güvenilir** takım
- **Yüksek ilerlemeler** için tasarlandı
- Ağır şartlar için uygundur
- Uçların yüksek hassasiyeti sayesinde kesme **kuvvetlerinin dağıtılması sağlanır**
- Daha uzun takım ömrü
- (S03) Ana kesme kenarındaki stabilizasyon fazı sayesinde azaltılan titreşimler



MM TALAŞ KIRICI

MM

Kabadan finişe

- Geniş, güçlü T kenarı
- Paslanmaz çelikler ve çelikler için.
- Süper alaşımlar için uygundur.

LNGF uçlar

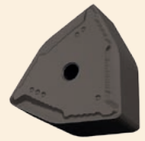
Kabadan finişe

RNGH uçlar

Kaba işleme

WNGF uçlar

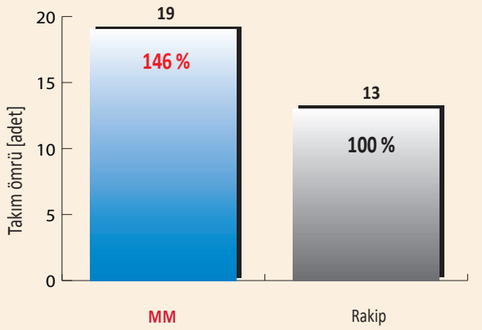
Kabadan finişe



ÖRNEK UYGULAMA

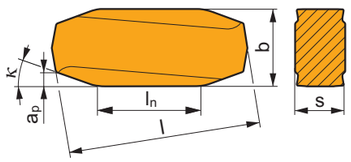
Malzeme:	1.4028
Malzeme grubu:	M
Kesici uç:	RNGH 381200-MM: T9315

Kesme hızı	v_c	70	m/dk
İlerleme	f	5,5	mm/dev
Eksenel kesme derinliği	a_p	4	mm
Kesme uzunluğu		5 000	mm

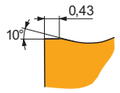


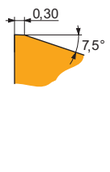
LNGF

300715	20	1,5	12	30,12	13	7,54
361220	20	2,0	18	36,50	16	12,00



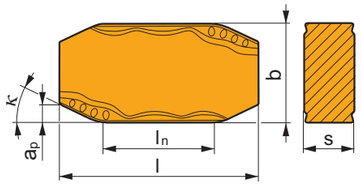
ISO		P	M	K	N	S	H			r_ε	f_{min}	f_{max}	$a_{p\,min}$	$a_{p\,max}$
LNGF 300715-MM-S01	**T7325**	◪	■			◪		●	+++	–	2,00	10,00	0,5	1,5
	T9315	■						●	+++	–	2,00	10,00	0,5	1,5
	T6310	◪	■			◪		●	+++	–	2,00	10,00	0,5	1,5
LNGF 300715-MM-S02	**T7325**	◪	■			◪		●	+++	–	2,00	10,00	0,5	1,5
LNGF 300715-MM-S03	**T7325**	◪	■			◪		●	+++	–	2,00	10,00	0,5	1,5
LNGF 361220-MM-S01	**T7325**	◪	■			◪		●	+++	–	2,50	13,00	0,6	2,0
	T9315	■						●	+++	–	2,50	13,00	0,6	2,0
	T6310	◪	■			◪		●	+++	–	2,50	13,00	0,6	2,0
LNGF 361220-MM-S02	**T7325**	◪	■			◪		●	+++	–	2,50	13,00	0,6	2,0
	T9315	■						●	+++	–	2,50	13,00	0,6	2,0
LNGF 361220-MM-S03	**T7325**	◪	■			◪		●	+++	–	2,50	13,00	0,6	2,0
	T9315	■						●	+++	–	2,50	13,00	0,6	2,0
LNGF 361220-MM-S04	**H07**		◪			◪		●	+++	–	2,50	13,00	0,6	2,0
LNGF 300715-PM	**T7325**	◪	■			◪		●	+++	–	1,20	10,00	0,3	1,5
	T9315	■						●	+++	–	1,20	10,00	0,3	1,5
	T9226	■						●	+++	–	1,20	10,00	0,3	1,5
	6630	■						●	+++	–	1,20	10,00	0,3	1,5
	T6310	◪						●	+++	–	1,20	10,00	0,3	1,5
LNGF 300715-PM-S02	**T7325**	◪	■			◪		●	+++	–	1,20	10,00	0,3	1,5
LNGF 300715-PM-S03	**T7325**	◪	■			◪		●	+++	–	1,20	10,00	0,3	1,5
LNGF 361220-PM-S01	**T7325**	◪	■			◪		●	+++	–	1,60	13,00	0,4	2,0
	T9315	■						●	+++	–	1,60	13,00	0,4	2,0
LNGF 361220-PM-S02	**T7325**	◪	■			◪		●	+++	–	1,60	13,00	0,4	2,0
LNGF 361220-PM-S03	**T7325**	◪	■			◪		●	+++	–	1,60	13,00	0,4	2,0



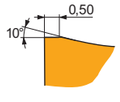


LNGF 40

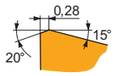
	a_p	b	K°	l	l_n	s
401035	3,5	20	25	40	20	10



ISO		P	M	K	N	S	H			r_ε	f_{min}	f_{max}	$a_{p\,min}$	$a_{p\,max}$
LNGF 401035-MM-S01	**T7325**	◪	■			◪		●	+++	–	2,00	16,00	0,5	3,5
	T9315	■						●	+++	–	2,00	16,00	0,5	3,5
	T6310	◪	■			◪		●	+++	–	2,00	16,00	0,5	3,5
LNGF 401035-MM-S02	**T7325**	◪	■			◪		●	+++	–	2,00	16,00	0,5	3,5
LNGF 401035-MM-S03	**T7325**	◪	■			◪		●	+++	–	2,00	16,00	0,5	3,5

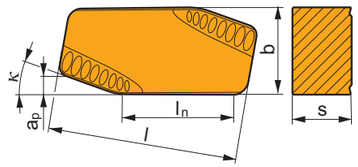


ISO		P	M	K	N	S	H			r_ε	f_{min}	f_{max}	$a_{p\,min}$	$a_{p\,max}$
LNGF 401035-PM-S01	**T7325**	◪	■			◪		●	+++	–	1,20	16,00	0,5	3,5
	T9315	■						●	+++	–	1,20	16,00	0,5	3,5
	T9226	■						●	+++	–	1,20	16,00	0,5	3,5
	6630	■						●	+++	–	1,20	16,00	0,5	3,5
	6610	■						●	+++	–	1,20	16,00	0,5	3,5
LNGF 401035-PM-S02	**T7325**	◪	■			◪		●	+++	–	1,20	16,00	0,5	3,5
LNGF 401035-PM-S03	**T7325**	◪	■			◪		●	+++	–	1,20	16,00	0,5	3,5

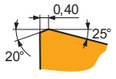


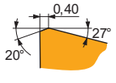
LNXR

	κ°	a_p	b	l	l_n	s
381240	20	4	17,5	38,25	21	12



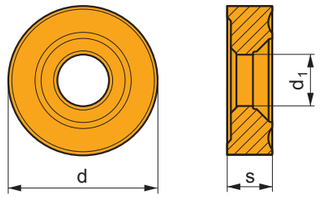
ISO		P	M	K	N	S	H			r_ε	f_{min}	f_{max}	$a_{p\,min}$	$a_{p\,max}$
LNXR 381240-PM	**T9315**	■						●	+++	–	1,60	16,00	0,5	4,0
	T9226	■						●	+++	–	1,60	16,00	0,5	4,0
	6610	■						●	+++	–	1,60	16,00	0,5	4,0
LNXR 381240-PR	**T9226**	■						●	+++	–	1,60	16,00	0,5	4,0
	6630	■						●	+++	–	1,60	16,00	0,5	4,0



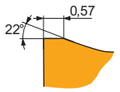


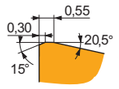
RNGH

	a_p	d	d_1	s
381200	8	38,1	12,7	12,7
5018MO	12	50,0	12,7	18,0



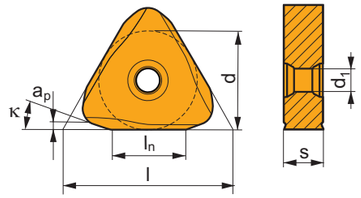
ISO		P	M	K	N	S	H	?		r_ε	f_{min}	f_{max}	$a_{p\,min}$	$a_{p\,max}$
RNGH 381200-MM	T7325	◪	■			◪		●	+++	–	2,50	13,00	1,5	8,0
	T9315	■						●	+++	–	2,50	13,00	1,5	8,0
	T6310	◪	■			◪		●	++	–	2,50	13,00	1,5	8,0
RNGH 5018MO-MM	M9340	◪	■			◪		●●	++	–	3,00	16,00	1,5	12,0
	T7325	◪	■			◪		●●	+++	–	3,00	16,00	1,5	12,0
	T9315	■						●●	+++	–	3,00	16,00	1,5	12,0
	T6310	◪	■			◪		●●	++	–	3,00	16,00	1,5	12,0
RNGH 381200-MR	T7325	◪	■			◪		●●	+++	–	2,20	13,00	1,5	8,0
	T9315	■						●●	+++	–	2,20	13,00	1,5	8,0
	T9226	■	■			□		●●	+++	–	2,20	13,00	1,5	8,0
	6640	■	■			□		●●	+++	–	2,20	13,00	1,5	8,0
RNGH 5018MO-MR	M9340	◪	■			◪		●●	++	–	3,00	16,00	1,5	12,0
	T7325	◪	■			◪		●●	+++	–	3,00	16,00	1,5	12,0
	T9335	■	■			◪		●●	+++	–	3,00	16,00	1,5	12,0
RNGH 381200-PR	T9226	■						●●	+++	–	4,80	13,00	1,5	8,0



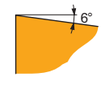


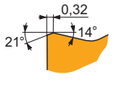
TNGJ

	κ°	a_p	d	d_1	l	l_n	s
220720	20	2,0	21,96	7	38,0	12	7,94
281025	20	2,5	28,60	7	49,5	18	10,00



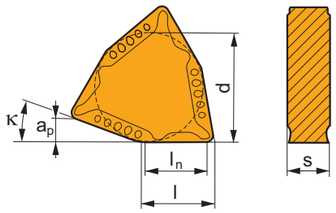
ISO		P	M	K	N	S	H	?		r_ε	f_{min}	f_{max}	$a_{p\,min}$	$a_{p\,max}$
TNGJ 220720-PF-S01	T9315	■						●	+++	–	1,20	12,00	0,4	2,0
TNGJ 220720-PF-S02	T7325	◪	■			◪		●	+++	–	1,20	12,00	0,4	2,0
TNGJ 281025-PF-S01	T9315	■						●	+++	–	1,20	16,00	0,5	2,5
	T9226	■	■			□		●	+++	–	1,20	16,00	0,5	2,5
	6630	■	■			□		●	+++	–	1,20	16,00	0,5	2,5
	6610	■	□					●	+++	–	1,20	16,00	0,5	2,5
TNGJ 281025-PF-S02	T7325	◪	■			◪		●	+++	–	1,20	16,00	0,5	2,5
TNGJ 281025-PF-S03	T7325	◪	■			◪		●	+++	–	1,20	16,00	0,5	2,5
TNGJ 220720-PM-S01	T9315	■						●	+++	–	1,20	12,00	0,4	2,0
TNGJ 220720-PM-S02	T7325	◪	■			◪		●	+++	–	1,20	12,00	0,4	2,0
	T9315	■						●	+++	–	1,20	12,00	0,4	2,0
	T9226	■						●	+++	–	1,20	12,00	0,4	2,0



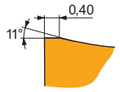


WNGF

	κ°	a_p	d	l	l_n	s
201380	25	8	31,75	20	15	13

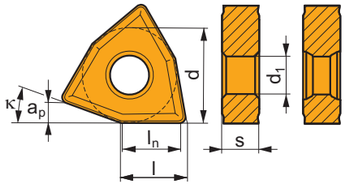


ISO		P	M	K	N	S	H			r_ε	f_{min}	f_{max}	$a_{p\,min}$	$a_{p\,max}$
WNGF 201380-MM-S01	**T7325**	■	■			■			+++	–	2,00	12,00	0,5	8,0
	T9315	■							+++	–	2,00	12,00	0,5	8,0
	T6310	■	■			■			+++	–	2,00	12,00	0,5	8,0
WNGF 201380-MM-S02	**T7325**	■	■			■			+++	–	2,00	12,00	0,5	8,0
WNGF 201380-MM-S03	**M9340**	■	■			■			+++	–	2,00	12,00	0,5	8,0

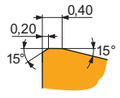


WNGU

	κ°	a_p	d	d_1	l	l_n	s
150935	15	3,5	22,225	7,94	15	13	9,52

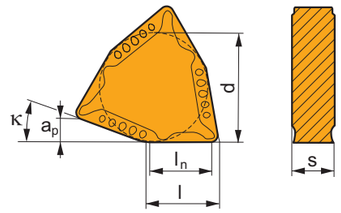


ISO		P	M	K	N	S	H			r_ε	f_{min}	f_{max}	$a_{p\,min}$	$a_{p\,max}$
WNGU 150935-PM-S02	**T9226**	■							+++	–	1,60	12,00	0,5	3,5
	6630	■							+++	–	1,60	12,00	0,5	3,5

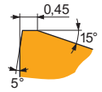


WNMF

	κ°	a_p	d	l	l_n	s
201380	25	8	31,75	20	15	13

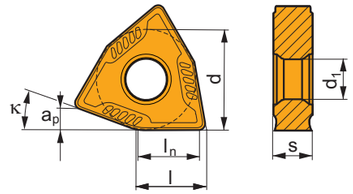


ISO		P	M	K	N	S	H			r_ε	f_{min}	f_{max}	$a_{p\,min}$	$a_{p\,max}$
WNMF 201380-PM-S01	**T9226**	■							+++	–	2,00	12,00	0,5	8,0
	6630	■							+++	–	2,00	12,00	0,5	8,0

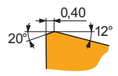


WNMJ

	κ°	a_p	d	d_1	l	l_n	s
201380	25	8	31,75	9,12	20	15	13
201480	25	8	31,75	9,12	20	15	14

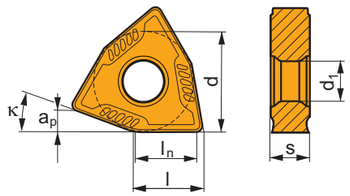


ISO		P	M	K	N	S	H			r_ε	f_{min}	f_{max}	$a_{p\,min}$	$a_{p\,max}$
WNMJ 201380-PR	**T9226**	■							+++	–	1,60	12,00	0,5	8,0
WNMJ 201480-PR	**6630**	■							+++	–	1,60	12,00	0,5	8,0

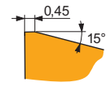


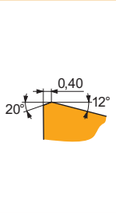
WNXJ

	κ°	a_p	d	d_1	l	l_n	s
150935	15	3,5	22,225	7,94	15	12	9,52
201380	25	8,0	31,750	9,12	20	15	13,00



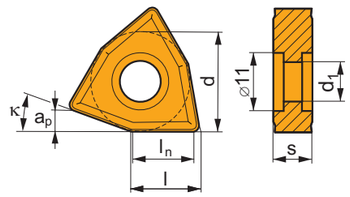
ISO		P	M	K	N	S	H			$r_ε$	f_{min}	f_{max}	$a_{p\,min}$	$a_{p\,max}$
WNXJ 150935-PM	**6630**	■							+++	–	1,60	12,00	0,5	3,5
WNXJ 201380-PR-S01	**T9226**	■							+++	–	1,60	12,00	0,5	8,0
	6630	■							+++	–	1,60	12,00	0,5	8,0



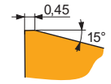


WNXX

	κ°	a_p	d	d_1	l	l_n	s
150935	15	3,5	22,225	7,94	15	12	9,52

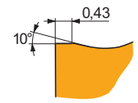


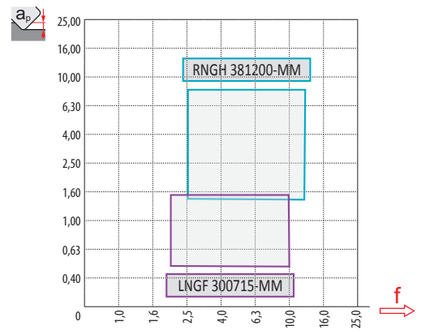
ISO		P	M	K	N	S	H			$r_ε$	f_{min}	f_{max}	$a_{p\,min}$	$a_{p\,max}$
WNXX 150935-PM	**6630**	■							+++	–	1,60	12,00	0,5	3,5



KESİCİ UÇ GE OMETRİ Sİ

MM





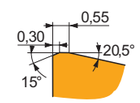
P	M	K	N	S	H
◪	◪			■	

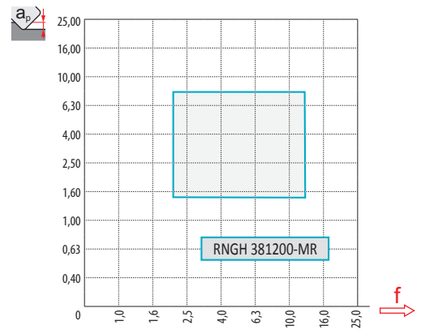
f 2,0 – 16,0

a_p 0,5 – 12,0

LNGF, RNGH, WNGF

MR





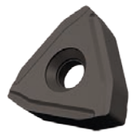
P	M	K	N	S	H
■	■			◪	

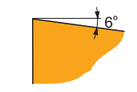
f 2,2 – 16,0

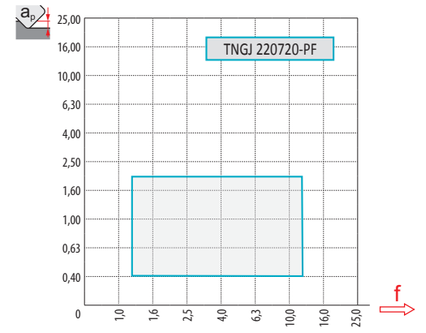
a_p 0,5 – 12,0

RNGH

PF







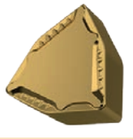
P	M	K	N	S	H
■	■			◪	

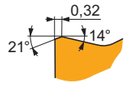
f 1,2 – 16,0

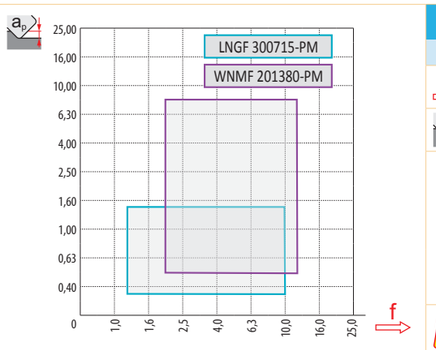
a_p 0,4 – 2,5

TNGJ

PM







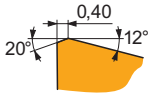
P	M	K	N	S	H
■					

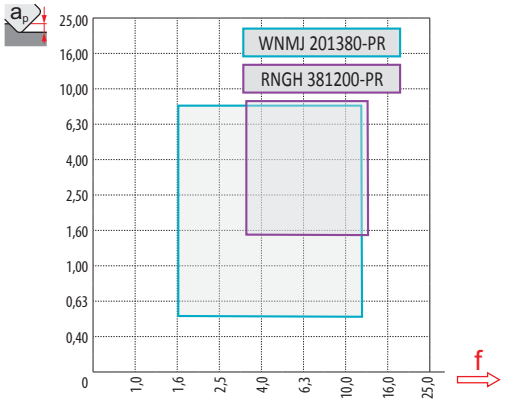
f 1,2 – 16,0

a_p 0,3 – 8,0

LNGF, LNXR, TNGJ, WNGU, WNMF, WNXJ, WNXX

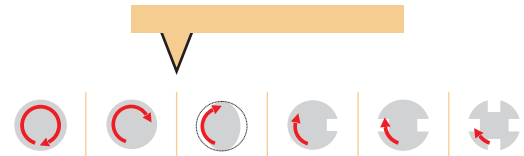
PR





P	M	K	N	S	H
■					

f	1,6 – 16,0
a_p	0,5 – 8,0



?	LNXR, RNGH, WNMJ, WNXJ

SIMPLY RELIABLE

Profesyoneller sadece talaşa bakarak işin kalitesini değerlendirebilir. Bizim talaşımız kendi öyküsünü anlatan pürüzsüz ve basit şekillidir. Açık ve istikrarlı işaretinden dolayı basitçe güvenilir olmak için sembolümüz olarak talaş şeklini kullanıyoruz.

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