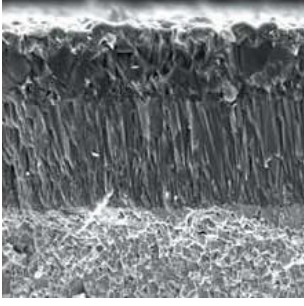


# CVD Kaplama Kalitesi



- TiN kaplama ile sürtünme ve aşınmayı azaltır
- Özel yapıya sahip  $Al_2O_3$  tabakası ile en iyi termal bariyer performansı, yüksek hızlarda kuru kesim sırasında kesici uç alt katmana plastik deformasyon direnci sağlar
- TiCN tabakası, kesici uç ve yan yüzeyinin en güçlü aşınma performansına sahip olmasını sağlar
- Kesici kenarın hasar ve aşınma direncini yükseltmek için gradyan sinterleme teknolojisi kullanılmıştır
- Özel kristalize yapıya sahip karbür tozu, yüksek sıcaklıklara karşı direnç sağlar

## 4025

TiCN,  $Al_2O_3$  ve TiN kaplama ile özel mukavemet ve tokluğa sahip alt katman genel kullanım amaçlıdır

## 4125

TiCN ve  $Al_2O_3$  kaplı özel mukavemet ve tokluğa sahip alt katman geniş çeşitlilikte çelik malzemelerde kullanım amaçlıdır. Finiş ve yarı finiş operasyonları için uygundur

## 4135

TiCN ve  $Al_2O_3$  kaplamalı yüksek toklukla karakterize edilmiş, yüksek mukavemetli ve plastik deformasyona dirençli alt katman

## 4215

TiCN,  $Al_2O_3$  ve TiN kaplamalı, yüksek dirençli alt katman

## 4225

TiCN,  $Al_2O_3$  ve TiN kaplı özel mukavemet ve tokluk. Geniş çeşitlilikte çelik malzemelerde kullanım içindir

## 4235

TiCN,  $Al_2O_3$  ve TiN kaplı yüksek mukavemet ve plastik deformasyona dirençli özel alt katman, yüksek tokluk ile karakterize edilmiştir

## 4340

Yüksek direnç ve tokluğa sahip kaplama. Geniş çeşitlilikte paslanmaz çelik ve sertleştirilmiş malzemelerde kullanım amaçlıdır

## 3225

TiCN,  $Al_2O_3$  ve TiN kaplamalı, yüksek dirençli orta tokluklu alt katman, sünek ve gri pik döküm malzeme içindir. Yüksek talaş boşaltımı sağlar

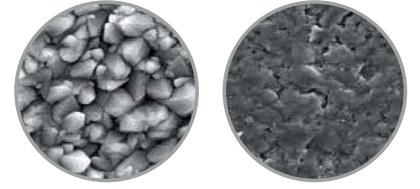
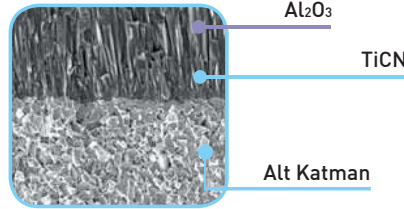
## 3215

TiCN,  $Al_2O_3$  ve TiN kaplama ile yüksek dirençli alt katman yüksek hızla kullanılabilir, sünek ve gri pik döküm malzeme içindir

Kesme direncini ve iş parçasının yapışmasını azaltan ve kesici ucun stabilitesini artıran özel yüzey teknolojisi ile geliştirilmiş temiz yüzey

Fiber şekilli TiCN ve  $Al_2O_3$  kaplama ile geliştirilmiş aşınma direnci

Yüksek hız ve ilerleme koşullarında dökme demirin işlenmesi için geliştirilmiş aşınma direnci



Kaplama Öncesi Yüzey Kalitesi

Kaplama Sonrası Yüzey Kalitesi

# PVD Kaplama Kalitesi

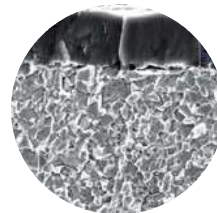
- Özel kaplama tekniği ile pürüzsüz yüzey, düşük sürtünme ve pürüzsüz talaş kaldırma
- Benzersiz nano yapı ve alt tabaka ile daha yüksek tokluk ve sertlik

## 1025

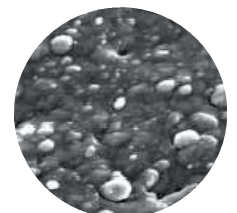
2-4  $\mu m$  TiAlN PVD ultra ince tanecikli kaplama ile yüksek tokluklu alt katman kaplaması

## 1225

2-4  $\mu m$  nano AlCrN + AlCrSiN PVD ultra ince tanecikli kaplama ile yüksek tokluklu alt katman kaplaması çeşitli finiş ve orta paslanmaz çelik ve sertleştirilmiş çeliklerin işlenmesi için uygundur



TiAlN Kaplama (KR1025)

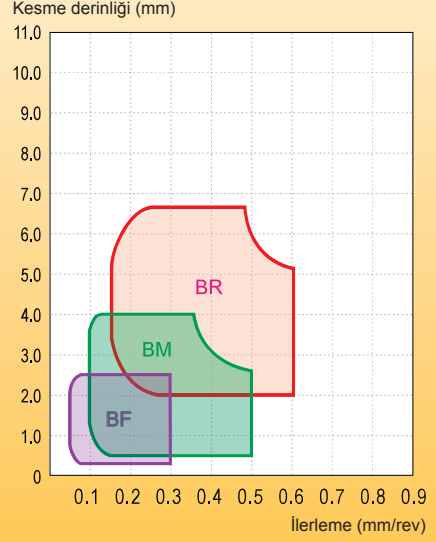
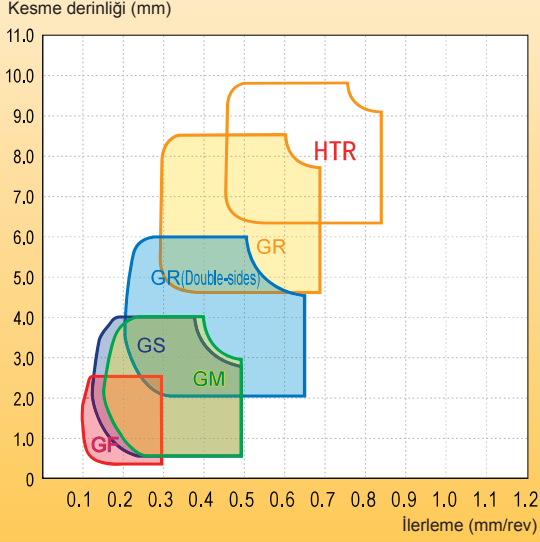


Yüzey Kaplama (KR1025)

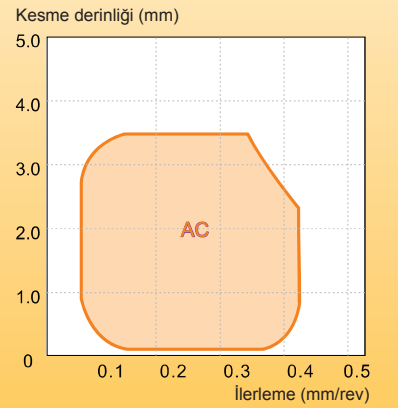
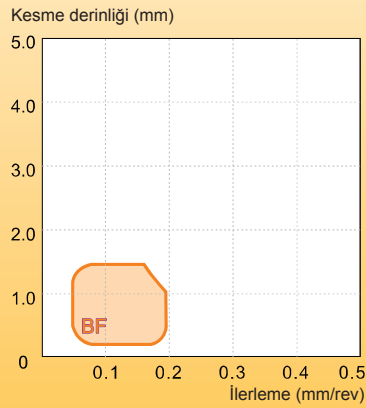
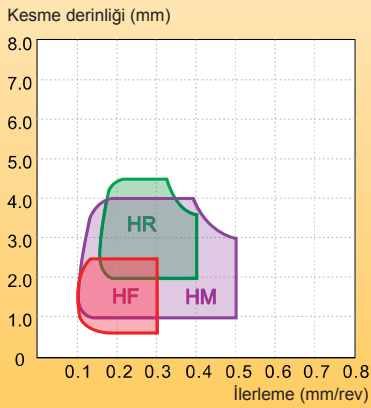
# Genel Tornalama İşlemleri

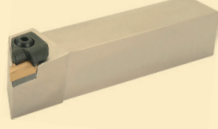
## Talaş Kırıcı Çalışma Değerleri

### NEGATİF UÇLAR



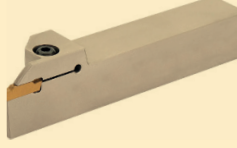
### POZİTİF UÇLAR





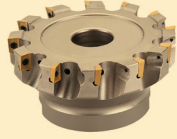
**TORNALAMA**

**1-43**



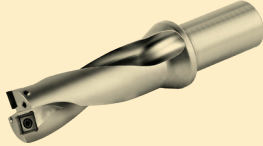
**KESME ve KANAL**

**43-45**



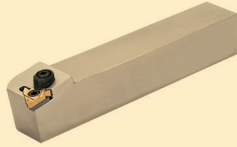
**FREZELEME**

**46-58**



**DELİK DELME**

**59-66**



**DİŞ ÇEKME**

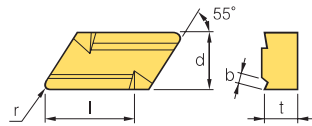
**67-71**



**KARBÜR FREZE ve MATKAPLAR**

**72-91**

PARALEL KENAR 55° NEGATİF



Boyutlar (mm)		
l	d	t
19,72	9.525	4.76

İş Parçası	Materyaller																Açıklama
	P	M	K	N	S	H											
Çelik	●	●	○														●
Paslanmaz çelik	●	○															○
Dökme demir																	○
Demir-dışı metaller																	○
Isı dayanımlı alaşımlar, titanyum alaşımları																	○
Sertleştirilmiş Çelik																	○

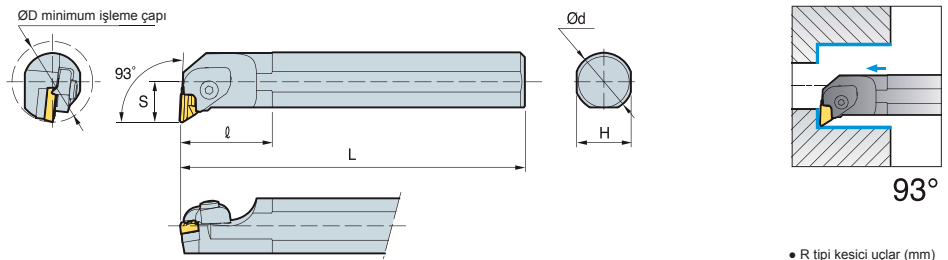
Kesici Uç	Kod	Kaplama																Kapsız	Kesme Koşulları								
		KR1020	KR1025	KR1220	KR1225	KR1305	KR1320	KR1325	KR3105	KR3115	KR3125	KR3215	KR3225	KR4025	KR4035	KR4125	KR4135		KR4225	KR4235	KR4245	KR4340	KR001	KR101	f <sub>n</sub> (mm/dev)	a <sub>p</sub> (mm)	
Orta	KNUX	160405R-11																								0.20-0.35	1.00-6.00
	KNUX	160405L-11																									0.20-0.35

ÜSTTEN BASKILI SİSTEM

CKUNR/L



KN □□



● R tipi kesici uçlar (mm)

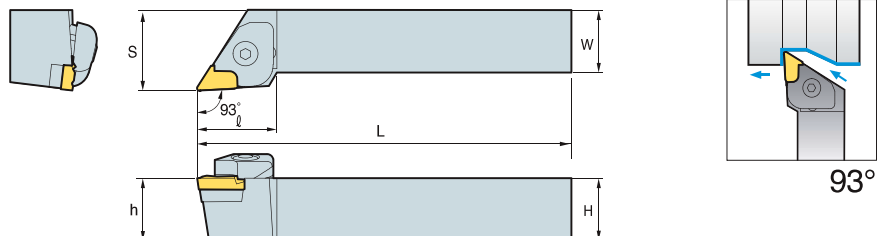
Kod	ØD	Ød	H	L	S	l	Kesici Uç
S25T-CKUNR-16	32	25	23	300	17	70	KN□□1604□□L
S32S-CKUNR-16	40	32	30	250	22	70	
S40T-CKUNR-16	50	40	37	300	27	60	
S50U-CKUNR-16	63	50	43	350	35	55	
S25T-CKUNL-16	32	25	23	300	17	70	KN□□1604□□R
S32S-CKUNL-16	40	32	30	250	22	70	
S40T-CKUNL-16	50	40	37	300	27	60	
S50U-CKUNL-16	63	50	43	350	35	55	

ÜSTTEN BASKILI SİSTEM

CKJNR/L



KN □□



● R tipi kesici uçlar (mm)

Kod	H	W	L	S	h	l	Kesici Uç
CKJNR	2020-K16	20	20	125	25	20	KN□□1604□□R
	2525-M16	25	25	150	32	25	
	3225-M16	32	25	150	32	32	
	3225-P16	32	25	170	32	32	
	3232-P16	32	32	170	40	32	
	4040-R16	40	40	200	50	40	
CKJNL	2020-K16	20	20	125	25	20	KN□□1604□□L
	2525-M16	25	25	150	32	25	
	3232-P16	32	32	170	40	32	
	4040-R16	40	40	200	50	40	



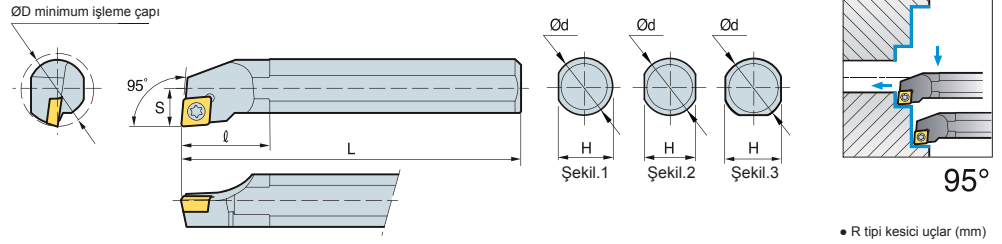


VİDALI BAĞLAMA SİSTEMİ

**SCLCR/L**



CC □ □



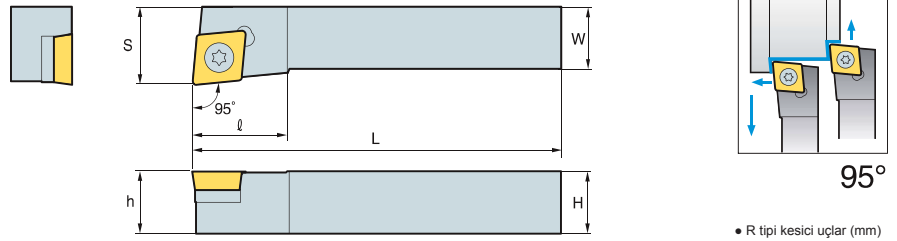
Kod	ØD	Ød	H	L	S	ℓ	Kesici Uç
S08K-SCLCR/L-06	11	8	7.2	125	6	12	CC□□0602□□
S10K-SCLCR/L-06	13	10	9	125	7	16	
S10M-SCLCR/L-06	13	10	9	150	7	16	
S12M-SCLCR/L-06	16	12	11	150	9	20	
S16R-SCLCR/L-06	20	16	14	200	11	25	CC□□09T3□□
S12M-SCLCR/L-09	16	12	11	150	9	20	
S16R-SCLCR/L-09	20	16	14	200	11	25	
S20S-SCLCR/L-09	25	20	18	250	13	32	CC□□1204□□
S25R-SCLCR/L-09	32	25	23	200	17	40	
S25R-SCLCR/L-12	32	25	23	200	17	40	
S32S-SCLCR/L-12	40	32	30	250	22	50	
S40T-SCLCR/L-12	50	40	38	300	27	60	

VİDALI SIKMA SİSTEMİ

**SCLCR/L**

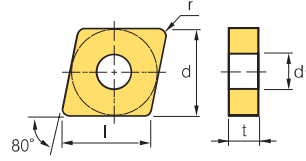


CC □ □



Kod	H	W	L	S	h	ℓ	Kesici Uç	
SCLCR/L	0808-D06	08	08	60	10	08	10	CC□□0602□□
	1010-E06	10	10	70	16	10	10	
	1212-F09	12	12	80	20	12	16	
SCLCR/L	1616-H09	16	16	100	20	16	16	CC□□09T3□□
	2020-K09	20	20	125	25	20	16	
	2525-M09	25	25	150	32	25	26	
	2020-K12	20	20	125	25	20	25	
SCLCR/L	2525-M12	25	25	150	32	25	26	CC□□1204□□

## EŞKENAR DÖRTGEN 80° NEGATİF

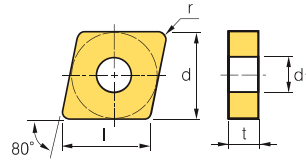


Ölçü	Boyutlar (mm)		
	d	t	d1
12	12.7	4.76	5.16
16	15.875	6.35	6.35
19	19.05	6.35	7.93

İş Parçası															Açıklama			
	Çelik	P	M	K	N	S	H										●	○
Paslanmaz çelik																		
Dökme demir																		
Demir-dışı metaller																		
Isı dayanımlı alaşımlar, titanyum alaşımları																		
Sertleştirilmiş Çelik																		

Kesici Uç	Kod	Kaplama														Kesme Koşulları											
		KR1020	KR1025	KR1220	KR1225	KR1305	KR1320	KR1325	KR3105	KR3115	KR3125	KR3215	KR3225	KR4025	KR4035	KR4125	KR4135	KR4225	KR4235	KR4245	KR4340	KR001	KR101	fn (mm/dev)	ap (mm)		
	CNMA	120404	●																						0.15-0.60	1.00-5.00	
		120408		●																						0.15-0.60	1.00-6.00
		120412																								0.15-0.70	1.50-6.00
		120416																								0.20-0.80	2.00-6.00
		160608																								0.15-0.70	2.00-6.00
		160612																								0.15-0.70	2.00-6.00
		160616																								0.15-0.70	2.00-6.00
		190608																								0.15-0.70	2.00-10.00
		190612																								0.15-0.70	2.00-10.00
		190616																								0.20-1.00	3.00-10.00

## EŞKENAR DÖRTGEN 80° NEGATİF



Ölçü	Boyutlar (mm)		
	d	t	d1
12	12.7	4.76	5.16
16	15.875	6.35	6.35
19	19.05	6.35	7.93

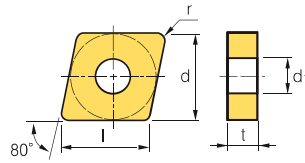
İş Parçası															Açıklama			
	Çelik	P	M	K	N	S	H										●	○
Paslanmaz çelik																		
Dökme demir																		
Demir-dışı metaller																		
Isı dayanımlı alaşımlar, titanyum alaşımları																		
Sertleştirilmiş Çelik																		

Kesici Uç	Kod	Kaplama														Kesme Koşulları											
		KR1020	KR1025	KR1220	KR1225	KR1305	KR1320	KR1325	KR3105	KR3115	KR3125	KR3215	KR3225	KR4025	KR4035	KR4125	KR4135	KR4225	KR4235	KR4245	KR4340	KR001	KR101	fn (mm/dev)	ap (mm)		
	CNMG	120404-KR																							0.10-0.40	0.40-4.00	
		120408-KR																								0.15-0.45	0.50-4.50
		120412-KR		●																						0.15-0.50	0.80-5.00
		120416-KR				●																				0.12-0.55	1.00-5.00
		160608-KR																								0.15-0.50	0.50-7.00
		160612-KR																								0.18-0.60	0.80-7.00
		160616-KR																								0.15-0.60	1.00-7.00
		190608-KR																								0.15-0.60	0.50-8.50
		190612-KR																								0.10-0.40	0.40-3.80
		190616-KR																								0.15-0.40	0.50-4.00

Kesici Uç	Kod	Kaplama														Kesme Koşulları											
		KR1020	KR1025	KR1220	KR1225	KR1305	KR1320	KR1325	KR3105	KR3115	KR3125	KR3215	KR3225	KR4025	KR4035	KR4125	KR4135	KR4225	KR4235	KR4245	KR4340	KR001	KR101	fn (mm/dev)	ap (mm)		
	CNMG	120404-MA		●																					0.10-0.40	0.40-4.00	
		120408-MA			●																					0.15-0.45	0.50-4.50
		120412-MA				●																				0.15-0.50	0.80-5.00
		120416-MA																								0.12-0.55	1.00-5.00
		160608-MA																								0.15-0.50	0.50-7.00
		160612-MA																								0.18-0.60	0.80-7.00
		160616-MA																								0.15-0.60	1.00-7.00
		190608-MA																								0.15-0.60	0.50-8.50
		190612-MA																								0.10-0.40	0.40-3.80
		190616-MA																								0.15-0.40	0.50-4.00

EŞKENAR DÖRTGEN 80° NEGATİF

**CN**



Ölçü	Boyutlar (mm)		
	d	t	d1
12	12.7	4.76	5.16
16	15.875	6.35	6.35
19	19.05	6.35	7.93

İş Parçası	Malzeme	Sınıf	Kaplama											Açıklama															
			KR1020	KR1025	KR1220	KR1225	KR1305	KR1320	KR1325	KR3105	KR3115	KR3125	KR3215		KR3225	KR4025	KR4035	KR4125	KR4135	KR4225	KR4235	KR4245	KR4340	KR001	KR101				
Çelik	P	●	●	●																								● Ünerilir ○ Kabul Edilebilir ○ Ünerilmez	
	M	●	●	●																									
	K																												
	N																												
	S																												
Paslanmaz çelik	M	●	●	●																									
	H																												
Dökme demir	K																												
Demir-dışı metaller	N																												
Isı dayanımlı alaşımlar, titanyum alaşımları	S																												
Sertleştirilmiş Çelik	H																												

Kesici Uç	Kod	Kaplama																Kesme Koşulları									
		KR1020	KR1025	KR1220	KR1225	KR1305	KR1320	KR1325	KR3105	KR3115	KR3125	KR3215	KR3225	KR4025	KR4035	KR4125	KR4135	KR4225	KR4235	KR4245	KR4340	KR001	KR101	fn (mm/dev)	ap (mm)		
	CNMG 120404		●																						0.10-0.40	0.40-4.00	
	120408		●																							0.15-0.45	0.50-4.50
	120412		●																							0.15-0.50	0.80-5.00
	120416																									0.28-0.55	1.00-5.00
	160608																									0.15-0.50	0.50-7.00
	160612		●																							0.15-0.60	0.80-7.00
	160616		●																							0.15-0.60	1.00-7.00
	190608																									0.15-0.60	0.50-8.50
	190612																									0.10-0.40	0.40-3.80
	190616																									0.15-0.40	0.50-4.00

Kesici Uç	Kod	Kaplama																Kesme Koşulları									
		KR1020	KR1025	KR1220	KR1225	KR1305	KR1320	KR1325	KR3105	KR3115	KR3125	KR3215	KR3225	KR4025	KR4035	KR4125	KR4135	KR4225	KR4235	KR4245	KR4340	KR001	KR101	fn (mm/dev)	ap (mm)		
	CNMG 120404-BF		●																							0.08-0.32	0.32-3.20
	120408-BF		●																							0.12-0.36	0.40-3.60
	120412-BF																									0.12-0.40	0.64-4.00
	120416-BF																									0.12-0.44	0.80-4.00
	160608-BF																									0.12-0.40	0.40-5.60
	160612-BF																									0.14-0.48	0.64-5.60
	160616-BF																									0.12-0.48	0.80-5.60
	190608-BF																									0.12-0.48	0.40-6.80
	190612-BF																									0.08-0.32	0.32-3.10
	190616-BF																									0.12-0.32	0.40-3.20

Kesici Uç	Kod	Kaplama																Kesme Koşulları									
		KR1020	KR1025	KR1220	KR1225	KR1305	KR1320	KR1325	KR3105	KR3115	KR3125	KR3215	KR3225	KR4025	KR4035	KR4125	KR4135	KR4225	KR4235	KR4245	KR4340	KR001	KR101	fn (mm/dev)	ap (mm)		
	CNMG 120404-BM		●																							0.10-0.40	0.40-4.00
	120408-BM		●																							0.15-0.45	0.50-4.50
	120412-BM		●	●																						0.15-0.50	0.80-5.00
	120416-BM																									0.28-0.55	1.00-5.00
	160608-BM																									0.15-0.50	0.50-7.00
	160612-BM																									0.15-0.60	0.80-7.00
	160616-BM																									0.15-0.60	1.00-7.00
	190608-BM																									0.15-0.60	0.50-8.50
	190612-BM		●																							0.10-0.40	0.40-3.80
	190616-BM																									0.15-0.40	0.50-4.00

Kesici Uç	Kod	Kaplama																Kesme Koşulları									
		KR1020	KR1025	KR1220	KR1225	KR1305	KR1320	KR1325	KR3105	KR3115	KR3125	KR3215	KR3225	KR4025	KR4035	KR4125	KR4135	KR4225	KR4235	KR4245	KR4340	KR001	KR101	fn (mm/dev)	ap (mm)		
	CNMG 120404-CM																									0.10-0.40	0.40-4.00
	120408-CM																									0.15-0.45	0.50-4.50
	120412-CM																									0.15-0.50	0.80-5.00
	120416-CM																									0.15-0.55	1.00-5.00
	160608-CM																									0.15-0.50	0.50-7.00
	160612-CM																									0.18-0.60	0.80-7.00
	160616-CM																									0.15-0.60	1.00-7.00
	190608-CM																									0.15-0.60	0.50-8.50
	190612-CM																									0.10-0.40	0.40-3.80
	190616-CM																									0.15-0.40	0.50-4.00







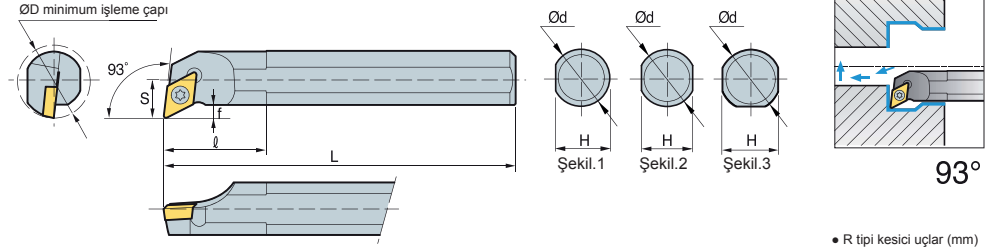


VİDALI BAĞLAMA SİSTEMİ

SDUCR/L



DC □□



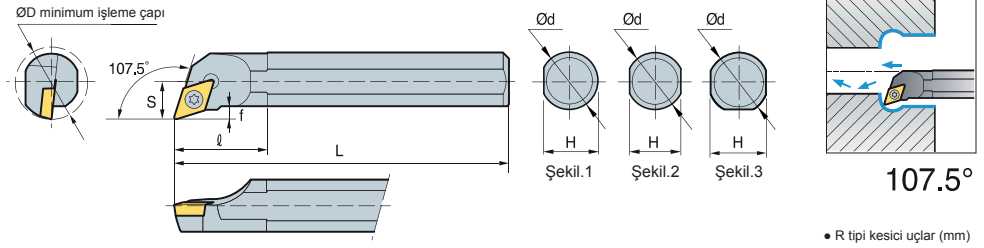
Kod	ØD	Ød	H	L	S	ℓ	Kesici Uç
S10M-SDUCR/L07	13	10	9	150	7	16	DC□□0702□□
S12M-SDUCR/L07	16	12	11	150	9	20	
S16R-SDUCR/L07	20	16	14	200	11	25	
S16R-SDUCR/L11	20	16	14	200	11	25	DC□□11T3□□
S20S-SDUCR/L11	25	20	18	250	13	32	
S25R-SDUCR/L11	32	25	23	200	17	40	
S32S-SDUCR/L11	40	32	30	250	22	50	

VİDALI BAĞLAMA SİSTEMİ

SDQCR/L



DC □□



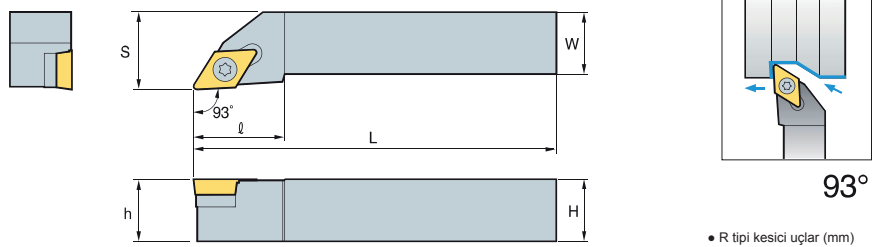
Kod	ØD	Ød	H	L	S	ℓ	Kesici Uç
S10M-SDQCR/L07	13	10	9	150	7	16	DC□□0702□□
S12M-SDQCR/L07	16	12	11	150	9	20	
S16R-SDQCR/L07	20	16	14	200	11	25	
S16R-SDQCR/L11	20	16	14	200	11	25	DC□□11T3□□
S20S-SDQCR/L11	25	20	18	250	13	32	
S25R-SDQCR/L11	32	25	23	200	17	40	

VİDALI SIKMA SİSTEMİ

SDJCR/L

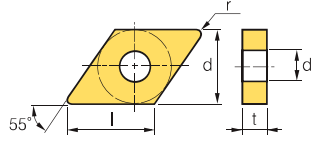


DC □□



Kod	H	W	L	S	h	ℓ	Kesici Uç
SDJCR/L	1010-E07	10	10	70	12	10	DC□□0702□□
	1212-F07	12	12	80	16	12	
	1616-H07	16	16	100	20	16	
	2020-K07	20	20	125	25	20	
SDJCR/L	1212-F11	12	12	80	16	12	DC□□11T3□□
	1616-H11	16	16	100	20	16	
	2020-K11	20	20	125	25	20	
	2525-M11	25	25	150	32	25	

EŞKENAR DÖRTGEN 55° NEGATİF

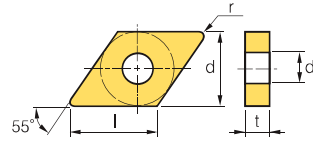


Boyutlar (mm)			
Ölçü	d	t	d1
11	9.525	3.18~4.76	3.81
15	12.7	4.76~6.35	5.16

İş Parçası	Çelik	P	●	●	○	○																	Açıklama	
																								●
	Paslanmaz çelik	M	○	○	●	●																	Önerilir	
	Dökme demir	K																						Kabul Edilebilir
	Demir-dışı metaller	N																						Önerilmez
	Isı dayanımlı alaşımlar, titanyum alaşımları	S			○	●	●	●	●															Önerilmez
	Sertleştirilmiş Çelik	H																						Önerilmez

Kesici Uç	Kod	Kaplama																Kaplamasız		Kesme Koşulları							
		KR1020	KR1025	KR1220	KR1225	KR1305	KR1320	KR1325	KR3105	KR3115	KR3125	KR3215	KR3225	KR4025	KR4035	KR4125	KR4135	KR4225	KR4235	KR4245	KR4340	KR001	KR101	fn (mm/dev)	ap (mm)		
	DNMA 110408																								0.17~0.45	0.80~3.00	
	150404																									0.17~0.55	0.40~4.00
	150408																									0.25~0.55	0.80~4.00
	150412																									0.25~0.65	0.50~4.00
	150604																									0.17~0.55	0.40~4.00
	150608								●	●																0.25~0.55	0.80~4.00
	150612								●	●		●	●													0.25~0.65	1.20~4.00
	150616																									0.25~0.70	1.20~6.00

EŞKENAR DÖRTGEN 55° NEGATİF

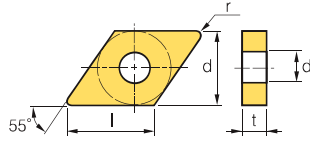


Boyutlar (mm)			
Ölçü	d	t	d1
15	12.7	4.76~6.35	5.16

İş Parçası	Çelik	P	●	●	○	○																	Açıklama		
																								●	○
	Paslanmaz çelik	M	○	○	●	●																		Önerilir	
	Dökme demir	K																							Kabul Edilebilir
	Demir-dışı metaller	N																							Önerilmez
	Isı dayanımlı alaşımlar, titanyum alaşımları	S			○	●	●	●	●																Önerilmez
	Sertleştirilmiş Çelik	H																							Önerilmez

Kesici Uç	Kod	Kaplama																Kaplamasız		Kesme Koşulları							
		KR1020	KR1025	KR1220	KR1225	KR1305	KR1320	KR1325	KR3105	KR3115	KR3125	KR3215	KR3225	KR4025	KR4035	KR4125	KR4135	KR4225	KR4235	KR4245	KR4340	KR001	KR101	fn (mm/dev)	ap (mm)		
	DNMX 150604R-GC		●																						0.15~0.30	1.00~4.00	
	150608R-GC		●																							0.15~0.50	1.50~5.00
	150604L-GC		●																							0.15~0.30	1.00~4.00
	150608L-GC		●																							0.15~0.50	1.50~5.00

EŞKENAR DÖRTGEN 55° NEGATİF



Ölçü	Boyutlar (mm)		
	d	t	d1
11	9.525	3.18-4.76	3.81
15	12.7	4.76-6.35	5.16

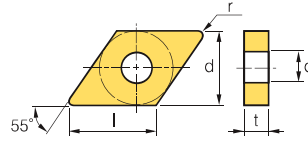
İş Parçası	Kod																Açıklama		
	Çelik	P																	●
Paslanmaz çelik	M																	●	○
Dökme demir	K																	●	○
Demir-dışı metaller	N																	●	○
Isı dayanımlı alaşımlar, titanyum alaşımları	S																	●	○
Sertleştirilmiş Çelik	H																	●	○

Kesici Uç	Kod	Kaplama																Kesme Koşulları									
		KR1020	KR1025	KR1220	KR1225	KR1305	KR1320	KR1325	KR3105	KR3115	KR3125	KR3215	KR3225	KR4025	KR4035	KR4125	KR4135	KR4225	KR4235	KR4245	KR4340	KR001	KR101	fn (mm/dev)	ap (mm)		
	DNMG 110404																								0.10-0.40	0.40-3.80	
	110408				●					●																0.15-0.40	0.50-4.00
	110412				●					●																0.15-0.50	0.80-4.20
	150404				●					●	●			●												0.10-0.40	0.40-4.00
	150408				●					●		●		●												0.15-0.45	0.50-4.50
	150412				●					●		●	●	●				●		●						0.15-0.50	0.80-5.00
	150416				●					●																0.15-0.50	0.85-5.00
	150604		●		●					●		●		●			●		●							0.10-0.40	0.40-4.00
	150608		●		●					●		●		●			●		●		●					0.15-0.45	0.50-4.50
	150612		●		●					●		●		●			●		●		●					0.15-0.50	0.80-5.00
150616		●		●					●		●		●			●		●		●					0.15-0.55	0.85-5.00	

Kesici Uç	Kod	Kaplama																Kesme Koşulları									
		KR1020	KR1025	KR1220	KR1225	KR1305	KR1320	KR1325	KR3105	KR3115	KR3125	KR3215	KR3225	KR4025	KR4035	KR4125	KR4135	KR4225	KR4235	KR4245	KR4340	KR001	KR101	fn (mm/dev)	ap (mm)		
	DNMG 110404-BM		●		●																				0.10-0.40	0.40-3.80	
	110408-BM		●		●																					0.15-0.40	0.50-4.00
	110412-BM																									0.15-0.50	0.80-4.20
	150404-BM																									0.10-0.40	0.40-4.00
	150408-BM																									0.15-0.45	0.50-4.50
	150412-BM																									0.15-0.50	0.80-5.00
	150416-BM																									0.15-0.50	0.85-5.00
	150604-BM		●		●		●	●																		0.10-0.40	0.40-4.00
	150608-BM		●		●																					0.15-0.45	0.50-4.50
	150612-BM																									0.15-0.50	0.80-5.00
150616-BM																									0.15-0.55	0.85-5.00	

Kesici Uç	Kod	Kaplama																Kesme Koşulları									
		KR1020	KR1025	KR1220	KR1225	KR1305	KR1320	KR1325	KR3105	KR3115	KR3125	KR3215	KR3225	KR4025	KR4035	KR4125	KR4135	KR4225	KR4235	KR4245	KR4340	KR001	KR101	fn (mm/dev)	ap (mm)		
	DNMG 110404-GF																								0.08-0.32	0.32-3.10	
	110408-GF																									0.12-0.32	0.40-3.20
	110412-GF																									0.12-0.40	0.64-3.30
	150404-GF		●											●												0.08-0.32	0.32-3.20
	150408-GF																●		●							0.12-0.36	0.40-3.60
	150412-GF																									0.12-0.40	0.64-4.00
	150416-GF																									0.12-0.40	0.68-4.00
	150604-GF					●							●					●		●	●					0.08-0.32	0.32-3.20
	150608-GF																	●		●	●					0.12-0.36	0.40-3.60
	150612-GF																									0.12-0.40	0.64-4.00
150616-GF																									0.12-0.44	0.68-4.00	

EŞKENAR DÖRTGEN 55° NEGATİF



Ölçü	Boyutlar (mm)		
	d	t	d1
11	9.525	3.18~4.76	3.81
15	12.7	4.76~6.35	5.16

İş Parçası	Malzeme	P	M	K	N	S	H	Kaplama											Kesme Koşulları		Açıklama														
								KR1020	KR1025	KR1220	KR1225	KR1305	KR1320	KR1325	KR3105	KR3115	KR3125	KR3215	KR3225	KR4025		KR4035	KR4125	KR4135	KR4225	KR4235	KR4245	KR4340	KR001	KR101	fn (mm/dev)	ap (mm)			
Çelik	P	●	●	○	○												●	●	●	●	●	●	●	●	●	●	●	●	●	○	0.10-0.40	0.40-3.80	● Önerilir ○ Kabul Edilebilir ○ Önerilmez		
Paslanmaz çelik	M	○	○	○	○																														
Dökme demir	K																																		
Demir-dışı metaller	N																																		
Isı dayanımlı alaşımlar, titanyum alaşımları	S																																		
Sertleştirilmiş Çelik	H																																		

Kesici Uç	Kod	Kaplama																	Kesme Koşulları							
		KR1020	KR1025	KR1220	KR1225	KR1305	KR1320	KR1325	KR3105	KR3115	KR3125	KR3215	KR3225	KR4025	KR4035	KR4125	KR4135	KR4225	KR4235	KR4245	KR4340	KR001	KR101	fn (mm/dev)	ap (mm)	
	DNMG 110404-GM				●																				0.10-0.40	0.40-3.80
	110408-GM		●		●																				0.15-0.40	0.50-4.00
	110412-GM																								0.15-0.50	0.80-4.20
	150404-GM				●																				0.10-0.40	0.40-4.00
	150408-GM			●	●	●		●																	0.15-0.45	0.50-4.50
	150412-GM																								0.15-0.50	0.80-5.00
	150416-GM																								0.15-0.50	0.85-5.00
	150604-GM		●		●			●	●	●	●	●	●	●	●	●	●	●	●	●	●		●		0.10-0.40	0.40-4.00
	150608-GM		●		●					●	●	●	●	●	●	●	●	●	●	●	●				0.15-0.45	0.50-4.50
	150612-GM																								0.15-0.50	0.80-5.00
150616-GM																								0.15-0.55	0.85-5.00	

Kesici Uç	Kod	Kaplama																	Kesme Koşulları							
		KR1020	KR1025	KR1220	KR1225	KR1305	KR1320	KR1325	KR3105	KR3115	KR3125	KR3215	KR3225	KR4025	KR4035	KR4125	KR4135	KR4225	KR4235	KR4245	KR4340	KR001	KR101	fn (mm/dev)	ap (mm)	
	DNMG 110404-GR																								0.10-0.40	0.40-3.80
	110408-GR																								0.15-0.40	0.50-4.00
	110412-GR																								0.15-0.50	0.80-4.20
	150404-GR																								0.10-0.40	0.40-4.00
	150408-GR																								0.15-0.45	0.50-4.50
	150412-GR															●	●								0.15-0.50	0.80-5.00
	150416-GR																								0.15-0.50	0.85-5.00
	150604-GR																								0.10-0.40	0.40-4.00
	150608-GR				●											●	●	●	●	●					0.15-0.45	0.50-4.50
	150612-GR		●		●						●	●	●	●	●	●	●	●	●	●					0.15-0.50	0.80-5.00
150616-GR				●						●	●	●	●	●					●					0.15-0.55	0.85-5.00	

Kesici Uç	Kod	Kaplama																	Kesme Koşulları							
		KR1020	KR1025	KR1220	KR1225	KR1305	KR1320	KR1325	KR3105	KR3115	KR3125	KR3215	KR3225	KR4025	KR4035	KR4125	KR4135	KR4225	KR4235	KR4245	KR4340	KR001	KR101	fn (mm/dev)	ap (mm)	
	DNMG 110404-GS																								0.10-0.40	0.40-3.80
	110408-GS																								0.15-0.40	0.50-4.00
	110412-GS																								0.15-0.50	0.80-4.20
	150404-GS																								0.10-0.40	0.40-4.00
	150408-GS		●																						0.15-0.45	0.50-4.50
	150412-GS																								0.15-0.50	0.80-5.00
	150416-GS																								0.15-0.50	0.85-5.00
	150604-GS																								0.10-0.40	0.40-4.00
	150608-GS																								0.15-0.45	0.50-4.50
	150612-GS																								0.15-0.50	0.80-5.00
150616-GS																								0.15-0.55	0.85-5.00	

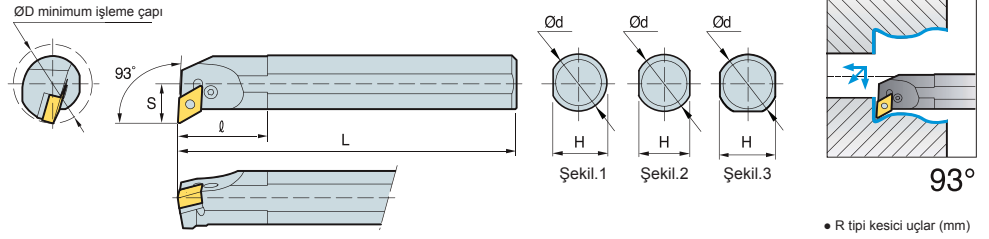


LEVYELİ BAĞLAMA SİSTEMİ

**PDUNR/L**



DN



• R tipi kesici uçlar (mm)

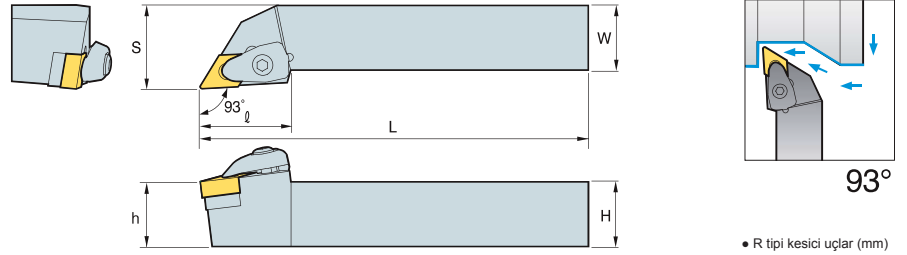
Kod	ØD	Ød	H	L	S	ℓ	Kesici Uç
S20S-PDUNR/L-11	25	20	18	250	13	32	DN <input type="checkbox"/> <input type="checkbox"/> 1104 <input type="checkbox"/> <input type="checkbox"/>
S25R-PDUNR/L-11	32	25	23	200	17	40	
S32S-PDUNR/L-11	40	32	30	250	22	50	
S32S-PDUNR/L-15	40	32	30	250	22	50	DN <input type="checkbox"/> <input type="checkbox"/> 1506 <input type="checkbox"/> <input type="checkbox"/>
S40T-PDUNR/L-15	50	40	38	300	27	60	
S50U-PDUNR/L-15	63	50	47	350	35	70	

ÇİFT BASKILI SİSTEM

**TDJNR/L**



DN

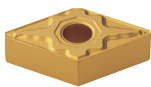


• R tipi kesici uçlar (mm)

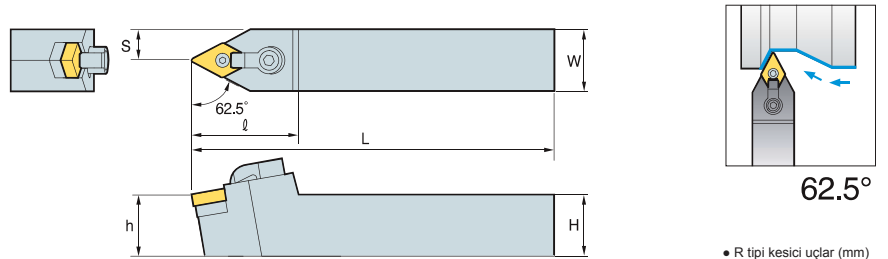
Kod	H	W	L	S	h	ℓ	Kesici Uç
TDJNR/L	2020-K11	20	20	125	25	20	DN <input type="checkbox"/> <input type="checkbox"/> 1104 <input type="checkbox"/> <input type="checkbox"/>
	2525-M11	25	25	150	32	25	
	3232-P11	32	32	170	40	32	
TDJNR/L	2020-K15	20	20	125	25	20	DN <input type="checkbox"/> <input type="checkbox"/> 1506 <input type="checkbox"/> <input type="checkbox"/>
	2525-M15	25	25	150	32	25	
	3232-P15	32	32	170	40	32	

ÜSTTEN BAĞLAMALI ALTTAN ÇEKTİRMELİ SİSTEM

**MDNNN**



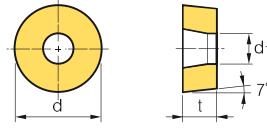
DN



• R tipi kesici uçlar (mm)

Kod	H	W	L	S	h	ℓ	Kesici Uç	
MDNNN	2525-M15	25	25	150	12.5	25	41	DN <input type="checkbox"/> <input type="checkbox"/> 1506 <input type="checkbox"/> <input type="checkbox"/>

DAİRESEL R° POZİTİF - KESİCİ UÇ BOŞLUK AÇISI : 7°



Ölçü	Boyutlar (mm)		
	d	t	d1
08	8.0	3.18	3.35
10	10.0	3.97	3.6
12	12.0	4.76	4.2
16	16.0	6.35	5.2
20	20.0	6.35	6.5

İş Parçası	P		M		K		N		S		H		Açıklama	
	●	○	●	○	●	○	●	○	●	○	●	○	●	○
Çelik	●	○	●	○	●	○	●	○	●	○	●	○	●	○
Paslanmaz çelik	●	○	●	○	●	○	●	○	●	○	●	○	●	○
Dökme demir	●	○	●	○	●	○	●	○	●	○	●	○	●	○
Demir-dışı metaller	●	○	●	○	●	○	●	○	●	○	●	○	●	○
Isı dayanımlı alaşımlar, titanyum alaşımları	●	○	●	○	●	○	●	○	●	○	●	○	●	○
Sertleştirilmiş Çelik	●	○	●	○	●	○	●	○	●	○	●	○	●	○

Kesici Uç	Kod	Kaplama														Kesme Koşulları											
		KR1020	KR1025	KR1220	KR1225	KR1305	KR1320	KR1325	KR3105	KR3115	KR3125	KR3215	KR3225	KR4025	KR4035	KR4125	KR4135	KR4225	KR4235	KR4245	KR4340	KR001	KR101	fn (mm/dev)	ap (mm)		
	0803MO-AC																						●	●	0.05-0.30	0.80-2.50	
	1003MO-AC																							●	●	0.05-0.35	0.90-3.00
	1204MO-AC																							●	●	0.10-0.50	1.00-3.50

Kesici Uç	Kod	Kaplama														Kesme Koşulları										
		KR1020	KR1025	KR1220	KR1225	KR1305	KR1320	KR1325	KR3105	KR3115	KR3125	KR3215	KR3225	KR4025	KR4035	KR4125	KR4135	KR4225	KR4235	KR4245	KR4340	KR001	KR101	fn (mm/dev)	ap (mm)	
	0803MO																								0.05-0.30	0.80-2.50
	10T3MO																								0.05-0.35	0.90-3.00
	1204MO		●			●																			0.10-0.50	1.00-3.50
	1606MO																								0.13-0.60	1.30-6.50
	2006MO																								0.48-0.90	3.50-9.00

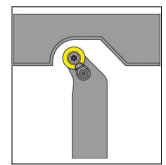
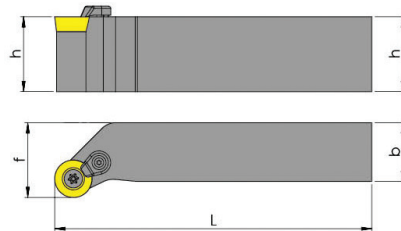
Kesici Uç	Kod	Kaplama														Kesme Koşulları									
		KR1020	KR1025	KR1220	KR1225	KR1305	KR1320	KR1325	KR3105	KR3115	KR3125	KR3215	KR3225	KR4025	KR4035	KR4125	KR4135	KR4225	KR4235	KR4245	KR4340	KR001	KR101	fn (mm/dev)	ap (mm)
	0803MOTN																							0.05-0.30	0.80-2.50
	10T3MOTN																							0.05-0.35	0.90-3.00
	1204MOTN																							0.10-0.50	1.00-3.50
	1606MOTN		●			●																		0.13-0.60	1.30-6.50
	2006MOTN		●			●																		0.48-0.90	3.50-9.00

ÇİFT BASKILI SİSTEM

SRGCR/L



RC □□

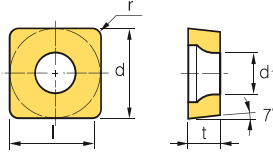


• R tipi kesici uçlar (mm)

Kod	h	b	L	f	h	Kesici Uç	
SRGCR/L	2020-K06	20	20	125	25	20	RC□□06□□
	2525-M06	25	25	150	32	25	
	2020-K08	20	20	125	25	20	RC□□08□□
	2525-M08	25	25	150	32	25	
	2020-K10	20	20	125	25	20	RC□□10□□
	2525-M10	25	25	150	32	25	
	3232-P10	32	32	170	16	32	RC□□12□□
	2020-K12	20	20	125	25	20	
	2525-M12	25	25	150	32	25	
	3232-P12	32	32	170	16	32	
	2020-K16	20	20	125	25	20	RC□□16□□
	2525-M16	25	25	150	32	25	
	3232-P16	32	32	170	16	32	

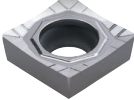
## KARE 90° POZİTİF - KESİCİ UÇ BOŞLUK AÇISI : 7°

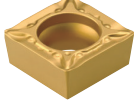
SC

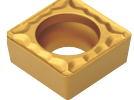


Ölçü	Boyutlar (mm)		
	d	t	d1
09	9.525	3.97	4.4
12	12.7	4.76	5.5

İş Parçası	Malzeme	P	M	K	N	S	H	Kaplama																Açıklama			
								1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18		
Çelik	Çelik	●	●	○	○																						● Ünerilir
Paslanmaz çelik	Paslanmaz çelik	●	●	○	○																						○ Kabul Edilebilir
Dökme demir	Dökme demir																										○ Ünerilmez
Demir-dışı metaller	Demir-dışı metaller																										
Isı dayanımlı alaşımlar, titanyum alaşımları	Isı dayanımlı alaşımlar, titanyum alaşımları																										
Sertleştirilmiş Çelik	Sertleştirilmiş Çelik																										

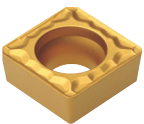
Kesici Uç	Kod	Kaplama																Kaplama		Kesme Koşulları									
		KR1020	KR1025	KR1220	KR1225	KR1305	KR1320	KR1325	KR3105	KR3115	KR3125	KR3215	KR3225	KR4025	KR4035	KR4125	KR4135	KR4225	KR4235	KR4245	KR4340	KR001	KR101	fn (mm/dev)	ap (mm)				
	SCGT	09T304-AH																							●	0.05-0.25	0.30-2.80		
		09T308-AH																								●	0.10-0.30	0.50-2.80	
		120404-AH																								●	0.10-0.30	0.50-2.80	
		120408-AH																									●	0.15-0.35	0.80-3.50
		120412-AH																									●	0.25-0.40	1.00-3.50

Kesici Uç	Kod	Kaplama																Kaplama		Kesme Koşulları									
		KR1020	KR1025	KR1220	KR1225	KR1305	KR1320	KR1325	KR3105	KR3115	KR3125	KR3215	KR3225	KR4025	KR4035	KR4125	KR4135	KR4225	KR4235	KR4245	KR4340	KR001	KR101	fn (mm/dev)	ap (mm)				
	SCMT	09T304-HF				●								●													0.05-0.25	0.30-2.80	
		09T308-HF																										0.10-0.30	0.50-2.80
		120404-HF																										0.10-0.30	0.50-2.80
		120408-HF																										0.15-0.35	0.80-3.50
		120412-HF																										0.25-0.40	1.00-3.50

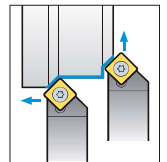
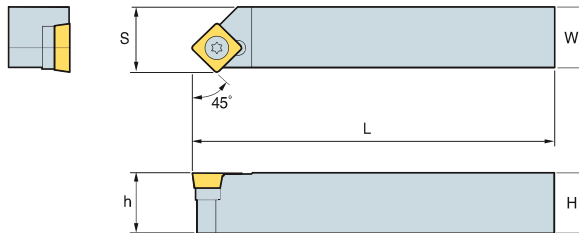
Kesici Uç	Kod	Kaplama																Kaplama		Kesme Koşulları									
		KR1020	KR1025	KR1220	KR1225	KR1305	KR1320	KR1325	KR3105	KR3115	KR3125	KR3215	KR3225	KR4025	KR4035	KR4125	KR4135	KR4225	KR4235	KR4245	KR4340	KR001	KR101	fn (mm/dev)	ap (mm)				
	SCMT	09T304-HM		●	●	●																					0.05-0.25	0.30-2.80	
		09T308-HM		●	●	●																						0.10-0.30	0.50-2.80
		120404-HM				●																						0.10-0.30	0.50-2.80
		120408-HM		●	●	●																						0.15-0.35	0.80-3.50
		120412-HM				●																						0.25-0.40	1.00-3.50

## VİDALI SIKMA SİSTEMİ

SSSCR/L



SC □ □



45°

● R tipi kesici uçlar (mm)

Kod	H	W	L	S	h	ℓ	Kesici Uç
SSSCR/L	1616-H09	16	16	100	17	16	SC □ □ 09T3 □ □
	2020-K12	20	20	125	21	20	SC □ □ 1204 □ □
	2525-M12	25	25	150	26	25	

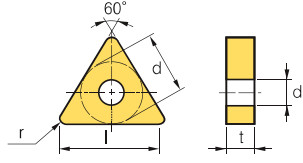








ÜÇGEN 60° NEGATİF

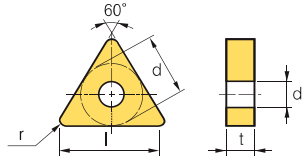


Ölçü	Boyutlar (mm)		
	d	t	d1
16	9.525	4.76	3.81
22	12.7	4.76	5.16
27	15.875	6.35	6.35
33	19.05	9.52	7.93

İş Parçası																					Açıklama				
	Çelik	P	●	●	○	○																			●
Paslanmaz çelik	M	○	○	●	●																			○	
Dökme demir	K																							○	
Demir-dışı metaller	N																							○	
Isı dayanımlı alaşımlar, titanyum alaşımları	S			○	●	●	●																	○	
Sertleştirilmiş Çelik	H					●	●	●																○	

Kesici Uç	Kod	Kaplama														Kapsız		Kesme Koşulları							
		KR1020	KR1025	KR1220	KR1225	KR1305	KR1320	KR1325	KR3105	KR3115	KR3125	KR3215	KR3225	KR4025	KR4035	KR4125	KR4135	KR4225	KR4235	KR4245	KR4340	KR001	KR101	fn (mm/dev)	ap (mm)
	TNMA 160404									●	●	●	●											○	○
	160408									●	●	●	●											○	○
	160412									●	●	●	●	●										○	○
	160416									●	●	●	●											○	○
	220404									●														○	○
	220408									●														○	○
	220412									●	●	●	●											○	○
	220416									●	●	●	●											○	○

ÜÇGEN 60° NEGATİF



Ölçü	Boyutlar (mm)		
	d	t	d1
16	9.525	4.76	3.81

İş Parçası																					Açıklama				
	Çelik	P	●	●	○	○																			●
Paslanmaz çelik	M	○	○	●	●																			○	
Dökme demir	K																							○	
Demir-dışı metaller	N																							○	
Isı dayanımlı alaşımlar, titanyum alaşımları	S			○	●	●	●																	○	
Sertleştirilmiş Çelik	H					●	●	●																○	

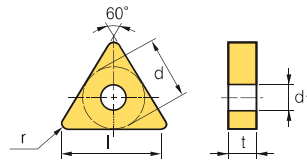
Kesici Uç	Kod	Kaplama														Kapsız		Kesme Koşulları								
		KR1020	KR1025	KR1220	KR1225	KR1305	KR1320	KR1325	KR3105	KR3115	KR3125	KR3215	KR3225	KR4025	KR4035	KR4125	KR4135	KR4225	KR4235	KR4245	KR4340	KR001	KR101	fn (mm/dev)	ap (mm)	
	TNMX 160404R-GC		●	●	●																			○	○	
	160408R-GC		●	●	●					●						●		●	●						○	○
	160404L-GC		●	●	●											●		●	●						○	○
	160408L-GC		●	●	●					●						●		●	●						○	○





ÜÇGEN 60° NEGATİF

**TN**



Ölçü	Boyutlar (mm)		
	d	t	d1
11	6.35	3.18	2.40
16	9.525	4.76	3.81
22	12.7	4.76	5.16
27	15.875	6.35	6.35
33	19.05	9.52	7.93

İş Parçası	Malzeme	Kaplama																			Kesme Koşulları		Açıklama						
		KR1020	KR1025	KR1220	KR1225	KR1305	KR1320	KR1325	KR3105	KR3115	KR3125	KR3215	KR3225	KR4025	KR4035	KR4125	KR4135	KR4225	KR4235	KR4245	KR4340	KR001		KR101	fn (mm/dev)	ap (mm)			
Çelik	P	●	●	○	○											●	●	●	●	●	●	●	●			0.15-0.42	0.50-3.50	● Ünerilir ○ Kabul Edilebilir ○ Ünerilmez	
	M	○	○	●	●																			●		0.10-0.40	0.40-3.50		
	K										●	●	●	●													0.15-0.45		0.50-4.00
	N																								●	●	0.15-0.50		0.80-4.50
	S					○	●	●	●	●																	0.18-0.50		1.00-4.50
Paslanmaz çelik	M																									0.10-0.35	0.40-5.00		
	H																									0.15-0.45	0.50-5.50		
Dökme demir	K																									0.15-0.50	0.80-6.00		
Demir-dışı metaller	N																									0.20-0.55	1.00-6.00		
Isı dayanımlı alaşımlar, titanyum alaşımları	S																									0.28-0.60	1.20-8.00		
Sertleştirilmiş Çelik	H																									0.35-0.70	2.30-13.00		

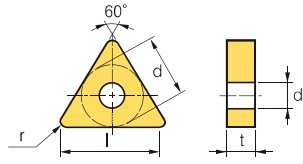
Kesici Uç	Kod	Kaplama																			Kesme Koşulları						
		KR1020	KR1025	KR1220	KR1225	KR1305	KR1320	KR1325	KR3105	KR3115	KR3125	KR3215	KR3225	KR4025	KR4035	KR4125	KR4135	KR4225	KR4235	KR4245	KR4340	KR001	KR101	fn (mm/dev)	ap (mm)		
	<b>TNMG</b> 110308-GR																									0.15-0.42	0.50-3.50
	160404-GR																									0.10-0.40	0.40-3.50
	160408-GR				●					●				●			●	●	●	●						0.15-0.45	0.50-4.00
	160412-GR		●		●					●			●	●		●	●	●	●	●						0.15-0.50	0.80-4.50
	160416-GR				●								●								●					0.18-0.50	1.00-4.50
	220404-GR																									0.10-0.35	0.40-5.00
	220408-GR																									0.15-0.45	0.50-5.50
	220412-GR					●					●			●	●	●	●	●	●	●	●					0.15-0.50	0.80-6.00
	220416-GR					●											●	●	●	●	●					0.20-0.55	1.00-6.00
	270612-GR					●																●				0.28-0.60	1.20-8.00
330924-GR					●											●	●	●	●	●					0.35-0.70	2.30-13.00	

Kesici Uç	Kod	Kaplama																			Kesme Koşulları						
		KR1020	KR1025	KR1220	KR1225	KR1305	KR1320	KR1325	KR3105	KR3115	KR3125	KR3215	KR3225	KR4025	KR4035	KR4125	KR4135	KR4225	KR4235	KR4245	KR4340	KR001	KR101	fn (mm/dev)	ap (mm)		
	<b>TNMG</b> 110308-GS																								0.15-0.42	0.50-3.50	
	160404-GS				●									●			●	●	●						0.10-0.40	0.40-3.50	
	160408-GS				●									●			●	●	●						0.15-0.45	0.50-4.00	
	160412-GS																								0.15-0.50	0.80-4.50	
	160416-GS																								0.18-0.50	1.00-4.50	
	220404-GS																									0.10-0.35	0.40-5.00
	220408-GS																									0.15-0.45	0.50-5.50
	220412-GS																									0.15-0.50	0.80-6.00
	220416-GS																									0.20-0.55	1.00-6.00
	270612-GS																									0.28-0.60	1.20-8.00
330924-GS																									0.35-0.70	2.30-13.00	

Kesici Uç	Kod	Kaplama																			Kesme Koşulları						
		KR1020	KR1025	KR1220	KR1225	KR1305	KR1320	KR1325	KR3105	KR3115	KR3125	KR3215	KR3225	KR4025	KR4035	KR4125	KR4135	KR4225	KR4235	KR4245	KR4340	KR001	KR101	fn (mm/dev)	ap (mm)		
	<b>TNMG</b> 110308-KR																								0.15-0.42	0.50-3.50	
	160404-KR																								0.10-0.40	0.40-3.50	
	160408-KR										●	●	●												0.15-0.45	0.50-4.00	
	160412-KR										●	●	●												0.15-0.50	0.80-4.50	
	160416-KR																								0.18-0.50	1.00-4.50	
	220404-KR																								0.10-0.35	0.40-5.00	
	220408-KR																								0.15-0.45	0.50-5.50	
	220412-KR										●			●	●								●			0.15-0.50	0.80-6.00
	220416-KR																									0.20-0.55	1.00-6.00
	270612-KR																									0.28-0.60	1.20-8.00
330924-KR																									0.35-0.70	2.30-13.00	

ÜÇGEN 60° NEGATİF

TN



Ölçü	Boyutlar (mm)		
	d	t	d1
11	6.35	3.18	2.40
16	9.525	4.76	3.81
22	12.7	4.76	5.16
27	15.875	6.35	6.35
33	19.05	9.52	7.93

İş Parçası	Malzeme	Kaplama																Kesme Koşulları								
		KR1020	KR1025	KR1220	KR1225	KR1305	KR1320	KR1325	KR3105	KR3115	KR3125	KR3215	KR3225	KR4025	KR4035	KR4125	KR4135	KR4225	KR4235	KR4245	KR4340	KR001	KR101	fn (mm/dev)	ap (mm)	
Çelik	P	●	●	○	○																					
	M	○	○	●	●																					
	K							●	●	●	●															
	N																									
	S																									
Sertleştirilmiş Çelik	H																									

Kesici Uç	Kod	Kaplama																Kesme Koşulları										
		KR1020	KR1025	KR1220	KR1225	KR1305	KR1320	KR1325	KR3105	KR3115	KR3125	KR3215	KR3225	KR4025	KR4035	KR4125	KR4135	KR4225	KR4235	KR4245	KR4340	KR001	KR101	fn (mm/dev)	ap (mm)			
	TNMG 110308-MA																								0.15-0.42	0.50-3.50		
	160404-MA		●																							0.10-0.40	0.40-3.50	
	160408-MA		●	●	●			●						●		●			●							0.15-0.45	0.50-4.00	
	160412-MA		●	●	●									●					●							0.15-0.50	0.80-4.50	
	160416-MA																									0.18-0.50	1.00-4.50	
	220404-MA																									0.10-0.35	0.40-5.00	
	220408-MA																									0.15-0.45	0.50-5.50	
	220412-MA																										0.15-0.50	0.80-6.00
	220416-MA																										0.20-0.55	1.00-6.00
	270612-MA																										0.28-0.60	1.20-8.00
330924-MA																										0.35-0.70	2.30-13.00	

Kesici Uç	Kod	Kaplama																Kesme Koşulları										
		KR1020	KR1025	KR1220	KR1225	KR1305	KR1320	KR1325	KR3105	KR3115	KR3125	KR3215	KR3225	KR4025	KR4035	KR4125	KR4135	KR4225	KR4235	KR4245	KR4340	KR001	KR101	fn (mm/dev)	ap (mm)			
	TNMG 110308-TM																									0.15-0.42	0.50-3.50	
	160404-TM		●			●	●	●						●		●			●							0.10-0.40	0.40-3.50	
	160408-TM		●		●	●		●						●		●			●							0.15-0.45	0.50-4.00	
	160412-TM							●						●		●			●							0.15-0.50	0.80-4.50	
	160416-TM																									0.18-0.50	1.00-4.50	
	220404-TM																									0.10-0.35	0.40-5.00	
	220408-TM																									0.15-0.45	0.50-5.50	
	220412-TM																										0.15-0.50	0.80-6.00
	220416-TM																										0.20-0.55	1.00-6.00
	270612-TM																										0.28-0.60	1.20-8.00
330924-TM																										0.35-0.70	2.30-13.00	

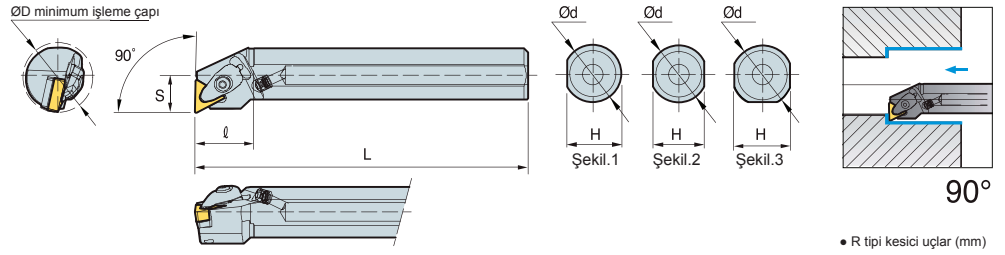
Kesici Uç	Kod	Kaplama																Kesme Koşulları										
		KR1020	KR1025	KR1220	KR1225	KR1305	KR1320	KR1325	KR3105	KR3115	KR3125	KR3215	KR3225	KR4025	KR4035	KR4125	KR4135	KR4225	KR4235	KR4245	KR4340	KR001	KR101	fn (mm/dev)	ap (mm)			
	TNMG 110308-ZR																									0.15-0.42	0.50-3.50	
	160404-ZR																									0.10-0.40	0.40-3.50	
	160408-ZR																									0.15-0.45	0.50-4.00	
	160412-ZR																									0.15-0.50	0.80-4.50	
	160416-ZR																									0.18-0.50	1.00-4.50	
	220404-ZR																									0.10-0.35	0.40-5.00	
	220408-ZR																									0.15-0.45	0.50-5.50	
	220412-ZR		●		●					●			●			●			●								0.15-0.50	0.80-6.00
	220416-ZR				●					●		●	●						●								0.20-0.55	1.00-6.00
	270612-ZR																										0.28-0.60	1.20-8.00
330924-ZR																										0.35-0.70	2.30-13.00	

ÇİFT BASKILI SİSTEM

**TTUNR/L**



TN □ □



• R tipi kesici uçlar (mm)

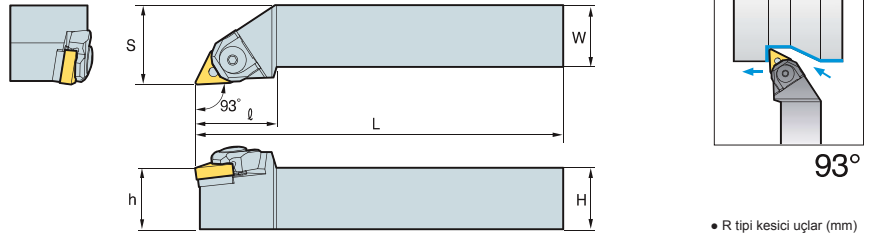
Kod	ØD	Ød	H	L	S	l	Kesici Uç
S25R-TTUNR/L-16	32	25	24	200	17	40	TN□□1604□□
S32S-TTUNR/L-16	40	32	30	250	22	50	
S40T-TTUNR/L-22	50	40	38	300	27	60	
S50U-TTUNR/L-22	63	50	47	350	35	70	TN□□2204□□

ÜSTTEN BAĞLAMALI ALTTAN ÇEKTİRMELİ SİSTEM

**MTJNR/L**



TN □ □



• R tipi kesici uçlar (mm)

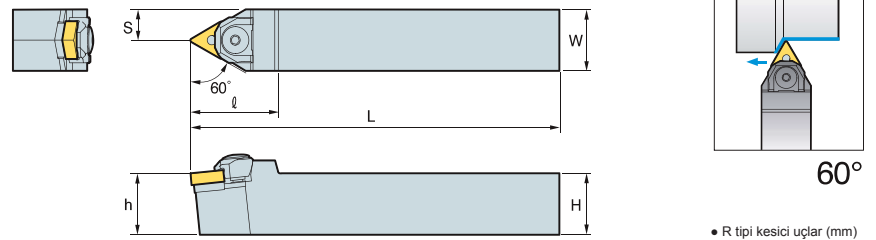
Kod	H	W	L	S	h	l	Kesici Uç
MTJNR/L	2020-K16	20	20	125	25	20	TN□□1604□□
	2525-M16	25	25	150	32	25	
	3232-P16	32	32	170	40	32	
	2525-M22	25	25	150	32	25	TN□□2204□□
3232-P22	32	32	170	40	32		

ÜSTTEN BAĞLAMALI ALTTAN ÇEKTİRMELİ SİSTEM

**MTENN**



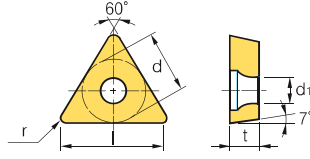
TN □ □



• R tipi kesici uçlar (mm)

Kod	H	W	L	S	h	l	Kesici Uç
MTENN	2020-K16	20	20	125	10	20	TN□□1604□□
	2525-M16	25	25	150	12.5	25	
	2525-M22	25	25	150	12.5	25	
	3232-P22	32	32	170	16	32	TN□□2204□□

ÜÇGEN 60° POZİTİF - KESİCİ UÇ BOŞLUK AÇISI : 7°

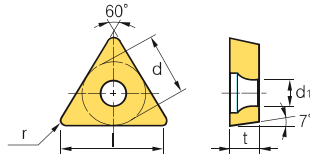


Ölçü	Boyutlar (mm)		
	d	t	d1
09	5.56	2.38	2.5
11	6.35	2.38	2.8
16	9.523	3.97	4.4

İş Parçası	Materyal	Kaplama																Kesme Koşulları		Açıklama						
		KR1020	KR1025	KR1220	KR1225	KR1305	KR1320	KR1325	KR3105	KR3115	KR3125	KR3215	KR3225	KR4025	KR4035	KR4125	KR4135	KR4225	KR4235		KR4245	KR4340	KR001	KR101	fn (mm/dev)	ap (mm)
Çelik	P	●	●	○	○										●	●	●	●	●	●	●			0.05-0.15	0.10-1.30	●
Paslanmaz çelik	M	○	○	●	●																	●		0.08-0.20	0.10-1.30	○
Dökme demir	K									●	●	●	●											0.05-0.20	0.30-1.50	○
Demir-dışı metaller	N																						●	0.05-0.20	0.30-1.50	○
Isı dayanımlı alaşımlar, titanyum alaşımları	S				○	●	●	●																0.05-0.20	0.30-1.50	○
Sertleştirilmiş Çelik	H					●	●	●																		○

Kesici Uç	Kod	Kaplama																Kesme Koşulları									
		KR1020	KR1025	KR1220	KR1225	KR1305	KR1320	KR1325	KR3105	KR3115	KR3125	KR3215	KR3225	KR4025	KR4035	KR4125	KR4135	KR4225	KR4235	KR4245	KR4340	KR001	KR101	fn (mm/dev)	ap (mm)		
	TCGT 110204-AC																						●	●	0.05-0.15	0.10-1.30	
	110208-AC																							●	●	0.08-0.20	0.10-1.30
	16T304-AC																							●	●	0.05-0.20	0.30-1.50
	16T308-AC																							●	●	0.05-0.20	0.30-1.50

ÜÇGEN 60° POZİTİF - KESİCİ UÇ BOŞLUK AÇISI : 7°



Ölçü	Boyutlar (mm)		
	d	t	d1
09	5.56	2.38	2.5
11	6.35	2.38	2.8
16	9.523	3.97	4.4

İş Parçası	Materyal	Kaplama																Kesme Koşulları		Açıklama						
		KR1020	KR1025	KR1220	KR1225	KR1305	KR1320	KR1325	KR3105	KR3115	KR3125	KR3215	KR3225	KR4025	KR4035	KR4125	KR4135	KR4225	KR4235		KR4245	KR4340	KR001	KR101	fn (mm/dev)	ap (mm)
Çelik	P	●	●	○	○										●	●	●	●	●	●	●			0.05-0.18	0.10-1.00	●
Paslanmaz çelik	M	○	○	●	●																		●	0.08-0.20	0.10-1.20	○
Dökme demir	K									●	●	●	●											0.03-0.12	0.20-1.50	○
Demir-dışı metaller	N																						●	0.05-0.15	0.20-1.50	○
Isı dayanımlı alaşımlar, titanyum alaşımları	S				○	●	●	●																0.10-0.28	0.25-2.00	○
Sertleştirilmiş Çelik	H					●	●	●																0.08-0.25	0.20-1.50	○

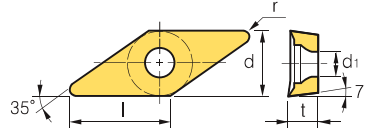
Kesici Uç	Kod	Kaplama																Kesme Koşulları							
		KR1020	KR1025	KR1220	KR1225	KR1305	KR1320	KR1325	KR3105	KR3115	KR3125	KR3215	KR3225	KR4025	KR4035	KR4125	KR4135	KR4225	KR4235	KR4245	KR4340	KR001	KR101	fn (mm/dev)	ap (mm)
	TCMT 090204																							0.05-0.15	0.20-1.50
	090208																							0.10-0.28	0.25-2.00
	110202																							0.08-0.20	0.10-1.20
	110204																							0.05-0.15	0.20-1.50
	110208																							0.10-0.28	0.25-2.00
	16T302																							0.08-0.25	0.20-1.50
	16T304		●		●					●		●		●										0.08-0.20	0.30-2.50
	16T308																							0.10-0.30	0.50-2.50
	16T312																							0.20-0.40	0.50-2.50







EŞKENAR DÖRTGEN 35° POZİTİF - KESİCİ UÇ BOŞLUK AÇISI : 7°

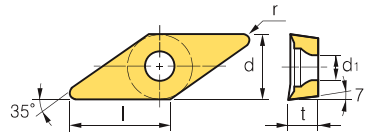


Ölçü	Boyutlar (mm)		
	d	t	d1
11	6.35	3.18	2.8
16	9.525	4.76	4.4

İş Parçası	Kaplama																Kesme Koşulları		Açıklama
	P	M	K	N	S	H												fn (mm/dev)	
Çelik	●	●	○	○														0.02-0.20	0.05-3.00
Paslanmaz çelik	○	○	●	●														0.02-0.25	0.10-4.00
Dökme demir																		0.03-0.30	0.10-5.00
Demir-dışı metaller																		0.02-0.30	0.05-5.00
Isı dayanımlı alaşımlar, titanyum alaşımları																		0.03-0.40	0.10-5.00
Sertleştirilmiş Çelik																		0.03-0.50	0.10-5.00

Kesici Uç	Kod	Kaplama																Kesme Koşulları									
		KR1020	KR1025	KR1220	KR1225	KR1305	KR1320	KR1325	KR3105	KR3115	KR3125	KR3215	KR3225	KR4025	KR4035	KR4125	KR4135	KR4225	KR4235	KR4245	KR4340	KR001	KR101	fn (mm/dev)	ap (mm)		
	VCMT	110302-AC																							0.02-0.20	0.05-3.00	
	110304-AC																									0.02-0.25	0.10-4.00
	110308-AC																									0.03-0.30	0.10-5.00
	160402-AC																									0.02-0.30	0.05-5.00
	160404-AC																									0.03-0.40	0.10-5.00
	160408-AC																									0.03-0.50	0.10-5.00
	160412-AC																									0.03-0.50	0.10-5.00

EŞKENAR DÖRTGEN 35° POZİTİF - KESİCİ UÇ BOŞLUK AÇISI : 7°



Ölçü	Boyutlar (mm)		
	d	t	d1
11	6.35	3.18	2.8 ~ 3.4
16	9.525	4.76	4.4

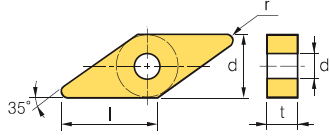
İş Parçası	Kaplama																Kesme Koşulları		Açıklama								
	P	M	K	N	S	H												fn (mm/dev)		ap (mm)							
Çelik	●	●	○	○																					0.06-0.18	0.20-1.80	
Paslanmaz çelik	○	○	●	●																						0.06-0.18	0.20-1.80
Dökme demir																										0.08-0.18	0.30-2.00
Demir-dışı metaller																										0.10-0.23	0.50-2.30
Isı dayanımlı alaşımlar, titanyum alaşımları																										0.10-0.33	0.50-2.30
Sertleştirilmiş Çelik																										0.10-0.33	0.50-2.30

Kesici Uç	Kod	Kaplama																Kesme Koşulları										
		KR1020	KR1025	KR1220	KR1225	KR1305	KR1320	KR1325	KR3105	KR3115	KR3125	KR3215	KR3225	KR4025	KR4035	KR4125	KR4135	KR4225	KR4235	KR4245	KR4340	KR001	KR101	fn (mm/dev)	ap (mm)			
	VCMT	110302																								0.06-0.18	0.20-1.80	
	110304																										0.06-0.18	0.20-1.80
	160404																										0.08-0.18	0.30-2.00
	160408																										0.10-0.23	0.50-2.30
	160412																										0.10-0.33	0.50-2.30

Kesici Uç	Kod	Kaplama																Kesme Koşulları										
		KR1020	KR1025	KR1220	KR1225	KR1305	KR1320	KR1325	KR3105	KR3115	KR3125	KR3215	KR3225	KR4025	KR4035	KR4125	KR4135	KR4225	KR4235	KR4245	KR4340	KR001	KR101	fn (mm/dev)	ap (mm)			
	VCMT	110302-HH																								0.06-0.18	0.20-1.80	
	110304-HH																										0.06-0.18	0.20-1.80
	160404-HH																										0.08-0.18	0.30-2.00
	160408-HH																										0.10-0.23	0.50-2.30
	160412-HH																										0.10-0.33	0.50-2.30





## EŞKENAR DÖRTGEN 35° NEGATİF




Ölçü	Boyutlar (mm)		
	d	t	d1
16	9.525	4.76	3.81

İş Parçası	Çelik	Paslanmaz çelik	Dökme demir	Demir-dışı metaller	Isı dayanımlı alaşımlar, titanyum alaşımları	Sertleştirilmiş Çelik	P	M	K	N	S	H	Açıklama		
													●	○	
							●	●	●	●	●	●	●	●	●
														○	●
														○	○
														○	○
														○	○

Kesici Uç	Kod	Kaplama																Kesme Koşulları								
		KR1020	KR1025	KR1220	KR1225	KR1305	KR1320	KR1325	KR3105	KR3115	KR3125	KR3215	KR3225	KR4025	KR4035	KR4125	KR4135	KR4225	KR4235	KR4245	KR4340	KR001	KR101	fn (mm/dev)	ap (mm)	
	VNMG 160404		●		●				●	●	●	●	●	●											0.10-0.40	0.40-3.50
	VNMG 160408		●		●					●	●	●	●	●											0.15-0.45	0.50-4.00
	VNMG 160412				●					●		●													0.15-0.50	0.80-4.50
	VNMG 160416																								0.18-0.50	1.00-4.50

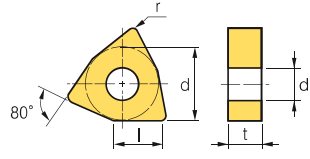
Kesici Uç	Kod	Kaplama																Kesme Koşulları								
		KR1020	KR1025	KR1220	KR1225	KR1305	KR1320	KR1325	KR3105	KR3115	KR3125	KR3215	KR3225	KR4025	KR4035	KR4125	KR4135	KR4225	KR4235	KR4245	KR4340	KR001	KR101	fn (mm/dev)	ap (mm)	
	VNMG 160404-BM		●															●							0.10-0.40	0.40-3.50
	VNMG 160408-BM		●	●																					0.15-0.45	0.50-4.00
	VNMG 160412-BM				●																				0.15-0.50	0.80-4.50
	VNMG 160416-BM																								0.18-0.50	1.00-4.50

Kesici Uç	Kod	Kaplama																Kesme Koşulları								
		KR1020	KR1025	KR1220	KR1225	KR1305	KR1320	KR1325	KR3105	KR3115	KR3125	KR3215	KR3225	KR4025	KR4035	KR4125	KR4135	KR4225	KR4235	KR4245	KR4340	KR001	KR101	fn (mm/dev)	ap (mm)	
	VNMG 160404-GF				●									●											0.08-0.32	0.32-2.80
	VNMG 160408-GF		●										●												0.12-0.36	0.40-3.20
	VNMG 160412-GF																	●							0.12-0.40	0.64-3.60
	VNMG 160416-GF																								0.15-0.40	0.80-3.60





ÜÇGENSEL 80° NEGATİF



Ölçü	Boyutlar (mm)		
	d	t	d1
06	9.525	4.76	3.81
08	12.7	4.76	5.16

İş Parçası	Malzeme	Kaplama																Açıklama									
		KR1020	KR1025	KR1220	KR1225	KR1305	KR1320	KR1325	KR3105	KR3115	KR3125	KR3215	KR3225	KR4025	KR4035	KR4125	KR4135	KR4225	KR4235	KR4245	KR4340	KR001	KR101	Üniter	Kabul Edilebilir		
Çelik	P	●	●	○	○																						
Paslanmaz çelik	M	○	○	●	●																						
Dökme demir	K																										
Demir-dışı metaller	N																										
Isı dayanımlı alaşımlar, titanyum alaşımları	S			○	○	●	●	●	●																		
Sertleştirilmiş Çelik	H					●	●	●																			

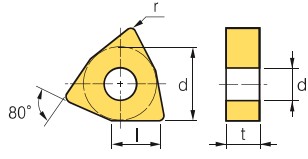
Kesici Uç	Kod	Kaplama																Kapasız		Kesme Koşulları									
		KR1020	KR1025	KR1220	KR1225	KR1305	KR1320	KR1325	KR3105	KR3115	KR3125	KR3215	KR3225	KR4025	KR4035	KR4125	KR4135	KR4225	KR4235	KR4245	KR4340	KR001	KR101	fn (mm/dev)	ap (mm)				
	WNMG 060404-BF																										0.10-0.40	0.40-2.80	
	060408-BF																											0.15-0.45	0.50-3.00
	060412-BF																											0.15-0.50	0.80-3.20
	080404-BF		●							●																		0.10-0.40	0.40-4.00
	080408-BF		●							●																		0.15-0.45	0.50-4.50
	080412-BF																											0.15-0.50	0.80-5.00
	080416-BF																											0.18-0.55	0.10-5.00

Kesici Uç	Kod	Kaplama																Kapasız		Kesme Koşulları									
		KR1020	KR1025	KR1220	KR1225	KR1305	KR1320	KR1325	KR3105	KR3115	KR3125	KR3215	KR3225	KR4025	KR4035	KR4125	KR4135	KR4225	KR4235	KR4245	KR4340	KR001	KR101	fn (mm/dev)	ap (mm)				
	WNMG 060404-BM																										0.10-0.40	0.40-2.80	
	060408-BM																											0.15-0.45	0.50-3.00
	060412-BM																											0.15-0.50	0.80-3.20
	080404-BM		●	●	●	●																						0.10-0.40	0.40-4.00
	080408-BM		●	●	●																		●					0.15-0.45	0.50-4.50
	080412-BM			●																								0.15-0.50	0.80-5.00
	080416-BM																											0.18-0.55	0.10-5.00

Kesici Uç	Kod	Kaplama																Kapasız		Kesme Koşulları									
		KR1020	KR1025	KR1220	KR1225	KR1305	KR1320	KR1325	KR3105	KR3115	KR3125	KR3215	KR3225	KR4025	KR4035	KR4125	KR4135	KR4225	KR4235	KR4245	KR4340	KR001	KR101	fn (mm/dev)	ap (mm)				
	WNMG 060404-CM																										0.10-0.40	0.40-2.80	
	060408-CM																											0.15-0.45	0.50-3.00
	060412-CM																											0.15-0.50	0.80-3.20
	080404-CM					●					●																	0.10-0.40	0.40-4.00
	080408-CM		●			●					●																	0.15-0.45	0.50-4.50
	080412-CM			●																								0.15-0.50	0.80-5.00
	080416-CM																											0.18-0.55	0.10-5.00

Kesici Uç	Kod	Kaplama																Kapasız		Kesme Koşulları									
		KR1020	KR1025	KR1220	KR1225	KR1305	KR1320	KR1325	KR3105	KR3115	KR3125	KR3215	KR3225	KR4025	KR4035	KR4125	KR4135	KR4225	KR4235	KR4245	KR4340	KR001	KR101	fn (mm/dev)	ap (mm)				
	WNMG 060404-GF		●																								0.10-0.40	0.40-2.80	
	060408-GF					●																						0.15-0.45	0.50-3.00
	060412-GF					●																						0.15-0.50	0.80-3.20
	080404-GF		●			●					●																	0.10-0.40	0.40-4.00
	080408-GF		●			●					●																	0.15-0.45	0.50-4.50
	080412-GF			●																								0.15-0.50	0.80-5.00
	080416-GF																											0.18-0.55	0.10-5.00

ÜÇGENSEL 80° NEGATİF



Ölçü	Boyutlar (mm)		
	d	t	d1
06	9.525	4.76	3.81
08	12.7	4.76	5.16

İş Parçası	Malzeme	Kaplama																Kesme Koşulları								
		KR1020	KR1025	KR1220	KR1225	KR1305	KR1320	KR1325	KR3105	KR3115	KR3125	KR3215	KR3225	KR4025	KR4035	KR4125	KR4135	KR4225	KR4235	KR4245	KR4340	KR001	KR101	fn (mm/dev)	ap (mm)	
Çelik	P	●	●	○	○																				0.10-0.40	0.40-2.80
	M	○	○	●	●																				0.15-0.45	0.50-3.00
	K																								0.15-0.50	0.80-3.20
	N																								0.10-0.40	0.40-4.00
	S			○	○	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	0.15-0.45	0.50-4.50
	H																								0.15-0.50	0.80-5.00
Paslanmaz çelik																								0.18-0.55	0.10-5.00	
Dökme demir																										
Demir-dışı metaller																										
Isı dayanımlı alaşımlar, titanyum alaşımları																										
Sertleştirilmiş Çelik																										

Kesici Uç	Kod	Kaplama																Kesme Koşulları							
		KR1020	KR1025	KR1220	KR1225	KR1305	KR1320	KR1325	KR3105	KR3115	KR3125	KR3215	KR3225	KR4025	KR4035	KR4125	KR4135	KR4225	KR4235	KR4245	KR4340	KR001	KR101	fn (mm/dev)	ap (mm)
	WNMG 060404-GM																							0.10-0.40	0.40-2.80
	060408-GM		●	●	●					●														0.15-0.45	0.50-3.00
	060412-GM																							0.15-0.50	0.80-3.20
	080404-GM		●		●					●	●	●	●	●	●	●	●	●	●	●	●	●	●	0.10-0.40	0.40-4.00
	080408-GM		●		●					●	●	●	●	●	●	●	●	●	●	●	●	●	●	0.15-0.45	0.50-4.50
	080412-GM		●		●					●		●	●	●	●	●	●	●	●	●	●	●	●	0.15-0.50	0.80-5.00
	080416-GM													●		●								0.18-0.55	0.10-5.00

Kesici Uç	Kod	Kaplama																Kesme Koşulları							
		KR1020	KR1025	KR1220	KR1225	KR1305	KR1320	KR1325	KR3105	KR3115	KR3125	KR3215	KR3225	KR4025	KR4035	KR4125	KR4135	KR4225	KR4235	KR4245	KR4340	KR001	KR101	fn (mm/dev)	ap (mm)
	WNMG 060404-GR																							0.10-0.40	0.40-2.80
	060408-GR																							0.15-0.45	0.50-3.00
	060412-GR																							0.15-0.50	0.80-3.20
	080404-GR																							0.10-0.40	0.40-4.00
	080408-GR		●		●					●	●	●	●	●	●	●	●	●	●	●	●	●	●	0.15-0.45	0.50-4.50
	080412-GR				●					●		●	●	●	●	●	●	●	●	●	●	●	●	0.15-0.50	0.80-5.00
	080416-GR				●																			0.18-0.55	0.10-5.00

Kesici Uç	Kod	Kaplama																Kesme Koşulları							
		KR1020	KR1025	KR1220	KR1225	KR1305	KR1320	KR1325	KR3105	KR3115	KR3125	KR3215	KR3225	KR4025	KR4035	KR4125	KR4135	KR4225	KR4235	KR4245	KR4340	KR001	KR101	fn (mm/dev)	ap (mm)
	WNMG 060404-GS																							0.10-0.40	0.40-2.80
	060408-GS																							0.15-0.45	0.50-3.00
	060412-GS																							0.15-0.50	0.80-3.20
	080404-GS									●				●		●		●		●				0.10-0.40	0.40-4.00
	080408-GS									●				●		●		●		●				0.15-0.45	0.50-4.50
	080412-GS									●				●		●		●		●				0.15-0.50	0.80-5.00
	080416-GS																							0.18-0.55	0.10-5.00

Kesici Uç	Kod	Kaplama																Kesme Koşulları							
		KR1020	KR1025	KR1220	KR1225	KR1305	KR1320	KR1325	KR3105	KR3115	KR3125	KR3215	KR3225	KR4025	KR4035	KR4125	KR4135	KR4225	KR4235	KR4245	KR4340	KR001	KR101	fn (mm/dev)	ap (mm)
	WNMG 060404-KR				●					●	●												0.10-0.40	0.40-2.80	
	060408-KR									●													0.15-0.45	0.50-3.00	
	060412-KR				●					●													0.15-0.50	0.80-3.20	
	080404-KR									●													0.10-0.40	0.40-4.00	
	080408-KR									●	●	●	●	●	●	●	●	●	●	●	●	●	●	0.15-0.45	0.50-4.50
	080412-KR									●		●	●	●	●				●					0.15-0.50	0.80-5.00
	080416-KR									●														0.18-0.55	0.10-5.00



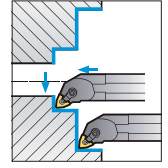
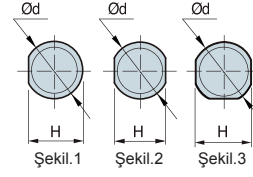
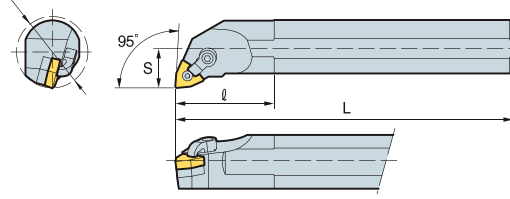
ÜSTTEN BAĞLAMALI ALTTAN ÇEKTİRMELİ SİSTEM

**MWLNR/L**



WN □ □

ØD minimum işleme çapı



95°

• R tipi kesici uçlar (mm)

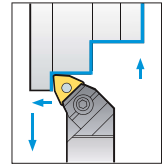
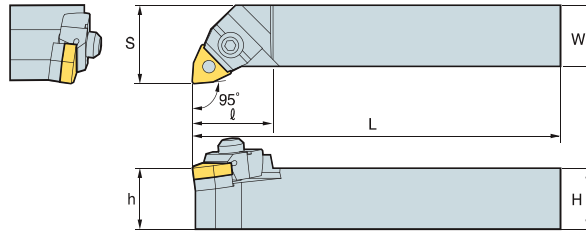
Kod	H	W	L	S	h	ℓ	Kesici Uç
S25R-MWLNR/L-06	32	25	23	200	17	40	WN□□0604□□
S32S-MWLNR/L-06	40	32	30	250	22	50	
S40T-MWLNR/L-06	50	40	38	300	27	60	
S25R-MWLNR/L-08	32	25	23	200	17	40	WN□□0804□□
S32S-MWLNR/L-08	40	32	30	250	22	50	
S40T-MWLNR/L-08	50	40	38	300	27	60	

ÜSTTEN BAĞLAMALI ALTTAN ÇEKTİRMELİ SİSTEM

**MWLNR/L**



WN □ □



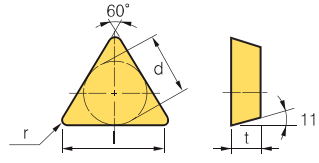
95°

• R tipi kesici uçlar (mm)

Kod	H	W	L	S	h	ℓ	Kesici Uç	
MWLNR/L	2020-K08	20	20	125	25	20	32	WN□□0804□□
	2525-M08	25	25	150	32	25	33	
	3232-P08	32	32	170	40	32	33	



ÜÇGEN 60° POZİTİF - KESİCİ UÇ BOŞLUK AÇISI : 11°



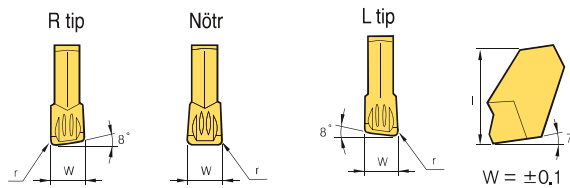
Ölçü	Boyutlar (mm)		
	d	t	d1
11	6.35	3.18	-
16	9.525	3.18-4.76	-
22	12.7	4.76	-

İş Parçası	Çelik	P	Paslanmaz çelik	M	Dökme demir	K	Demir-dışı metaller	N	Isı dayanımlı alaşımlar, titanyum alaşımları	S	Sertleştirilmiş Çelik	H	Açıklama		
													●	○	

Kesici Uç	Kod	Kaplama																Kesme Koşulları							
		KR1020	KR1025	KR1220	KR1225	KR1305	KR1320	KR1325	KR3105	KR3115	KR3125	KR3215	KR3225	KR4025	KR4035	KR4125	KR4135	KR4225	KR4235	KR4245	KR4340	KR001	KR101	fn (mm/dev)	ap (mm)
	TPMR 110304																							0.10-0.25	0.70-3.00
	110308																							0.13-0.30	1.00-3.00
	160304																							0.10-0.25	1.00-5.00
	160308																							0.13-0.30	1.00-5.00
	160312																							0.15-0.35	1.00-5.00
	220408																							0.13-0.30	1.50-7.00

Kesici Uç	Kod	Kaplama																Kesme Koşulları							
		KR1020	KR1025	KR1220	KR1225	KR1305	KR1320	KR1325	KR3105	KR3115	KR3125	KR3215	KR3225	KR4025	KR4035	KR4125	KR4135	KR4225	KR4235	KR4245	KR4340	KR001	KR101	fn (mm/dev)	ap (mm)
	TPMR 110304-D3																							0.10-0.25	0.70-3.00
	110308-D3																							0.13-0.30	1.00-3.00
	160304-D3																							0.10-0.25	1.00-5.00
	160308-D3																							0.13-0.30	1.00-5.00
	160312-D3																							0.15-0.35	1.00-5.00
	220408-D3																							0.13-0.30	1.50-7.00

DERİN KANAL - KESME

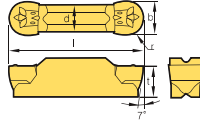
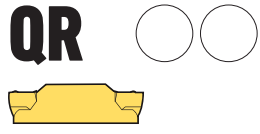


Ölçü	Boyutlar (mm)		
	W	L	r
2.0	2.2	9.3	0.2
3.0	3.1	11.3	0.2
4.0	4.1	11.3	0.25
5.0	5.1	11.4	0.3
6.0	6.4	11.4	0.35

İş Parçası	Çelik	P	Paslanmaz çelik	M	Dökme demir	K	Demir-dışı metaller	N	Isı dayanımlı alaşımlar, titanyum alaşımları	S	Sertleştirilmiş Çelik	H	Açıklama		
													●	○	

Kesici Uç	Kod	Kaplama																Kesme Koşulları							
		KR1020	KR1025	KR1220	KR1225	KR1305	KR1320	KR1325	KR3105	KR3115	KR3125	KR3215	KR3225	KR4025	KR4035	KR4125	KR4135	KR4225	KR4235	KR4245	KR4340	KR001	KR101	fn (mm/dev)	ap (mm)
	QP 200																							0.05-0.10	-
	300																							0.05-0.10	-
	400																							0.05-0.12	-
	500																							0.05-0.15	-
	600																							0.03-0.18	-

PROFİL İŞLEME

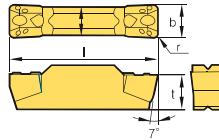


Boyutlar (mm)						
b	r	l	d	t	$\alpha^\circ$	
2.0	1.0	16.0	1.5	3.5	-	
3.0	1.5	21.0	2.35	4.83	-	
4.0	2.0	21.0	3.3	4.83	-	
5.0	2.5	26.0	4.1	5.82	-	
6.0	3.0	26.0	5.0	5.81	-	

İş Parçası	Çelik	P	●	●	○	○															Açıklama			
	Paslanmaz çelik	M	○	○	●	●															●	○		
	Dökme demir	K					●	●	●	●											○	○		
	Demir-dışı metaller	N									●	●											○	○
Isı dayanımlı alaşımlar, titanyum alaşımları	S					○	●	●	●											○	○			
Sertleştirilmiş Çelik	H					●	●	●															○	○

Kesici Uç	Kod	Kaplama														Kaplama		Kesme Koşulları								
		KR1020	KR1025	KR1220	KR1225	KR1305	KR1320	KR1325	KR3105	KR3115	KR3125	KR3215	KR3225	KR4025	KR4035	KR4125	KR4135	KR4225	KR4235	KR4245	KR4340	KR001	KR101	fn (mm/dev)	ap (mm)	
	ORMN 200		●		●																				0.04-0.08	-
	300		●		●																				0.05-0.10	-
	400		●		●																				0.05-0.12	-
	500		●		●																				0.05-0.15	-
	600		●		●																				0.03-0.18	-

KANAL AÇMA - TORNALAMA



Boyutlar (mm)				
b	r	l	d	t
2.0	0.2	16.0	1.6	3.5
3.0	0.4	21.0	2.35	4.83
4.0	0.4	21.0	3.3	4.83
5.0	0.8	26.0	4.1	5.82
6.0	0.8	26.0	5.0	5.81

İş Parçası	Çelik	P	●	●	○	○															Açıklama			
	Paslanmaz çelik	M	○	○	●	●															●	○		
	Dökme demir	K					●	●	●	●											○	○		
	Demir-dışı metaller	N									●	●											○	○
Isı dayanımlı alaşımlar, titanyum alaşımları	S					○	●	●	●											○	○			
Sertleştirilmiş Çelik	H					●	●	●															○	○

Kesici Uç	Kod	Kaplama														Kaplama		Kesme Koşulları								
		KR1020	KR1025	KR1220	KR1225	KR1305	KR1320	KR1325	KR3105	KR3115	KR3125	KR3215	KR3225	KR4025	KR4035	KR4125	KR4135	KR4225	KR4235	KR4245	KR4340	KR001	KR101	fn (mm/dev)	ap (mm)	
	QGMN 200		●		●																				0.04-0.08	-
	300		●		●																				0.05-0.10	-
	400		●		●																				0.05-0.12	-
	500		●		●																				0.05-0.15	-
	600		●		●																				0.03-0.18	-

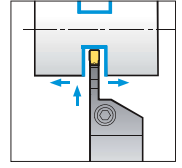
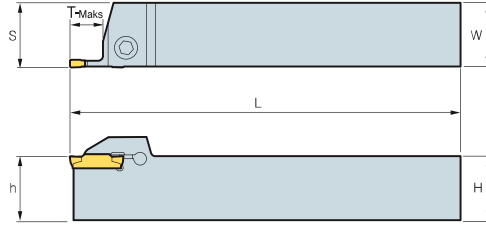
ÇİFT BASKILI SİSTEM

**KDKTR/L**



QG □ □

QR □ □



• R tipi kesici uçlar (mm)

Kod	H = (h)	W	L	S	T-MAX	Kesici Uç	
KDKTR/L	1212-2	12	12	100	14.25	14	QGMN200
	1616-2	16	16	100	16.25	14	
	2020-2	20	20	125	20.25	14	QRMN200
	2525-2	25	25	150	25.25	14	
	1616-3	16	16	100	16.35	18	QGMN300
	2020-3	20	20	125	20.4	18	
	2525-3	25	25	150	25.4	18	QRMN300
	3232-3	32	32	170	32.4	18	
	2020-4	20	20	125	20.4	18	QGMN400
	2525-4	25	25	150	25.4	18	
	3232-4	32	32	170	32.4	18	QRMN400
	2020-5	20	20	150	20.5	23	
	2525-5	25	25	150	25.5	23	QGMN500
	3232-5	32	32	170	32.5	23	
	2020-6	20	20	125	20.6	23	QGMN600
	2525-6	25	25	150	25.6	23	
	3232-6	32	32	170	32.6	23	QRMN600

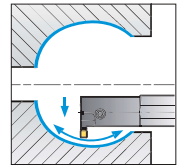
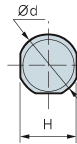
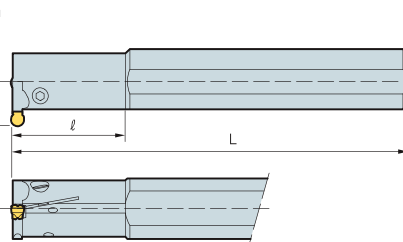
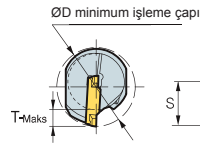
LEVYELİ BAĞLAMA SİSTEMİ

**KIKTR/L**



QG □ □

QR □ □



• R tipi kesici uçlar (mm)

Kod	ØD	Ød	L	Ø	T-MAX	H	S	Kesici Uç	
KIKTR/L	2016-2	20	16	125	35	4.5	15	12.4	QGMN200
	2520-2	25	20	150	45	4.5	18	14.0	
	2925-2	29	25	200	45	4.5	23	17.2	QRMN200
	2520-3	25	20	150	45	5	18	15.6	
	3125-3	31	25	200	45	6	23	18.9	QGMN300
	3732-3	37	32	250	65	6	30	21.5	
	2520-4	25	20	150	45	6	18	15.6	QGMN400
	3125-4	31	25	200	45	6	23	18.9	
	3725-4	37	32	250	65	6	30	21.5	QRMN400
	3125-5	31	25	200	45	8	23	19.4	
	3732-5	37	32	250	65	8	30	21.5	QGMN500
	3125-6	31	25	200	45	8	23	19.4	
	3725-6	37	32	250	65	8	30	21.5	QGMN600



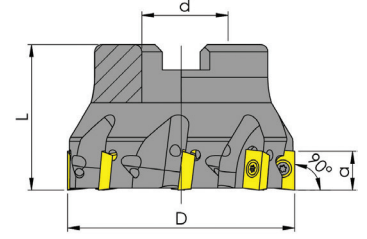


FREZELEME TAKIMLARI

**APKT**



AP □ □



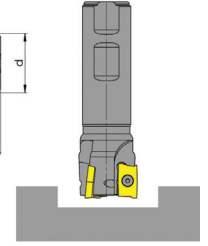
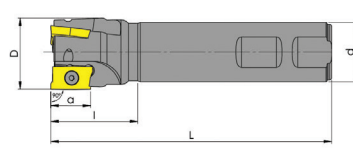
Kod	D	d	L	a	Z	Kesici Uç
KRFT90-AP10-D040-d16	40	16	40	40	8	AP□□10□□
KRFT90-AP10-D050-d22	50	22	40	8	7	
KRFT90-AP10-D063-d22	63	22	40	8	8	
KRFT90-AP10-D080-d27	80	27	50	8	10	
KRFT90-AP10-D100-d32	100	32	50	8	12	

FREZELEME TAKIMLARI

**APKT**



AP □ □



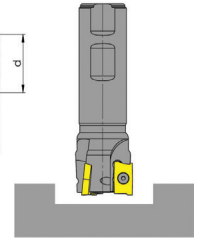
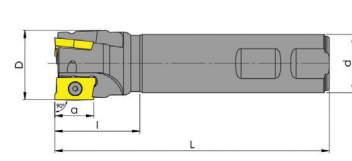
Kod	D	d	L	Z	Kesici Uç
KRFT90-AP10-S10-d10-120	10	10	120	1	AP□□10□□
KRFT90-AP10-S12-d12-120	12	12	120	1	
KRFT90-AP10-S14-d14-120	14	14	120	1	
KRFT90-AP10-S16-d16-120	16	16	120	2	
KRFT90-AP10-S18-d16-120	18	16	120	2	
KRFT90-AP10-S20-d20-120	20	20	120	3	
KRFT90-AP10-S22-d20-120	22	20	120	3	
KRFT90-AP10-S25-d25-120	25	25	120	3	
KRFT90-AP10-S28-d25-120	28	25	120	3	
KRFT90-AP10-S30-d25-120	30	25	120	4	
KRFT90-AP10-S32-d25-120	32	25	120	4	
KRFT90-AP10-S35-d25-120	32	25	120	4	
KRFT90-AP10-S40-d32-120	40	32	120	5	
KRFT90-AP10-S10-d10-150	10	10	150	1	
KRFT90-AP10-S12-d12-150	12	12	150	1	
KRFT90-AP10-S14-d14-150	14	14	150	1	
KRFT90-AP10-S16-d16-150	16	16	150	2	
KRFT90-AP10-S18-d16-150	18	16	150	2	
KRFT90-AP10-S20-d20-150	20	20	150	3	
KRFT90-AP10-S22-d20-150	22	20	150	3	
KRFT90-AP10-S25-d25-150	25	25	150	3	
KRFT90-AP10-S28-d25-150	28	25	150	3	
KRFT90-AP10-S30-d25-150	30	25	150	4	
KRFT90-AP10-S32-d25-150	32	25	150	4	
KRFT90-AP10-S35-d25-150	32	25	150	4	
KRFT90-AP10-S40-d32-150	40	32	150	5	
KRFT90-AP10-S16-d16-200	16	16	200	2	
KRFT90-AP10-S18-d16-200	18	16	200	2	
KRFT90-AP10-S20-d20-200	20	20	200	3	
KRFT90-AP10-S22-d20-200	22	20	200	3	
KRFT90-AP10-S25-d25-200	25	25	200	3	
KRFT90-AP10-S28-d25-200	28	25	200	3	
KRFT90-AP10-S30-d25-200	30	25	200	4	
KRFT90-AP10-S32-d25-200	32	25	200	4	
KRFT90-AP10-S35-d25-200	32	25	200	4	
KRFT90-AP10-S40-d32-200	40	32	200	5	

## FREZELEME TAKIMLARI

## APKT



AP □□



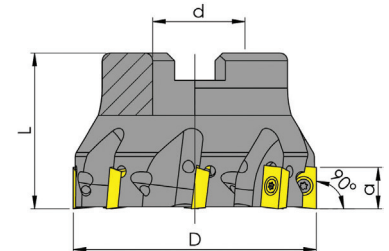
Kod	D	d	L	Z	Kesici Uç
KRFT90-AP16-S25-d25-100	25	25	100	2	AP□□16□□
KRFT90-AP16-S30-d25-100	30	25	100	2	
KRFT90-AP16-S32-d25-100	32	25	100	3	
KRFT90-AP16-S35-d25-100	35	25	100	3	
KRFT90-AP16-S40-d32-100	40	32	100	3	
KRFT90-AP16-S45-d32-100	45	32	100	4	
KRFT90-AP16-S50-d32-100	50	32	100	4	
KRFT90-AP16-S25-d25-120	25	25	120	2	
KRFT90-AP16-S30-d25-120	30	25	120	2	
KRFT90-AP16-S32-d25-120	32	25	120	3	
KRFT90-AP16-S35-d25-120	35	25	120	3	
KRFT90-AP16-S40-d32-120	40	32	120	3	
KRFT90-AP16-S45-d32-120	45	32	120	4	
KRFT90-AP16-S50-d32-120	50	32	120	4	
KRFT90-AP16-S25-d25-150	25	25	150	2	
KRFT90-AP16-S30-d25-150	30	25	150	2	
KRFT90-AP16-S32-d25-150	32	25	150	3	
KRFT90-AP16-S35-d25-150	35	25	150	3	
KRFT90-AP16-S40-d32-150	40	32	150	3	
KRFT90-AP16-S45-d32-150	45	32	150	4	
KRFT90-AP16-S50-d32-150	50	32	150	4	
KRFT90-AP16-S25-d25-200	25	25	200	2	
KRFT90-AP16-S30-d25-200	30	25	200	2	
KRFT90-AP16-S32-d25-200	32	25	200	3	
KRFT90-AP16-S35-d25-200	35	25	200	3	
KRFT90-AP16-S40-d32-200	40	32	200	3	
KRFT90-AP16-S45-d32-200	45	32	200	4	
KRFT90-AP16-S50-d32-200	50	32	200	4	

## FREZELEME TAKIMLARI

## APKT

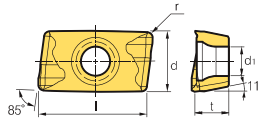
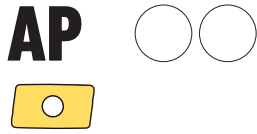


AP □□



Kod	D	d	L	a	Z	Kesici Uç
KRFT90-AP16-D040-d16	40	16	40	13	4	AP□□16□□
KRFT90-AP16-D050-d22	50	22	40	13	5	
KRFT90-AP16-D063-d22	63	22	40	13	6	
KRFT90-AP16-D080-d27	80	27	50	13	7	
KRFT90-AP16-D100-d32	100	32	50	13	8	
KRFT90-AP16-D125-d40	125	40	60	13	9	
KRFT90-AP16-D160-d40	160	40	60	13	9	

FREZELEME UÇLARI



Boyutlar (mm)					
Ölçü	l	d	t	r	d1
11	11.4	6.2	3.65	0.8	2.8

İş Parçası	Çelik	P	Paslanmaz çelik	M	Dökme demir	K	Demir-dışı metaller	N	Isı dayanımlı alaşımlar, titanyum alaşımları	S	Sertleştirilmiş Çelik	H	Açıklama	
													●	○
													●	Önerilir
													○	Kabul Edilebilir
													○	Önerilmez

Kesici Uç	Kod	Kaplama																Kapasız		Kesme Koşulları						
		KR1020	KR1025	KR1220	KR1225	KR1305	KR1320	KR1325	KR3105	KR3115	KR3125	KR3215	KR3225	KR4025	KR4040	KR4125	KR4135	KR4225	KR4235	KR4245	KR4340	KR001	KR101	fn (mm/dev)	vc (mm)	
	APMT 1135PDER-AM		●																						0.10-0.40	150-300

Kesici Uç	Kod	Kaplama																Kapasız		Kesme Koşulları						
		KR1020	KR1025	KR1220	KR1225	KR1305	KR1320	KR1325	KR3105	KR3115	KR3125	KR3215	KR3225	KR4025	KR4040	KR4125	KR4135	KR4225	KR4235	KR4245	KR4340	KR001	KR101	fn (mm/dev)	vc (mm)	
	APMT 1135PDER-H2		●	●	●	●	●	●		●					●						●				0.10-0.40	150-300

Kesici Uç	Kod	Kaplama																Kapasız		Kesme Koşulları						
		KR1020	KR1025	KR1220	KR1225	KR1305	KR1320	KR1325	KR3105	KR3115	KR3125	KR3215	KR3225	KR4025	KR4040	KR4125	KR4135	KR4225	KR4235	KR4245	KR4340	KR001	KR101	fn (mm/dev)	vc (mm)	
	APMT 1135PDER-M2		●	●	●	●	●	●		●					●						●				0.10-0.40	150-300

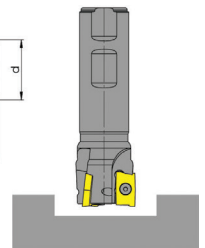
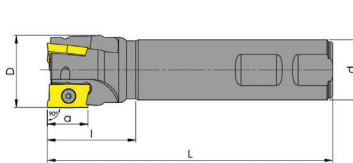
Kesici Uç	Kod	Kaplama																Kapasız		Kesme Koşulları						
		KR1020	KR1025	KR1220	KR1225	KR1305	KR1320	KR1325	KR3105	KR3115	KR3125	KR3215	KR3225	KR4025	KR4040	KR4125	KR4135	KR4225	KR4235	KR4245	KR4340	KR001	KR101	fn (mm/dev)	vc (mm)	
	APMT 1135PDER-MM		●			●																			0.10-0.40	150-300

FREZELEME TAKIMLARI

**APMT**



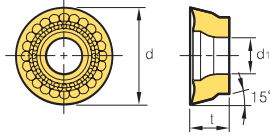
AP □□



Kod	D	d	L	Z	Kesici Uç
KRFT90-AP11-S16-d16-100	16	16	100	2	AP□□11□□
KRFT90-AP11-S20-d20-100	20	20	100	3	
KRFT90-AP11-S25-d25-100	25	25	100	3	
KRFT90-AP11-S16-d16-120	16	16	120	2	
KRFT90-AP11-S20-d20-120	20	20	120	3	
KRFT90-AP11-S25-d25-120	25	25	120	3	
KRFT90-AP11-S16-d16-150	16	16	150	2	
KRFT90-AP11-S17-d16-150	17	16	150	2	
KRFT90-AP11-S20-d20-150	20	20	150	3	
KRFT90-AP11-S21-d20-150	21	20	150	3	
KRFT90-AP11-S25-d25-150	25	25	150	3	
KRFT90-AP11-S26-d25-150	26	25	150	3	
KRFT90-AP11-S16-d16-200	16	16	200	2	
KRFT90-AP11-S20-d20-200	20	20	200	3	
KRFT90-AP11-S25-d25-200	25	25	200	3	

FREZELEME UÇLARI

**RD**



Ölçü	Boyutlar (mm)		
	d	t	d1
10	10	2.97	3.85
12	12	4.76	4.5
16	16	5.56	5.5
20	20	6.35	5.5

İş Parçası	Çelik	P	Paslanmaz çelik	M	Dökme demir	K	Demir-dışı metaller	N	Isı dayanımlı alaşımlar, titanyum alaşımları	S	Sertleştirilmiş Çelik	H	Açıklama
													● Ünerilir
													○ Kabul Edilebilir
													○ Ünerilmez

Kesici Uç	Kod	Kaplama																Kesme Koşulları									
		KR1020	KR1025	KR1220	KR1225	KR1305	KR1320	KR1325	KR3105	KR3115	KR3125	KR3215	KR3225	KR4025	KR4040	KR4125	KR4135	KR4225	KR4235	KR4245	KR4340	KR001	KR101	fn (mm/dev)	vc (mm)		
	RDKT	10T3MO																							0.15-0.50	140-300	
		1204MO																								0.08-0.60	140-300
		1604MO																								0.15-0.50	140-300
		2006MO																								0.15-0.50	140-300

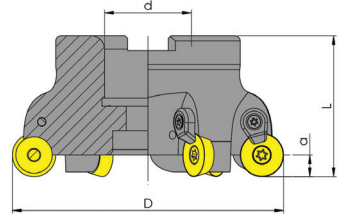
Kesici Uç	Kod	Kaplama																Kesme Koşulları									
		KR1020	KR1025	KR1220	KR1225	KR1305	KR1320	KR1325	KR3105	KR3115	KR3125	KR3215	KR3225	KR4025	KR4040	KR4125	KR4135	KR4225	KR4235	KR4245	KR4340	KR001	KR101	fn (mm/dev)	vc (mm)		
	RDKT	10T3MOW																							0.15-0.50	140-300	
		1204MOW																								0.08-0.60	140-300
		1604MOW																								0.15-0.50	140-300
		2006MOW																								0.15-0.50	140-300

FREZELEME TAKIMLARI

**RDKT**



RD □□



Kod	D	d	L	a	Z	Kesici Uç
KRFT-RD10-040-d16	40	16	40	5	4	RD□□10□□
KRFT-RD10-050-d22	50	22	40	5	5	
KRFT-RD10-063-d22	63	22	40	5	6	
KRFT-RD10-080-d27	80	27	50	5	7	
KRFT-RD10-100-d32	100	32	50	5	8	

Kod	D	d	L	a	Z	Kesici Uç
KRFT-RD12-040-d16	40	16	40	6	4	RD□□12□□
KRFT-RD12-050-d22	50	22	40	6	5	
KRFT-RD12-063-d22	63	22	40	6	6	
KRFT-RD12-080-d27	80	27	50	6	7	
KRFT-RD12-100-d32	100	32	50	6	8	

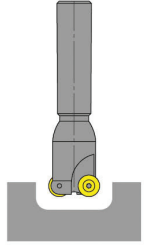
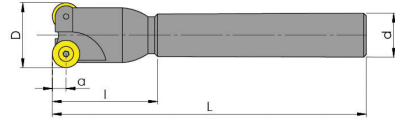
Kod	D	d	L	a	Z	Kesici Uç
KRFT-RD16-063-d22	63	22	45	8	4	RD□□16□□
KRFT-RD16-080-d27	80	27	50	8	5	
KRFT-RD16-100-d32	100	32	50	8	6	
KRFT-RD16-125-d40	125	40	65	8	7	

## FREZELEME TAKIMLARI

## RDKT



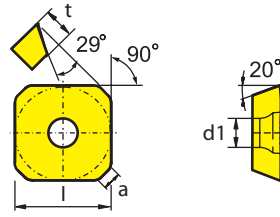
RD □□



Kod	D	d	L	Z	Kesici Uç
KRFT-RD10-S20-d20-120	20	20	120	2	RD□□10□□
KRFT-RD10-S25-d25-120	25	25	120	2	
KRFT-RD10-S28-d25-120	28	25	120	3	
KRFT-RD10-S30-d25-120	30	25	120	3	
KRFT-RD10-S32-d25-120	32	25	120	3	
KRFT-RD10-S35-d25-120	35	25	120	3	
KRFT-RD10-S35-d32-120	32	32	120	3	
KRFT-RD10-S40-d32-120	40	32	120	4	
KRFT-RD10-S20-d20-150	20	20	150	2	
KRFT-RD10-S25-d25-150	25	25	150	2	
KRFT-RD10-S28-d25-150	28	25	150	3	
KRFT-RD10-S30-d25-150	30	25	150	3	
KRFT-RD10-S32-d25-150	32	25	150	3	
KRFT-RD10-S35-d25-150	35	25	150	3	
KRFT-RD10-S35-d32-150	32	32	150	3	
KRFT-RD10-S40-d32-150	40	32	150	4	
KRFT-RD10-S20-d20-200	20	20	200	2	
KRFT-RD10-S25-d25-200	25	25	200	2	
KRFT-RD10-S28-d25-200	28	25	200	3	
KRFT-RD10-S30-d25-200	30	25	200	3	
KRFT-RD10-S32-d25-200	32	25	200	3	
KRFT-RD10-S35-d25-200	35	25	200	3	
KRFT-RD10-S35-d32-200	32	32	200	3	
KRFT-RD10-S40-d32-200	40	32	200	4	

Kod	D	d	L	Z	Kesici Uç
KRFT-RD12-S25-d25-120	25	25	120	2	RD□□12□□
KRFT-RD12-S28-d25-120	28	25	120	2	
KRFT-RD12-S30-d25-120	30	25	120	2	
KRFT-RD12-S32-d25-120	32	25	120	3	
KRFT-RD12-S35-d32-120	35	32	120	3	
KRFT-RD12-S40-d32-120	40	32	120	3	
KRFT-RD12-S25-d25-150	25	25	150	2	
KRFT-RD12-S28-d25-150	28	25	150	2	
KRFT-RD12-S30-d25-150	30	25	150	2	
KRFT-RD12-S32-d25-150	32	25	150	3	
KRFT-RD12-S35-d32-150	35	32	150	3	
KRFT-RD12-S40-d32-150	40	32	150	3	
KRFT-RD12-S25-d25-200	25	25	200	2	
KRFT-RD12-S28-d25-200	28	25	200	2	
KRFT-RD12-S30-d25-200	30	25	200	2	
KRFT-RD12-S32-d25-200	32	25	200	3	
KRFT-RD12-S35-d32-200	35	32	200	3	
KRFT-RD12-S40-d32-200	40	32	200	3	

FREZELEME UÇLARI



Boyutlar (mm)				
Ölçü	l	t	a	d1
12	13.4	3.97	2.55	4.1

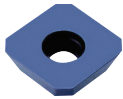
İş Parçası	Materiyel	Kaplama																Kesme Koşulları										
		KR1020	KR1025	KR1220	KR1225	KR1305	KR1320	KR1325	KR3105	KR3115	KR3125	KR3215	KR3225	KR4025	KR4040	KR4125	KR4135	KR4225	KR4235	KR4330	KR4340	KR001	KR101	fn (mm/dev)	vc (mm)			
Çelik	P	●	●	○	○																						0.08-0.20	80-200
Paslanmaz çelik	M	○	○	●	●																		●					
Dökme demir	K								●	●	●	●																
Demir-dışı metaller	N																						●	●				
Isı dayanımlı alaşımlar, titanyum alaşımları	S				○	●	●	●																				
Sertleştirilmiş Çelik	H					●	●	●																				

Kesici Uç	Kod	Kaplama																Kesme Koşulları										
		KR1020	KR1025	KR1220	KR1225	KR1305	KR1320	KR1325	KR3105	KR3115	KR3125	KR3215	KR3225	KR4025	KR4040	KR4125	KR4135	KR4225	KR4235	KR4330	KR4340	KR001	KR101	fn (mm/dev)	vc (mm)			
	SEET 12T3-FM		●		●																	●	●				0.08-0.20	80-200

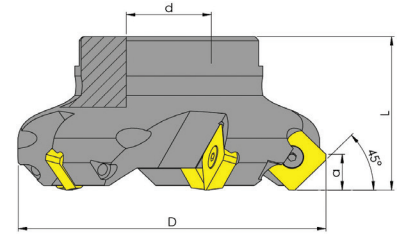
Kesici Uç	Kod	Kaplama																Kesme Koşulları										
		KR1020	KR1025	KR1220	KR1225	KR1305	KR1320	KR1325	KR3105	KR3115	KR3125	KR3215	KR3225	KR4025	KR4040	KR4125	KR4135	KR4225	KR4235	KR4330	KR4340	KR001	KR101	fn (mm/dev)	vc (mm)			
	SEET 12T3-SM		●		●								●			●				●	●	●					0.08-0.20	80-200

FREZELEME TAKIMLARI

**SEET**



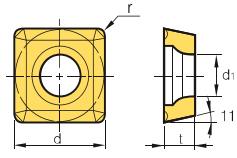
SE □□



Kod	D	d	L	a	Z	Kesici Uç
KRFT45-SE12T3-D050-d22	50	22	40	6	4	SE□□12□□
KRFT45-SE12T3-D063-d22	63	22	40	6	5	
KRFT45-SE12T3-D080-d27	80	27	40	6	6	
KRFT45-SE12T3-D100-d32	100	32	50	6	7	
KRFT45-SE12T3-D125-d40	125	40	62	6	8	
KRFT45-SE12T3-D160-d40	160	40	62	6	10	



FREZELEME UÇLARI



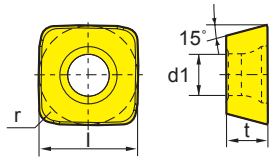
Boyutlar (mm)				
Ölçü	d	t	r	d1
12	12.7	4.76	0.8	5.56

İş Parçası	Kaplama																Kesme Koşulları		Açıklama						
	P	M	K	N	S	H	1	2	3	4	5	6	7	8	9	10	11	12		13	14	15	16	fn (mm/dev)	vc (mm)
Çelik	●	●	○	○																					●
Paslanmaz çelik	○	○	●	●																					○
Dökme demir																									○
Demir-dışı metaller																									○
Isı dayanımlı alaşımlar, titanyum alaşımları																									○
Sertleştirilmiş Çelik																									○

Kesici Uç	Kod	Kaplama																Kesme Koşulları							
		KR1020	KR1025	KR1220	KR1225	KR1305	KR1320	KR1325	KR3105	KR3115	KR3125	KR3215	KR3225	KR4025	KR4040	KR4125	KR4135	KR4225	KR4235	KR4330	KR4340	KR001	KR101	fn (mm/dev)	vc (mm)
	SPMT 120408		●		●					●	●		●	●		●	●	●	●	●	●			0.08-0.16	80-250
	120412																							0.08-0.20	80-250
	120416																							0.08-0.30	80-250

Kesici Uç	Kod	Kaplama																Kesme Koşulları							
		KR1020	KR1025	KR1220	KR1225	KR1305	KR1320	KR1325	KR3105	KR3115	KR3125	KR3215	KR3225	KR4025	KR4040	KR4125	KR4135	KR4225	KR4235	KR4330	KR4340	KR001	KR101	fn (mm/dev)	vc (mm)
	SPMT 120408-HM		●		●						●					●	●	●	●	●	●			0.08-0.16	80-250
	120412-HM		●		●						●					●	●	●	●	●	●			0.08-0.20	80-250
	120416-HM				●						●					●	●	●	●	●	●			0.08-0.30	80-250

FREZELEME UÇLARI



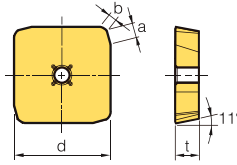
Boyutlar (mm)				
Ölçü	l	t	r	d1
09	9.525	3.18	1.2	4.4
12	12.7	4.76-5.56	1.2	4.4
15	15.875	5.56	1.2	5.5

İş Parçası	Kaplama																Kesme Koşulları		Açıklama						
	P	M	K	N	S	H	1	2	3	4	5	6	7	8	9	10	11	12		13	14	15	16	fn (mm/dev)	vc (mm)
Çelik	●	●	○	○																					●
Paslanmaz çelik	○	○	●	●																					○
Dökme demir																									○
Demir-dışı metaller																									○
Isı dayanımlı alaşımlar, titanyum alaşımları																									○
Sertleştirilmiş Çelik																									○

Kesici Uç	Kod	Kaplama																Kesme Koşulları								
		KR1020	KR1025	KR1220	KR1225	KR1305	KR1320	KR1325	KR3105	KR3115	KR3125	KR3215	KR3225	KR4025	KR4040	KR4125	KR4135	KR4225	KR4235	KR4245	KR4340	KR001	KR101	fn (mm/dev)	vc (mm)	
	SDMT 09T312-GM																							0.40-1.20	80-200	
	120412-GM																								0.40-1.50	80-200
	120512-GM		●		●																				0.40-1.50	80-200
	150512-GM		●		●																				0.40-1.50	80-200

Kesici Uç	Kod	Kaplama																Kesme Koşulları								
		KR1020	KR1025	KR1220	KR1225	KR1305	KR1320	KR1325	KR3105	KR3115	KR3125	KR3215	KR3225	KR4025	KR4040	KR4125	KR4135	KR4225	KR4235	KR4245	KR4330	KR4340	KR001	KR101	fn (mm/dev)	vc (mm)
	SDMT 09T312-SM		●		●																			0.40-1.20	80-200	
	120412-SM		●		●																				0.40-1.50	80-200
	120512-SM																								0.40-1.50	80-200
	150512-SM																								0.40-1.50	80-200

FREZELEME UÇLARI



Ölçü	Boyutlar (mm)			
	d	t	a	b
12	12.7	3.18	1.0	1.4
15	15.875	4.76	1.0	1.4

İş Parçası	Materiyel																Açıklama		
	Çelik	P	●	●	○	○												●	○
Paslanmaz çelik	M	●	●	○	○													●	○
Dökme demir	K									●	●	●	●						
Demir-dışı metaller	N																	●	○
Isı dayanımlı alaşımlar, titanyum alaşımları	S				○	●	●	●											
Sertleştirilmiş Çelik	H					●	●	●											

Kesici Uç	Kod	Kaplama																Kaplamasız		Kesme Koşulları					
		KR1020	KR1025	KR1220	KR1225	KR1305	KR1320	KR1325	KR3105	KR3115	KR3125	KR3215	KR3225	KR4030	KR4040	KR4125	KR4135	KR4225	KR4235	KR4330	KR4340	KR001	KR101	fn (mm/dev)	vc (mm)
	SPKN 1203EDR								●	●				●							●			0.08-0.20	80-200
	1504EDR								●	●				●		●					●			0.10-0.30	80-200

Kesici Uç	Kod	Kaplama																Kaplamasız		Kesme Koşulları					
		KR1020	KR1025	KR1220	KR1225	KR1305	KR1320	KR1325	KR3105	KR3115	KR3125	KR3215	KR3225	KR4030	KR4040	KR4125	KR4135	KR4225	KR4235	KR4330	KR4340	KR001	KR101	fn (mm/dev)	vc (mm)
	SPKN 1203EDR-D3		●			●			●	●														0.08-0.20	80-200
	1504EDR-D3		●		●				●	●				●							●			0.10-0.30	80-200

Kesici Uç	Kod	Kaplama																Kaplamasız		Kesme Koşulları					
		KR1020	KR1025	KR1220	KR1225	KR1305	KR1320	KR1325	KR3105	KR3115	KR3125	KR3215	KR3225	KR4030	KR4040	KR4125	KR4135	KR4225	KR4235	KR4330	KR4340	KR001	KR101	fn (mm/dev)	vc (mm)
	SPKN 1203EDSKR									●				●							●			0.08-0.20	80-200
	1504EDSKR													●		●					●			0.10-0.30	80-200

Kesici Uç	Kod	Kaplama																Kaplamasız		Kesme Koşulları					
		KR1020	KR1025	KR1220	KR1225	KR1305	KR1320	KR1325	KR3105	KR3115	KR3125	KR3215	KR3225	KR4030	KR4040	KR4125	KR4135	KR4225	KR4235	KR4330	KR4340	KR001	KR101	fn (mm/dev)	vc (mm)
	SPKN 1203EDSKR-D3		●			●																		0.08-0.20	80-200
	1504EDSKR-D3		●		●																			0.10-0.30	80-200

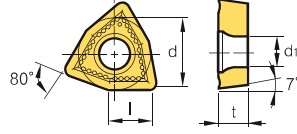
Kesici Uç	Kod	Kaplama																Kaplamasız		Kesme Koşulları					
		KR1020	KR1025	KR1220	KR1225	KR1305	KR1320	KR1325	KR3105	KR3115	KR3125	KR3215	KR3225	KR4030	KR4040	KR4125	KR4135	KR4225	KR4235	KR4330	KR4340	KR001	KR101	fn (mm/dev)	vc (mm)
	SPKN 1203EDTR																					●		0.08-0.20	80-200
	1504EDTR																				●	●		0.10-0.30	80-200

Kesici Uç	Kod	Kaplama																Kaplamasız		Kesme Koşulları					
		KR1020	KR1025	KR1220	KR1225	KR1305	KR1320	KR1325	KR3105	KR3115	KR3125	KR3215	KR3225	KR4030	KR4040	KR4125	KR4135	KR4225	KR4235	KR4330	KR4340	KR001	KR101	fn (mm/dev)	vc (mm)
	SPKN 1203EDTR-D3		●			●			●	●														0.08-0.20	80-200
	1504EDTR-D3		●	●	●				●	●														0.10-0.30	80-200





DELİK DELME UÇLARI

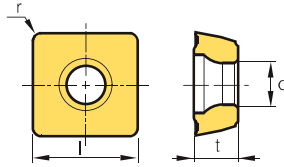


Boyutlar (mm)					
Ölçü	l	d	t	r	d1
03	3.8	5.56	2.38	0.8	2.8
04	4.3	6.35	2.38	0.8	3.0
05	5.4	7.94	3.18	0.8	3.4
06	6.5	9.525	3.97	0.8	3.7
08	8.7	12.7	4.76	1.2	4.3

İş Parçası	Çelik	P	●	●	○	○															Açıklama		
	Paslanmaz çelik	M	○	○	●	●															●	Ünerilir	
Dökme demir	K																				○	Kabul Edilebilir	
Demir-dışı metaller	N																					○	Ünerilmez
Isı dayanımlı alaşımlar, titanyum alaşımları	S																						
Sertleştirilmiş Çelik	H																						

Kesici Uç	Kod	Kaplama																Kaplama		Kesme Koşulları						
		KR1020	KR1025	KR1220	KR1225	KR1305	KR1320	KR1325	KR1525	KR3115	KR3125	KR3215	KR3225	KR4025	KR4040	KR4125	KR4135	KR4225	KR4235	KR4245	KR4340	KR001	KR101	fn (mm/dev)	vc (mm)	
	WCMX	030208FN	●																						0.04-0.18	80-200
		040208FN	●																						0.04-0.18	80-200
		050308FN	●																						0.04-0.18	80-200
		06T308FN	●																						0.04-0.18	80-200
		080412FN	●																							0.04-0.25

DELİK DELME UÇLARI



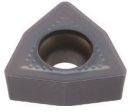
Boyutlar (mm)					
Ölçü	l	d	t	r	d1
05	5.0	-	2.38	0.4	2.2
06	6.0	-	2.38	0.4	2.5
07	7.94	-	3.97	0.8	2.8
09	9.8	-	4.30	0.8	4.1
11	11.5	-	4.76	0.8	4.4
14	14.3	-	5.2	1.2	5.5

İş Parçası	Çelik	P	●	●	○	○															Açıklama						
	Paslanmaz çelik	M	○	○	●	●																				●	Ünerilir
Dökme demir	K																									○	Kabul Edilebilir
Demir-dışı metaller	N																									○	Ünerilmez
Isı dayanımlı alaşımlar, titanyum alaşımları	S																										
Sertleştirilmiş Çelik	H																										

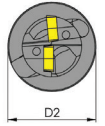
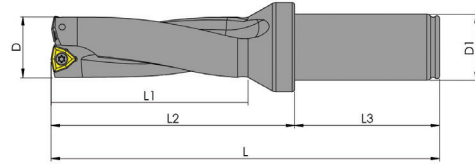
Kesici Uç	Kod	Kaplama																Kaplama		Kesme Koşulları								
		KR1020	KR1025	KR1220	KR1225	KR1305	KR1320	KR1325	KR1525	KR3115	KR3125	KR3215	KR3225	KR4025	KR4040	KR4125	KR4135	KR4225	KR4235	KR4245	KR4340	KR001	KR101	fn (mm/dev)	vc (mm)			
	QPMG	050204EM	●																						0.04-0.12	80-250		
		060204EM	●																							0.04-0.12	80-250	
		07T308EM	●																							0.04-0.12	80-250	
		090308EM	●																							0.06-0.16	80-250	
		110408EM	●																								0.08-0.16	80-250
		140512EM	●																								0.08-0.20	80-250

DELİK DELME TAKIMLARI

**WCMX (2D)**



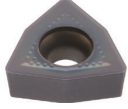
WC □ □



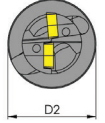
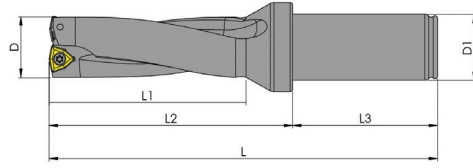
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KRFT 16x2D WCM.030208	16	25	34	110	32	54	56	WCM.030208
KRFT 16.5x2D WCM.030208	16.5	25	34	110	32	54	56	
KRFT 17x2D WCM.030208	17	25	34	112	34	56	56	
KRFT 17.5x2D WCM.030208	17.5	25	34	112	34	56	56	
KRFT 18x2D WCM.030208	18	25	34	114	36	58	56	
KRFT 18.5x2D WCM.030208	18.5	25	34	114	36	58	56	
KRFT 19x2D WCM.030208	19	25	34	116	38	60	56	
KRFT 19.5x2D WCM.030208	19.5	25	34	116	38	60	56	
KRFT 20x2D WCM.040208	20	25	34	118	40	62	56	WCM.040208
KRFT 20.5x2D WCM.040208	20.5	25	34	118	40	62	56	
KRFT 21x2D WCM.040208	21	25	34	120	42	64	56	
KRFT 21.5x2D WCM.040208	21.5	25	34	120	42	64	56	
KRFT 22x2D WCM.040208	22	25	34	122	44	66	56	
KRFT 22.5x2D WCM.040208	22.5	25	34	122	44	66	56	
KRFT 23x2D WCM.040208	23	25	34	124	46	68	56	
KRFT 23.5x2D WCM.040208	23.5	25	34	124	46	68	56	
KRFT 24x2D WCM.050308	24	25	34	126	48	70	56	WCM.050308
KRFT 24.5x2D WCM.050308	24.5	25	34	126	48	70	56	
KRFT 25x2D WCM.050308	25	25	34	128	50	72	56	
KRFT 25.5x2D WCM.050308	25.5	25	34	128	50	72	56	
KRFT 26x2D WCM.050308	26	25	34	130	52	74	56	
KRFT 26.5x2D WCM.050308	26.5	25	34	130	52	74	56	
KRFT 27x2D WCM.050308	27	25	34	132	54	76	56	
KRFT 27.5x2D WCM.050308	27.5	25	34	132	54	76	56	
KRFT 28x2D WCM.050308	28	25	34	134	56	78	56	WCM.06T308
KRFT 28.5x2D WCM.050308	28.5	25	34	134	56	78	56	
KRFT 29x2D WCM.050308	29	25	34	136	58	80	56	
KRFT 29.5x2D WCM.050308	29.5	25	34	136	58	80	56	
KRFT 30x2D WCM.06T308	30	32	44	147	60	87	60	
KRFT 31x2D WCM.06T308	31	32	44	149	62	89	60	
KRFT 32x2D WCM.06T308	32	32	44	151	64	91	60	
KRFT 33x2D WCM.06T308	33	32	44	153	66	93	60	
KRFT 34x2D WCM.06T308	34	32	44	155	68	95	60	WCM.080412
KRFT 35x2D WCM.06T308	35	32	44	157	70	97	60	
KRFT 36x2D WCM.06T308	36	32	44	159	72	99	60	
KRFT 37x2D WCM.06T308	37	32	44	161	74	101	60	
KRFT 38x2D WCM.06T308	38	32	44	163	76	103	60	
KRFT 39x2D WCM.06T308	39	32	44	165	78	105	60	
KRFT 40x2D WCM.06T308	40	32	44	167	80	107	60	
KRFT 41x2D WCM.06T308	41	32	44	169	82	109	60	
KRFT 42x2D WCM.06T308	42	32	44	171	84	111	60	WCM.080412
KRFT 43x2D WCM.06T308	43	32	44	173	86	113	60	
KRFT 44x2D WCM.06T308	44	32	44	175	88	115	60	
KRFT 45x2D WCM.080412	45	40	54	192	90	122	70	
KRFT 46x2D WCM.080412	46	40	54	194	92	127	70	
KRFT 47x2D WCM.080412	47	40	54	196	94	126	70	
KRFT 48x2D WCM.080412	48	40	54	198	96	128	70	
KRFT 49x2D WCM.080412	49	40	54	200	98	130	70	
KRFT 50x2D WCM.080412	50	40	54	202	100	132	70	WCM.080412
KRFT 51x2D WCM.080412	51	40	54	204	102	134	70	
KRFT 52x2D WCM.080412	52	40	54	206	104	136	70	
KRFT 53x2D WCM.080412	53	40	54	208	106	138	70	
KRFT 54x2D WCM.080412	54	40	54	210	108	140	70	
KRFT 55x2D WCM.080412	55	40	54	212	110	142	70	
KRFT 56x2D WCM.080412	56	40	59	214	112	144	70	
KRFT 57x2D WCM.080412	57	40	59	216	114	146	70	
KRFT 58x2D WCM.080412	58	40	59	218	116	148	70	WCM.080412
KRFT 59x2D WCM.080412	59	40	59	220	118	150	70	
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DELİK DELME TAKIMLARI

**WCMX (3D)**



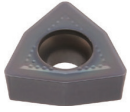
WC □ □



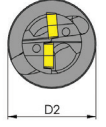
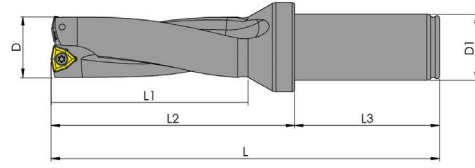
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KRFT 18x3D WCM.030208	18	25	34	132	54	76	56	
KRFT 18.5x3D WCM.030208	18.5	25	34	132	54	76	56	
KRFT 19x3D WCM.030208	19	25	34	135	57	79	56	
KRFT 19.5x3D WCM.030208	19.5	25	34	135	57	79	56	
KRFT 20x3D WCM.040208	20	25	34	138	60	82	56	WCM.040208
KRFT 20.5x3D WCM.040208	20.5	25	34	138	60	82	56	
KRFT 21x3D WCM.040208	21	25	34	141	63	85	56	
KRFT 21.5x3D WCM.040208	21.5	25	34	141	63	85	56	
KRFT 22x3D WCM.040208	22	25	34	144	66	88	56	
KRFT 22.5x3D WCM.040208	22.5	25	34	144	66	88	56	
KRFT 23x3D WCM.040208	23	25	34	147	69	91	56	
KRFT 23.5x3D WCM.040208	23.5	25	34	147	69	91	56	
KRFT 24x3D WCM.050308	24	25	34	150	72	94	56	WCM.050308
KRFT 24.5x3D WCM.050308	24.5	25	34	150	72	94	56	
KRFT 25x3D WCM.050308	25	25	34	153	75	97	56	
KRFT 25.5x3D WCM.050308	25.5	25	34	153	75	97	56	
KRFT 26x3D WCM.050308	26	25	34	156	78	100	56	
KRFT 26.5x3D WCM.050308	26.5	25	34	156	78	100	56	
KRFT 27x3D WCM.050308	27	25	34	159	81	103	56	
KRFT 27.5x3D WCM.050308	27.5	25	34	159	81	103	56	
KRFT 28x3D WCM.050308	28	25	34	162	84	106	56	WCM.06T308
KRFT 28.5x3D WCM.050308	28.5	25	34	162	84	106	56	
KRFT 29x3D WCM.050308	29	25	34	165	87	109	56	
KRFT 29.5x3D WCM.050308	29.5	25	34	165	87	109	56	
KRFT 30x3D WCM.06T308	30	32	44	177	90	117	60	
KRFT 31x3D WCM.06T308	31	32	44	180	93	120	60	
KRFT 32x3D WCM.06T308	32	32	44	183	93	123	60	
KRFT 33x3D WCM.06T308	33	32	44	186	99	126	60	
KRFT 34x3D WCM.06T308	34	32	44	189	102	129	60	WCM.080412
KRFT 35x3D WCM.06T308	35	32	44	192	105	132	60	
KRFT 36x3D WCM.06T308	36	32	44	195	108	135	60	
KRFT 37x3D WCM.06T308	37	32	44	198	111	138	60	
KRFT 38x3D WCM.06T308	38	32	44	201	114	141	60	
KRFT 39x3D WCM.06T308	39	32	44	204	117	144	60	
KRFT 40x3D WCM.06T308	40	32	44	207	120	147	60	
KRFT 41x3D WCM.06T308	41	32	44	210	123	150	60	
KRFT 42x3D WCM.06T308	42	32	44	213	126	153	60	WCM.080412
KRFT 43x3D WCM.06T308	43	32	44	216	129	156	60	
KRFT 44x3D WCM.06T308	44	32	44	219	132	159	60	
KRFT 45x3D WCM.080412	45	40	54	237	135	167	70	
KRFT 46x3D WCM.080412	46	40	54	240	138	170	70	
KRFT 47x3D WCM.080412	47	40	54	243	141	173	70	
KRFT 48x3D WCM.080412	48	40	54	246	144	176	70	
KRFT 49x3D WCM.080412	49	40	54	249	147	179	70	
KRFT 50x3D WCM.080412	50	40	54	252	150	182	70	WCM.080412
KRFT 51x3D WCM.080412	51	40	54	255	153	185	70	
KRFT 52x3D WCM.080412	52	40	54	258	156	188	70	
KRFT 53x3D WCM.080412	53	40	54	261	159	191	70	
KRFT 54x3D WCM.080412	54	40	54	264	162	194	70	
KRFT 55x3D WCM.080412	55	40	54	267	165	197	70	
KRFT 56x3D WCM.080412	56	40	59	270	168	200	70	
KRFT 57x3D WCM.080412	57	40	59	273	171	203	70	
KRFT 58x3D WCM.080412	58	40	59	276	174	206	70	WCM.080412
KRFT 59x3D WCM.080412	59	40	59	279	177	209	70	
KRFT 60x3D WCM.080412	60	40	59	282	180	212	70	

DELİK DELME TAKIMLARI

**WCMX (4D)**

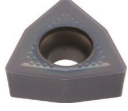


WC □ □

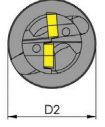
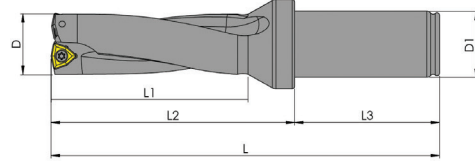


Kod	D	D1	D2	L	L1	L2	L3	Kesici Uç
KRFT 16x4D WCM.030208	16	25	34	142	64	86	56	WCM.030208
KRFT 16.5x4D WCM.030208	16.5	25	34	142	64	86	56	
KRFT 17x4D WCM.030208	17	25	34	146	68	90	56	
KRFT 17.5x4D WCM.030208	17.5	25	34	146	68	90	56	
KRFT 18x4D WCM.030208	18	25	34	150	72	94	56	
KRFT 18.5x4D WCM.030208	18.5	25	34	150	72	94	56	
KRFT 19x4D WCM.030208	19	25	34	154	76	98	56	
KRFT 19.5x4D WCM.030208	19.5	25	34	154	76	98	56	
KRFT 20x4D WCM.040208	20	25	34	158	80	102	56	WCM.040208
KRFT 20.5x4D WCM.040208	20.5	25	34	158	80	102	56	
KRFT 21x4D WCM.040208	21	25	34	162	84	106	56	
KRFT 21.5x4D WCM.040208	21.5	25	34	162	84	106	56	
KRFT 22x4D WCM.040208	22	25	34	166	88	110	56	
KRFT 22.5x4D WCM.040208	22.5	25	34	166	88	110	56	
KRFT 23x4D WCM.040208	23	25	34	170	92	114	56	
KRFT 23.5x4D WCM.040208	23.5	25	34	170	92	114	56	
KRFT 24x4D WCM.050308	24	25	34	174	96	118	56	WCM.050308
KRFT 24.5x4D WCM.050308	24.5	25	34	174	96	118	56	
KRFT 25x4D WCM.050308	25	25	34	178	100	122	56	
KRFT 25.5x4D WCM.050308	25.5	25	34	178	100	122	56	
KRFT 26x4D WCM.050308	26	25	34	182	104	126	56	
KRFT 26.5x4D WCM.050308	26.5	25	34	182	104	126	56	
KRFT 27x4D WCM.050308	27	25	34	186	108	130	56	
KRFT 27.5x4D WCM.050308	27.5	25	34	186	108	130	56	
KRFT 28x4D WCM.050308	28	25	34	190	112	134	56	WCM.06T308
KRFT 28.5x4D WCM.050308	28.5	25	34	190	112	134	56	
KRFT 29x4D WCM.050308	29	25	34	194	116	138	56	
KRFT 29.5x4D WCM.050308	29.5	25	34	194	116	138	56	
KRFT 30x4D WCM.06T308	30	32	44	207	120	147	60	
KRFT 31x4D WCM.06T308	31	32	44	211	124	151	60	
KRFT 32x4D WCM.06T308	32	32	44	215	128	155	60	
KRFT 33x4D WCM.06T308	33	32	44	219	132	159	60	
KRFT 34x4D WCM.06T308	34	32	44	223	136	163	60	WCM.080412
KRFT 35x4D WCM.06T308	35	32	44	227	140	167	60	
KRFT 36x4D WCM.06T308	36	32	44	231	144	171	60	
KRFT 37x4D WCM.06T308	37	32	44	235	148	175	60	
KRFT 38x4D WCM.06T308	38	32	44	239	152	179	60	
KRFT 39x4D WCM.06T308	39	32	44	243	156	183	60	
KRFT 40x4D WCM.06T308	40	32	44	247	160	187	60	
KRFT 41x4D WCM.06T308	41	32	44	251	164	191	60	
KRFT 42x4D WCM.06T308	42	32	44	255	168	195	60	WCM.080412
KRFT 43x4D WCM.06T308	43	32	44	259	172	199	60	
KRFT 44x4D WCM.06T308	44	32	44	263	176	203	60	
KRFT 45x4D WCM.080412	45	40	54	282	180	212	70	
KRFT 46x4D WCM.080412	46	40	54	286	184	216	70	
KRFT 47x4D WCM.080412	47	40	54	290	188	220	70	
KRFT 48x4D WCM.080412	48	40	54	294	192	224	70	
KRFT 49x4D WCM.080412	49	40	54	298	196	228	70	
KRFT 50x4D WCM.080412	50	40	54	302	200	232	70	

## DELİK DELME TAKIMLARI

**WCMX (5D)**

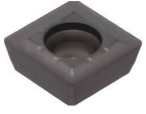
WC □ □



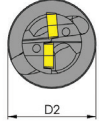
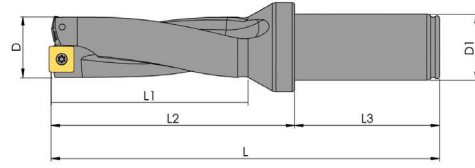
Kod	D	D1	D2	L	L1	L2	L3	Kesici Uç
KRFT 16x5D WCM.030208	16	25	34	155	80	100	56	WCM.030208
KRFT 17x5D WCM.030208	17	25	34	160	85	105	56	
KRFT 18x5D WCM.030208	18	25	34	165	90	111	56	
KRFT 19x5D WCM.030208	19	25	34	170	95	116	56	WCM.040208
KRFT 20x5D WCM.040208	20	25	34	175	100	120	56	
KRFT 21x5D WCM.040208	21	25	34	180	105	124	56	
KRFT 22x5D WCM.040208	22	25	34	185	110	129	56	WCM.050308
KRFT 23x5D WCM.040208	23	25	34	190	115	135	56	
KRFT 24x5D WCM.050308	24	25	34	195	120	140	56	
KRFT 25x5D WCM.050308	25	25	34	200	125	144	56	WCM.050308
KRFT 26x5D WCM.050308	26	25	34	205	130	149	56	
KRFT 27x5D WCM.050308	27	25	34	210	135	155	56	
KRFT 28x5D WCM.050308	28	25	34	215	140	160	56	WCM.06T308
KRFT 29x5D WCM.050308	29	25	34	220	145	165	56	
KRFT 30x5D WCM.06T308	30	32	44	231	150	170	60	
KRFT 31x5D WCM.06T308	31	32	44	236	155	173	60	WCM.06T308
KRFT 32x5D WCM.06T308	32	32	44	241	160	180	60	
KRFT 33x5D WCM.06T308	33	32	44	246	165	185	60	
KRFT 34x5D WCM.06T308	34	32	44	251	170	190	60	WCM.06T308
KRFT 35x5D WCM.06T308	35	32	44	256	175	195	60	
KRFT 36x5D WCM.06T308	36	32	44	261	180	200	60	
KRFT 37x5D WCM.06T308	37	32	44	266	185	205	60	WCM.06T308
KRFT 38x5D WCM.06T308	38	32	44	271	190	210	60	
KRFT 39x5D WCM.06T308	39	32	44	276	195	215	60	
KRFT 40x5D WCM.06T308	40	32	44	281	200	220	60	WCM.06T308

DELİK DELME TAKIMLARI

**QPMG (3D)**



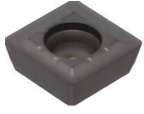
QP □□



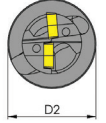
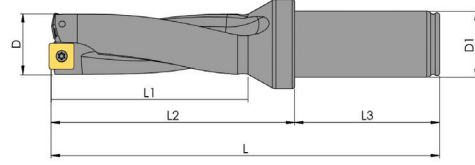
Kod	D	D1	D2	L	L1	L2	L3	Kesici Uç
KRFT 12.5x3D QPMG050204	12.5	20	25	107	37	57	50	OPMG050204
KRFT 13x3D QPMG050204	13	20	25	107	39	57	50	
KRFT 13.5x3D QPMG050204	13.5	20	25	110	41	60	50	
KRFT 14x3D QPMG050204	14	20	25	110	42	60	50	
KRFT 14.5x3D QPMG050204	14.5	20	25	113	43	63	50	
KRFT 15x3D QPMG050204	15	20	25	113	45	63	50	
KRFT 15.5x3D QPMG060204	15.5	20	25	118	46	68	50	QPMG060204
KRFT 16x3D QPMG060204	16	25	34	124	48	68	56	
KRFT 16.5x3D QPMG060204	16.5	25	34	127	49	71	56	
KRFT 17x3D QPMG060204	17	25	34	127	51	71	56	
KRFT 17.5x3D QPMG060204	17.5	25	34	131	52	75	56	
KRFT 18x3D QPMG060204	18	25	34	131	54	75	56	
KRFT 18.5x3D QPMG060204	18.5	25	34	134	55	78	56	
KRFT 19x3D QPMG060204	19	25	34	134	57	78	56	
KRFT 19.5x3D QPMG060204	19.5	25	34	139	58	83	56	
KRFT 20x3D QPMG060204	20	25	34	139	60	83	56	
KRFT 20.5x3D QPMG060204	20.5	25	34	142	61	88	56	
KRFT 21x3D QPMG060204	21	25	34	142	63	88	56	
KRFT 21.5x3D QPMG060204	21.5	25	34	145	64	89	56	
KRFT 22x3D QPMG07T308	22	25	34	145	66	89	56	QPMG07T308
KRFT 22.5x3D QPMG07T308	22.5	25	34	150	67	94	56	
KRFT 23x3D QPMG07T308	23	25	34	150	69	94	56	
KRFT 23.5x3D QPMG07T308	23.5	25	34	154	70	98	56	
KRFT 24x3D QPMG07T308	24	25	34	154	72	98	56	
KRFT 24.5x3D QPMG07T308	24.5	25	34	158	73	102	56	
KRFT 25x3D QPMG07T308	25	25	34	158	75	102	56	
KRFT 25.5x3D QPMG07T308	25.5	25	34	161	76	105	56	
KRFT 26x3D QPMG07T308	26	25	34	161	78	105	56	
KRFT 26.5x3D QPMG07T308	26.5	25	34	164	79	108	56	
KRFT 27x3D QPMG07T308	27	25	34	164	81	108	56	
KRFT 27.5x3D QPMG07T308	27.5	25	34	168	82	112	56	
KRFT 28x3D QPMG090408	28	25	34	168	84	112	56	QPMG090408
KRFT 28.5x3D QPMG090408	28.5	25	34	168	85	115	56	
KRFT 29x3D QPMG090408	29	25	34	171	87	115	56	
KRFT 29.5x3D QPMG090408	29.5	25	34	173	88	111	56	
KRFT 30x3D QPMG090408	30	32	44	173	90	111	60	
KRFT 31x3D QPMG090408	31	32	44	175	93	115	60	
KRFT 32x3D QPMG090408	32	32	44	178	96	118	60	
KRFT 33x3D QPMG090408	33	32	44	182	99	122	60	
KRFT 34x3D QPMG110408	34	32	44	185	102	125	60	QPMG110408
KRFT 35x3D QPMG110408	35	32	44	189	105	129	60	
KRFT 36x3D QPMG110408	36	32	44	193	108	133	60	
KRFT 37x3D QPMG110408	37	32	44	197	111	136	60	
KRFT 38x3D QPMG110408	38	32	44	201	114	141	60	
KRFT 39x3D QPMG110408	39	32	44	204	117	144	60	
KRFT 40x3D QPMG110408	40	32	44	208	120	148	60	QPMG140512
KRFT 41x3D QPMG110408	41	32	44	212	123	152	60	
KRFT 42x3D QPMG140512	42	32	44	215	126	155	60	
KRFT 43x3D QPMG140512	43	32	44	219	129	158	60	
KRFT 44x3D QPMG140512	44	32	44	222	132	162	60	
KRFT 45x3D QPMG140512	45	40	54	237	135	167	70	
KRFT 46x3D QPMG140512	46	40	54	241	138	171	70	
KRFT 47x3D QPMG140512	47	40	54	244	141	174	70	
KRFT 48x3D QPMG140512	48	40	54	248	144	178	70	
KRFT 49x3D QPMG140512	49	40	54	251	147	181	70	
KRFT 50x3D QPMG140512	50	40	54	255	150	185	70	

DELİK DELME TAKIMLARI

**QPMG (4D)**



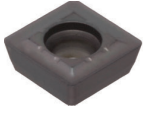
QP □□



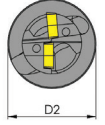
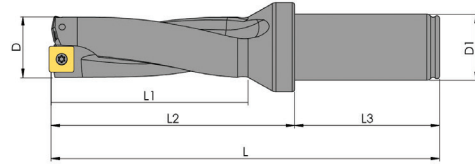
Kod	D	D1	D2	L	L1	L2	L3	Kesici Uç
KRFT 12.5x4D QPMG050204	12.5	20	25	120	52	70	50	OPMG050204
KRFT 13x4D QPMG050204	13	20	25	120	52	70	50	
KRFT 13.5x4D QPMG050204	13.5	20	25	124	52	74	50	
KRFT 14x4D QPMG050204	14	20	25	124	56	74	50	
KRFT 14.5x4D QPMG050204	14.5	20	25	128	56	78	50	
KRFT 15x4D QPMG050204	15	20	25	128	60	78	50	
KRFT 15.5x4D QPMG060204	15.5	20	25	128	60	78	50	QPMG060204
KRFT 16x4D QPMG060204	16	25	34	140	64	84	56	
KRFT 16.5x4D QPMG060204	16.5	25	34	144	66	88	56	
KRFT 17x4D QPMG060204	17	25	34	144	68	88	56	
KRFT 17.5x4D QPMG060204	17.5	25	34	149	70	93	56	
KRFT 18x4D QPMG060204	18	25	34	149	72	93	56	
KRFT 18.5x4D QPMG060204	18.5	25	34	153	74	97	56	
KRFT 19x4D QPMG060204	19	25	34	153	76	97	56	
KRFT 19.5x4D QPMG060204	19.5	25	34	159	78	103	56	
KRFT 20x4D QPMG060204	20	25	34	159	80	103	56	
KRFT 20.5x4D QPMG060204	20.5	25	34	163	82	107	56	
KRFT 21x4D QPMG060204	21	25	34	163	84	107	56	
KRFT 21.5x4D QPMG060204	21.5	25	34	167	86	111	56	
KRFT 22x4D QPMG07T308	22	25	34	167	88	111	56	
KRFT 22.5x4D QPMG07T308	22.5	25	34	173	90	117	56	
KRFT 23x4D QPMG07T308	23	25	34	173	92	117	56	
KRFT 23.5x4D QPMG07T308	23.5	25	34	178	94	122	56	
KRFT 24x4D QPMG07T308	24	25	34	178	96	122	56	
KRFT 24.5x4D QPMG07T308	24.5	25	34	183	98	127	56	
KRFT 25x4D QPMG07T308	25	25	34	183	100	127	56	
KRFT 25.5x4D QPMG07T308	25.5	25	34	187	102	131	56	
KRFT 26x4D QPMG07T308	26	25	34	187	104	131	56	
KRFT 26.5x4D QPMG07T308	26.5	25	34	191	106	135	56	
KRFT 27x4D QPMG07T308	27	25	34	191	108	135	56	QPMG090408
KRFT 27.5x4D QPMG07T308	27.5	25	34	196	110	140	56	
KRFT 28x4D QPMG090408	28	25	34	196	112	140	56	
KRFT 28.5x4D QPMG090408	28.5	25	34	200	114	144	56	
KRFT 29x4D QPMG090408	29	25	34	200	116	144	56	
KRFT 29.5x4D QPMG090408	29.5	25	34	202	118	146	56	
KRFT 30x4D QPMG090408	30	32	44	201	120	141	60	
KRFT 31x4D QPMG090408	31	32	44	206	124	145	60	
KRFT 32x4D QPMG090408	32	32	44	210	128	149	60	
KRFT 33x4D QPMG090408	33	32	44	215	132	154	60	
KRFT 34x4D QPMG110408	34	32	44	219	136	158	60	
KRFT 35x4D QPMG110408	35	32	44	227	140	166	60	
KRFT 36x4D QPMG110408	36	32	44	229	144	169	60	
KRFT 37x4D QPMG110408	37	32	44	234	148	174	60	
KRFT 38x4D QPMG110408	38	32	44	139	152	178	60	
KRFT 39x4D QPMG110408	39	32	44	243	156	183	60	
KRFT 40x4D QPMG110408	40	32	44	248	160	188	60	

DELİK DELME TAKIMLARI

**QPMG (5D)**

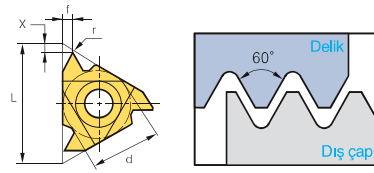
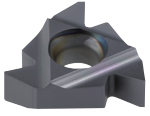


QP □□

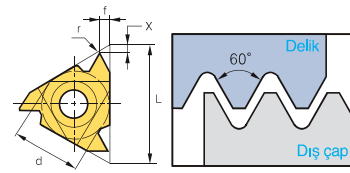


Kod	D	D1	D2	L	L1	L2	L3	Kesici Uç
KRFT 13x5D QPMG050204	13	20	25	130	65	80	50	OPMG050204
KRFT 14x5D QPMG050204	14	20	25	135	70	85	50	
KRFT 15x5D QPMG050204	15	20	25	140	75	90	50	
KRFT 16x5D QPMG060204	16	25	34	155	80	100	56	OPMG060204
KRFT 17x5D QPMG060204	17	25	34	160	85	105	56	
KRFT 18x5D QPMG060204	18	25	34	165	90	111	56	
KRFT 19x5D QPMG060204	19	25	34	170	95	116	56	
KRFT 20x5D QPMG060204	20	25	34	175	100	120	56	
KRFT 21x5D QPMG060204	21	25	34	180	105	124	56	QPMG07T308
KRFT 22x5D QPMG07T308	22	25	34	185	110	129	56	
KRFT 23x5D QPMG07T308	22	25	34	190	115	135	56	
KRFT 24x5D QPMG07T308	23	25	34	195	120	140	56	
KRFT 25x5D QPMG07T308	25	25	34	200	125	144	56	
KRFT 26x5D QPMG07T308	26	25	34	205	130	149	56	QPMG090408
KRFT 27x5D QPMG07T308	27	25	34	210	135	155	56	
KRFT 28x5D QPMG090408	28	25	34	215	140	160	56	
KRFT 29x5D QPMG090408	29	25	34	220	145	165	56	

V PROFİL 60°



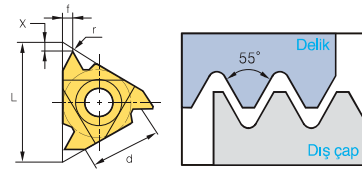
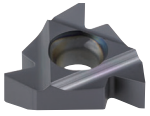
DİŞ



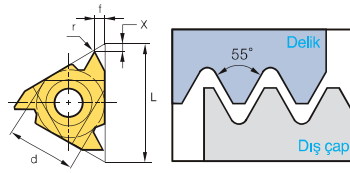
İÇ

Kod (Dış)	KR1020	KR1220	Kod (İç)	KR1020	KR1220	Hatve	Boyutlar (mm)					
						(mm)	d	L	r	x	f	
ER	●	●	NR	●	●	11-A60	0.5-1.5	6.35	11	0.05	0.8	0.9
						16-AG60	0.5-3.0	9.525	16	0.08	1.2	1.7
						22-N60	3.5-5.0	12.7	22	0.30	1.7	2.5

V PROFİL 55°



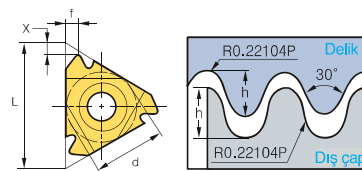
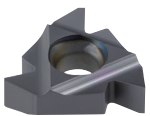
DİŞ



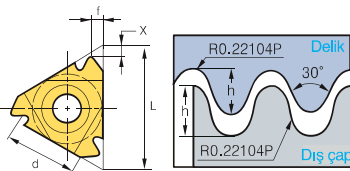
İÇ

Kod (Dış)	KR1020	KR1220	Kod (İç)	KR1020	KR1220	Hatve	Boyutlar (mm)					
						(mm)	d	L	r	x	f	
ER	●	●	NR	●	●	11-A55	0.5-1.5	6.35	11	0.05	0.8	0.9
						16-AG55	0.5-3.0	9.525	16	0.08	1.2	1.7
						22-N55	3.5-5.0	12.7	22	0.30	1.7	2.5

DAİRESEL DIN 405



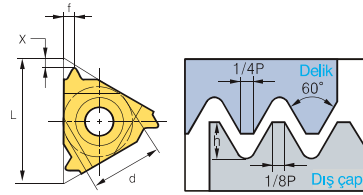
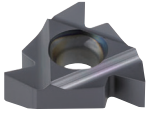
DİŞ



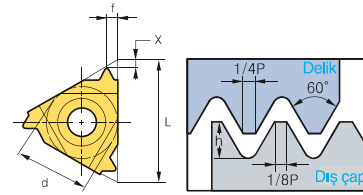
İÇ

Kod (Dış)	KR1020	KR1220	Kod (İç)	KR1020	KR1220	Hatve	Boyutlar (mm)					
						(tpi)	d	L	hmin	X	f	
ER	●	●	NR	●	●	16-10RD	10	9.525	16	1.27	1.1	1.2
						16-8RD	8	9.525	16	1.59	1.4	1.3
						16-6RD	6	9.525	16	2.12	1.5	1.7
						22-6RD	6	12.7	22	2.12	1.5	1.7
						22-4RD	4	12.7	22	3.18	2.2	2.3
						27-4RD	4	18.875	27	3.18	2.2	2.3

ISO METRİK



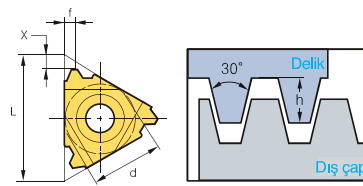
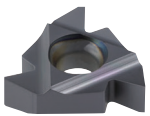
DİŞ



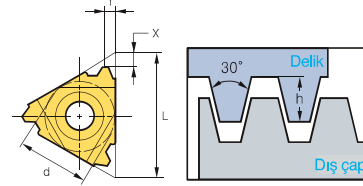
İÇ

Kod (Dış)	KR1020	KR1220	Kod (İç)	KR1020	KR1220	Hatve	Boyutlar (mm)				
						(mm)	d	L	hmin	X	f
ER			NR			1.0	6.35	11	0.61	0.7	0.7
						1.25	6.35	11	0.77	0.8	0.9
						1.5	6.35	11	0.92	0.8	1.0
						1.75	6.35	11	1.07	0.8	1.1
						0.5	9.525	16	0.31	0.6	0.4
						0.7	9.525	16	0.43	0.6	0.6
						0.75	9.525	16	0.46	0.6	0.6
						0.8	9.525	16	0.49	0.6	0.6
						1.0	9.525	16	0.61	0.7	0.7
						1.25	9.525	16	0.8	0.8	0.9
						1.5	9.525	16	0.92	0.8	1.0
						1.75	9.525	16	1.07	0.9	1.2
						2.0	9.525	16	1.23	1.0	1.3
						2.5	9.525	16	1.53	1.1	1.5
						3.0	9.525	16	1.84	1.2	1.6
						3.5	12.7	22	2.15	1.6	2.3
						4.0	12.7	22	2.45	1.6	2.3
						4.5	12.7	22	2.78	1.7	2.4
						5.0	12.7	22	3.07	1.7	2.5
						6.0	12.7	22	3.42	1.7	2.5

TRAPEZ DIN 103 (TR)



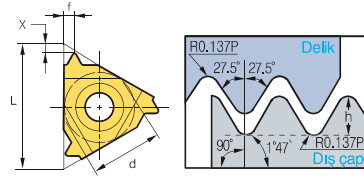
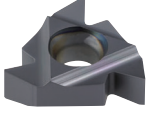
DİŞ



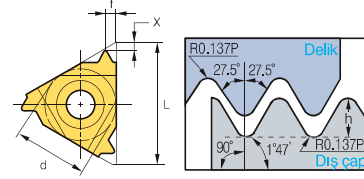
İÇ

Kod (Dış)	KR1020	KR1220	Kod (İç)	KR1020	KR1220	Hatve	Boyutlar (mm)				
						(tpi)	d	L	hmin	X	f
ER			NR			1.5	6.35	11	0.90	0.8	0.9
						1.5	9.525	16	0.90	1.0	1.1
						2.0	9.525	16	1.25	1.1	1.3
						3.0	9.525	16	1.75	1.3	1.5
						4.0	12.7	22	2.25	1.7	1.9
						5.0	12.7	22	2.75	2.1	2.5
						6.0	12.7	22	3.00	2.3	2.7
						6.0	15.875	27	3.50	2.3	2.7

**İNGİLİZ STANDART BORU DİŞ (BSPT)**



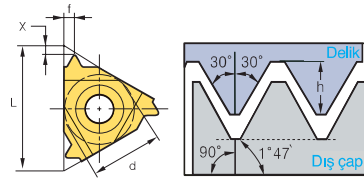
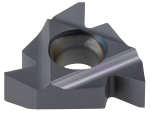
DİŞ



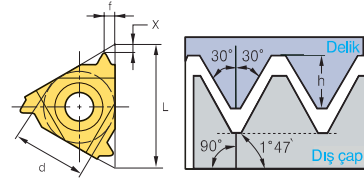
İÇ

Kod (Dış)	KR1020	KR1220	Kod (İç)	KR1020	KR1220	Hatve	Boyutlar (mm)					
						(tpi)	d	L	hmin	X	f	
ER	●	●	NR	●	●	11-28BSPT	28	6.35	11	0.58	0.6	0.6
						11-19BSPT	19	6.35	11	0.86	0.8	0.9
						11-14BSPT	14	6.35	11	1.16	0.9	1.0
						16-28BSPT	28	9.525	16	0.58	0.6	0.6
						16-19BSPT	19	9.525	16	0.86	0.8	0.9
						16-14BSPT	14	9.525	16	1.16	1.0	1.2
						16-11BSPT	11	9.525	16	1.48	1.1	1.5

**NPT BORU DİŞ (NPT)**



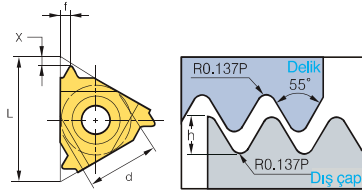
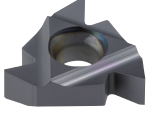
DİŞ



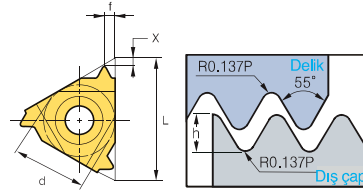
İÇ

Kod (Dış)	KR1020	KR1220	Kod (İç)	KR1020	KR1220	Hatve	Boyutlar (mm)					
						(tpi)	d	L	hmin	X	f	
ER	●	●	NR	●	●	11-27NPT	27	6.35	11	0.66	0.7	0.8
						11-18NPT	18	6.35	11	1.01	0.8	1.0
						11-14NPT	14	6.35	11	1.33	0.8	1.0
						16-27NPT	27	9.525	16	0.66	0.7	0.8
						16-18NPT	18	9.525	16	1.01	0.8	1.0
						16-14NPT	14	9.525	16	1.33	0.9	1.2
						16-11.5NPT	11.5	9.525	16	1.64	1.1	1.5
						16-8NPT	8	9.25	16	2.42	1.3	1.8

WHITWORTH (BSW)



DİŞ

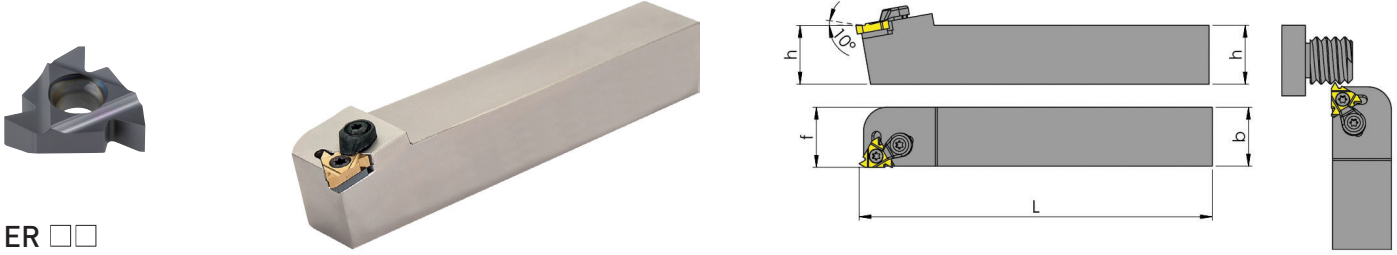


İÇ

ER	Kod (Dış)	KR1020	KR1220	NR	Kod (İç)	KR1020	KR1220	Hatve	Boyutlar (mm)				
								(tpi)	d	L	hmin	X	f
	11-72W	●	●		11-72W	●	●	72	6.35	11	0.23	0.7	0.4
	11-60W	●	●		11-60W	●	●	60	6.35	11	0.27	0.7	0.4
	11-56W	●	●		11-56W	●	●	56	6.35	11	0.29	0.7	0.4
	11-48W	●	●		11-48W	●	●	48	6.35	11	0.34	0.6	0.6
	11-40W	●	●		11-40W	●	●	40	6.35	11	0.41	0.6	0.6
	11-36W	●	●		11-36W	●	●	36	6.35	11	0.45	0.6	0.6
	11-32W	●	●		11-32W	●	●	32	6.35	11	0.51	0.6	0.6
	11-28W	●	●		11-28W	●	●	28	6.35	11	0.58	0.6	0.7
	11-26W	●	●		11-26W	●	●	26	6.35	11	0.63	0.7	0.8
	11-24W	●	●		11-24W	●	●	24	6.35	11	0.68	0.7	0.8
	11-22W	●	●		11-22W	●	●	22	6.35	11	0.74	0.8	0.9
	11-20W	●	●		11-20W	●	●	20	6.35	11	0.81	0.8	0.9
	11-19W	●	●		11-19W	●	●	19	6.35	11	0.86	0.8	1.0
	11-18W	●	●		11-18W	●	●	18	6.35	11	0.90	0.8	1.0
	11-16W	●	●		11-16W	●	●	16	6.35	11	1.02	0.9	1.1
	11-14W	●	●		11-14W	●	●	14	6.35	11	1.16	0.9	1.1
	11-12W	●	●		11-12W	●	●	12	6.35	11	1.32	0.9	1.2
	16-72W	●	●		16-72W	●	●	72	9.525	16	0.23	0.7	0.4
	16-60W	●	●		16-60W	●	●	60	9.525	16	0.27	0.7	0.4
	16-56W	●	●		16-56W	●	●	56	9.525	16	0.29	0.7	0.4
	16-48W	●	●		16-48W	●	●	48	9.525	16	0.34	0.6	0.6
	16-40W	●	●		16-40W	●	●	40	9.525	16	0.41	0.6	0.6
	16-36W	●	●		16-36W	●	●	36	9.525	16	0.45	0.6	0.6
	16-32W	●	●		16-32W	●	●	32	9.525	16	0.51	0.6	0.6
	16-30W	●	●		16-30W	●	●	30	9.525	16	0.55	0.6	0.7
	16-28W	●	●		16-28W	●	●	28	9.525	16	0.58	0.6	0.7
	16-26W	●	●		16-26W	●	●	26	9.525	16	0.63	0.7	0.8
	16-24W	●	●		16-24W	●	●	24	9.525	16	0.68	0.7	0.8
	16-22W	●	●		16-22W	●	●	22	9.525	16	0.74	0.8	0.9
	16-20W	●	●		16-20W	●	●	20	9.525	16	0.81	0.8	0.9
	16-19W	●	●		16-19W	●	●	19	9.525	16	0.86	0.8	1.0
	16-18W	●	●		16-18W	●	●	18	9.525	16	0.90	0.8	1.0
	16-16W	●	●		16-16W	●	●	16	9.525	16	1.02	0.9	1.1
	16-14W	●	●		16-14W	●	●	14	9.525	16	1.16	1.0	1.2
	16-12W	●	●		16-12W	●	●	12	9.525	16	1.36	1.1	1.4
	16-11W	●	●		16-11W	●	●	11	9.525	16	1.48	1.1	1.5
	16-10W	●	●		16-10W	●	●	10	9.525	16	1.63	1.1	1.5
	16-9W	●	●		16-9W	●	●	9	9.525	16	1.81	1.2	1.7
	16-8W	●	●		16-8W	●	●	8	9.525	16	2.03	1.2	1.5
	22-7W	●	●		22-7W	●	●	7	12.7	22	3.32	1.6	2.3
	22-6W	●	●		22-6W	●	●	6	12.7	22	2.71	1.6	2.3
	22-5W	●	●		22-5W	●	●	5	12.7	22	3.25	1.7	2.4
	27-4.5W	●	●		27-4.5W	●	●	4.5	15.875	27	3.61	1.8	2.6
	27-4W	●	●		27-4W	●	●	4	15.875	27	4.07	2.0	2.9

DIŞ ÇAP DIŞ KATERİ

**ER**

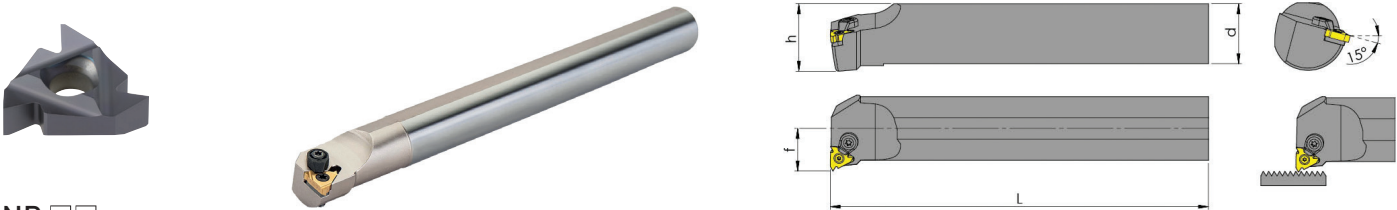


ER □□

Kod	h	b	L	f	Kesici Uç
SER/L	0808-E11	08	08	70	ER 11
	1010-E11	10	10	70	
	1212-F11	12	12	80	
SER/L	1616-H11	16	16	100	ER 16
	1212-F16	12	12	100	
	1616-H16	16	16	100	
	2020-K16	20	20	125	
	2525-M16	25	25	150	
SER/L	3232-P16	32	32	170	ER 22
	2525-M22	25	25	150	
	3232-P22	32	32	170	
	3232-P22	32	32	170	

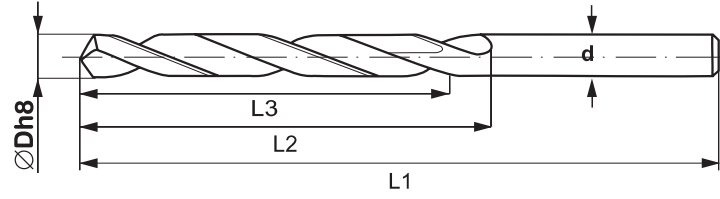
İÇ ÇAP DIŞ KATERİ

**NR**



NR □□

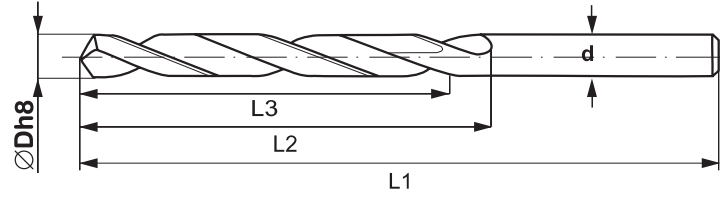
Kod	d	h	L	f	Dmin	Kesici Uç
S10J-STIR/L-11	10	9	120	7.4	12	NR 11
S12K-STIR/L-11	12	11	125	8.4	16	
S16Q-STIR/L-11	16	15	180	7.4	12	
S16Q-STIR/L-16	16	15	180	7.4	12	NR 16
S20R-STIR/L-16	20	18	200	13.7	24	
S25S-STIR/L-16	25	23	250	16.2	29	
S32T-STIR/L-16	32	30	300	19.7	36	
S40U-STIR/L-16	40	37	300	23.7	44	
S20R-STIR/L-22	20	18	200	14	24	NR 22
S25S-STIR/L-22	25	23	250	18.1	29	
S32T-STIR/L-22	32	30	300	21.6	38	
S40U-STIR/L-22	40	37	300	25.6	16	
S40V-STIR/L-22	50	47	350	30.6	58	



KOD	D (mm)	L1 (mm)	L2 (mm)	L3 (mm)	d (mm)
KR.02.4D.020*	2,0	60	15	12	4
KR.02.4D.021*	2,1	60	16	14	4
KR.02.4D.022*	2,2	60	16	14	4
KR.02.4D.023*	2,3	60	16	14	4
KR.02.4D.024*	2,4	60	16	14	4
KR.02.4D.025*	2,5	60	18	16	4
KR.02.4D.026*	2,6	60	18	16	4
KR.02.4D.027*	2,7	60	18	16	4
KR.02.4D.028*	2,8	60	19	17	4
KR.02.4D.029*	2,9	60	20	18	4
KR.02.5D.030	3,0	66	28	23	6
KR.02.5D.031	3,1	66	28	23	6
KR.02.5D.032	3,2	66	28	23	6
KR.02.5D.033	3,3	66	28	23	6
KR.02.5D.034	3,4	66	28	23	6
KR.02.5D.035	3,5	66	28	23	6
KR.02.5D.036	3,6	66	28	23	6
KR.02.5D.037	3,7	66	28	23	6
KR.02.5D.038	3,8	74	36	29	6
KR.02.5D.039	3,9	74	36	29	6
KR.02.5D.040	4,0	74	36	29	6
KR.02.5D.041	4,1	74	36	29	6
KR.02.5D.042	4,2	74	36	29	6
KR.02.5D.043	4,3	74	36	29	6
KR.02.5D.044	4,4	74	36	29	6
KR.02.5D.045	4,5	74	36	29	6
KR.02.5D.046	4,6	74	36	29	6
KR.02.5D.047	4,7	74	36	29	6
KR.02.5D.048	4,8	82	44	35	6
KR.02.5D.049	4,9	82	44	35	6
KR.02.5D.050	5,0	82	44	35	6
KR.02.5D.051	5,1	82	44	35	6
KR.02.5D.052	5,2	82	44	35	6

KOD	D (mm)	L1 (mm)	L2 (mm)	L3 (mm)	d (mm)
KR.02.5D.053	5,3	82	44	35	6
KR.02.5D.054	5,4	82	44	35	6
KR.02.5D.055	5,5	82	44	35	6
KR.02.5D.056	5,6	82	44	35	6
KR.02.5D.057	5,7	82	44	35	6
KR.02.5D.058	5,8	82	44	35	6
KR.02.5D.059	5,9	82	44	35	6
KR.02.5D.060	6,0	82	44	35	6
KR.02.5D.061	6,1	91	53	43	8
KR.02.5D.062	6,2	91	53	43	8
KR.02.5D.063	6,3	91	53	43	8
KR.02.5D.064	6,4	91	53	43	8
KR.02.5D.065	6,5	91	53	43	8
KR.02.5D.066	6,6	91	53	43	8
KR.02.5D.067	6,7	91	53	43	8
KR.02.5D.068	6,8	91	53	43	8
KR.02.5D.069	6,9	91	53	43	8
KR.02.5D.070	7,0	91	53	43	8
KR.02.5D.071	7,1	91	53	43	8
KR.02.5D.072	7,2	91	53	43	8
KR.02.5D.073	7,3	91	53	43	8
KR.02.5D.074	7,4	91	53	43	8
KR.02.5D.075	7,5	91	53	43	8
KR.02.5D.076	7,6	91	53	43	8
KR.02.5D.077	7,7	91	53	43	8
KR.02.5D.078	7,8	91	53	43	8
KR.02.5D.079	7,9	91	53	43	8
KR.02.5D.080	8,0	91	53	43	8
KR.02.5D.081	8,1	103	61	49	10
KR.02.5D.082	8,2	103	61	49	10
KR.02.5D.083	8,3	103	61	49	10
KR.02.5D.084	8,4	103	61	49	10
KR.02.5D.085	8,5	103	61	49	10

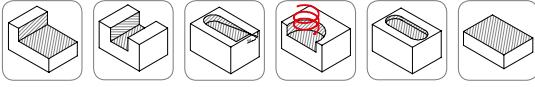
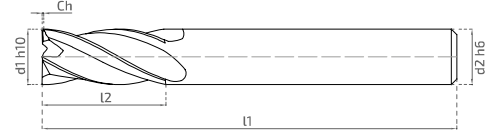
\* İÇTEN SOĞUTMA YOKTUR.



KOD	D (mm)	L1 (mm)	L2 (mm)	L3 (mm)	d (mm)
KR.02.5D.086	8,6	103	61	49	10
KR.02.5D.087	8,7	103	61	49	10
KR.02.5D.088	8,8	103	61	49	10
KR.02.5D.089	8,9	103	61	49	10
KR.02.5D.090	9,0	103	61	49	10
KR.02.5D.091	9,1	103	61	49	10
KR.02.5D.092	9,2	103	61	49	10
KR.02.5D.093	9,3	103	61	49	10
KR.02.5D.094	9,4	103	61	49	10
KR.02.5D.095	9,5	103	61	49	10
KR.02.5D.096	9,6	103	61	49	10
KR.02.5D.097	9,7	103	61	49	10
KR.02.5D.098	9,8	103	61	49	10
KR.02.5D.099	9,9	103	61	49	10
KR.02.5D.100	10,0	103	61	49	10
KR.02.5D.101	10,1	118	71	56	12
KR.02.5D.102	10,2	118	71	56	12
KR.02.5D.103	10,3	118	71	56	12
KR.02.5D.104	10,4	118	71	56	12
KR.02.5D.105	10,5	118	71	56	12
KR.02.5D.106	10,6	118	71	56	12
KR.02.5D.107	10,7	118	71	56	12
KR.02.5D.108	10,8	118	71	56	12
KR.02.5D.109	10,9	118	71	56	12
KR.02.5D.110	11,0	118	71	56	12
KR.02.5D.111	11,1	118	71	56	12
KR.02.5D.112	11,2	118	71	56	12
KR.02.5D.113	11,3	118	71	56	12
KR.02.5D.114	11,4	118	71	56	12
KR.02.5D.115	11,5	118	71	56	12
KR.02.5D.116	11,6	118	71	56	12
KR.02.5D.117	11,7	118	71	56	12

KOD	D (mm)	L1 (mm)	L2 (mm)	L3 (mm)	d (mm)
KR.02.5D.118	11,8	118	71	56	12
KR.02.5D.119	11,9	118	71	56	12
KR.02.5D.120	12,0	118	71	56	12
KR.02.5D.121	12,1	124	77	60	14
KR.02.5D.122	12,2	124	77	60	14
KR.02.5D.123	12,3	124	77	60	14
KR.02.5D.124	12,4	124	77	60	14
KR.02.5D.125	12,5	124	77	60	14
KR.02.5D.126	12,6	124	77	60	14
KR.02.5D.127	12,7	124	77	60	14
KR.02.5D.128	12,8	124	77	60	14
KR.02.5D.129	12,9	124	77	60	14
KR.02.5D.130	13,0	124	77	60	14
KR.02.5D.135	13,5	124	77	60	14
KR.02.5D.138	13,8	124	77	60	14
KR.02.5D.140	14,0	124	77	60	14
KR.02.5D.141	14,1	133	83	63	16
KR.02.5D.142	14,2	133	83	63	16
KR.02.5D.145	14,5	133	83	63	16
KR.02.5D.148	14,8	133	83	63	16
KR.02.5D.150	15,0	133	83	63	16
KR.02.5D.155	15,5	133	83	63	16
KR.02.5D.158	15,8	133	83	63	16
KR.02.5D.160	16,0	133	83	63	16
KR.02.5D.165	16,5	143	93	71	18
KR.02.5D.170	17,0	143	93	71	18
KR.02.5D.175	17,5	143	93	71	18
KR.02.5D.180	18,0	143	93	71	18
KR.02.5D.185	18,5	153	101	77	20
KR.02.5D.190	19,0	153	101	77	20
KR.02.5D.195	19,5	153	101	77	20
KR.02.5D.200	20,0	153	101	77	20

## STANDART KISA KARBÜR PARMAK FREZE

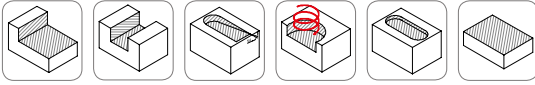
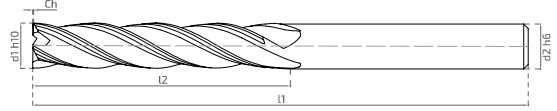


KOD	d1 h10	L2 (mm)	L1 (mm)	d2 h6	Ch	Z
KR.81000	1	3	50	4	0	4
KR.81050	1,5	6	50	4	0	4
KR.81100	2	7	50	4	0	4
KR.81150	2,5	9	50	4	0	4
KR.81200	3	9	38	3	0	4
KR.81201	3	9	50	4	0	4
KR.81300	4	14	51	4	0,1	4
KR.81400	5	15	51	5	0,1	4
KR.81450	6	15	58	6	0,1	4
KR.81500	7	15	64	8	0,1	4
KR.81550	8	20	64	8	0,1	4
KR.81600	9	21	73	10	0,1	4
KR.81650	10	21	73	10	0,1	4
KR.81700	11	25	82	12	0,1	4
KR.81750	12	25	82	12	0,15	4
KR.81790	13	30	82	14	0,15	4
KR.81800	14	30	82	14	0,15	4
KR.81840	15	35	93	16	0,1	4
KR.81850	16	35	93	16	0,1	4
KR.81900	18	38	93	18	0,1	4
KR.81950	20	38	105	20	0,15	4

● Önerilir ○ Kabul Edilebilir ○ Önerilmez

Çelik	Paslanmaz Çelik	Sertleştirilmiş Çelik ≤54 HRc	Sertleştirilmiş Çelik >54 HRc	Döküm	Grafit	Demir Dışı Metaller	HRSA	Titanyum
●	○	○	○	●	○	○	○	○

## STANDART UZUN KARBÜR PARMAK FREZE

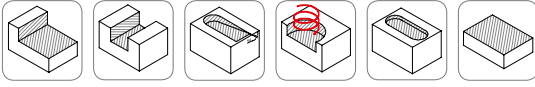
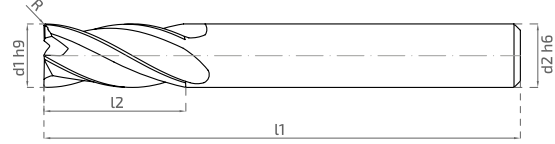
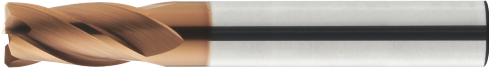


KOD	d1 h10	L2 (mm)	L1 (mm)	d2 h6	Ch	Z
KR.83010	1	9	50	4	0	4
KR.83015	1,5	9	50	4	0	4
KR.83020	2	12	50	4	0	4
KR.83030	3	15	75	3	0,1	4
KR.83050	4	20	75	4	0,1	4
KR.83100	5	20	75	5	0,1	4
KR.83150	6	25	75	6	0,1	4
KR.83170	6	30	100	6	0,1	4
KR.83200	8	35	100	8	0,1	4
KR.83250	10	40	110	10	0,1	4
KR.83300	12	45	110	12	0,15	4
KR.83320	12	60	150	12	0,15	4
KR.83350	14	60	150	14	0,15	4
KR.83400	16	75	150	16	0,15	4
KR.83450	18	75	150	18	0,15	4
KR.83500	20	75	150	20	0,15	4

● Önerilir ○ Kabul Edilebilir ○ Önerilmez

Çelik	Paslanmaz Çelik	Sertleştirilmiş Çelik ≤54 HRc	Sertleştirilmiş Çelik >54 HRc	Döküm	Grafit	Demir Dışı Metaller	HRSA	Titanyum
●	○	○	○	●	○	○	○	○

## KÖŞE RADYUS KISA KARBÜR PARMAK FREZE

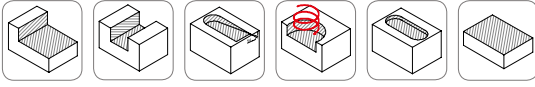


KOD	d1 h10	L2 (mm)	L1 (mm)	d2 h6	R	Z
KR.81200R0.50	3	6	51	3	0,5	4
KR.81200R1.00	3	6	51	3	1	4
KR.81300R0.50	4	8	51	4	0,5	4
KR.81300R1.00	4	8	51	4	1	4
KR.81400R0.50	5	11	51	5	0,5	4
KR.81400R1.00	5	11	51	5	1	4
KR.81450R0.50	6	12	58	6	0,5	4
KR.81450R1.00	6	12	58	6	1	4
KR.81550R0.50	8	20	64	8	0,5	4
KR.81550R1.00	8	20	64	8	1	4
KR.81650R0.50	10	21	73	10	0,5	4
KR.81650R1.00	10	21	73	10	1	4
KR.81750R0.50	12	25	82	12	0,5	4
KR.81750R1.00	12	25	82	12	1	4

● Önerilir ○ Kabul Edilebilir ○ Önerilmez

Çelik	Paslanmaz Çelik	Sertleştirilmiş Çelik ≤54 HRc	Sertleştirilmiş Çelik >54 HRc	Döküm	Grafit	Demir Dışı Metaller	HRSA	Titanyum
●	○	○	○	●	○	○	○	○

## KÖŞE RADYUS UZUN KARBÜR PARMAK FREZE

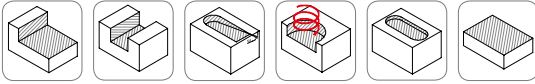
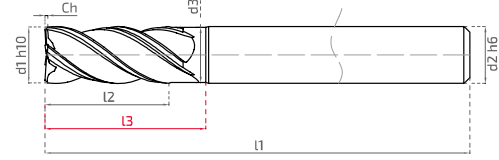
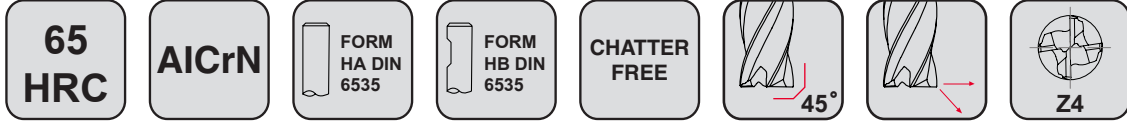


KOD	d1 h10	L2 (mm)	L1 (mm)	d2 h6	R	Z
KR.83030R0.50	3	6	75	3	0,5	4
KR.83030R1.00	3	6	75	3	1	4
KR.83050R0.50	4	8	75	4	0,5	4
KR.83050R1.00	4	8	75	4	1	4
KR.83100R0.50	5	11	75	5	0,5	4
KR.83100R1.00	5	11	75	5	1	4
KR.83150R0.50	6	12	100	6	0,5	4
KR.83150R1.00	6	12	100	6	1	4
KR.83200R0.50	8	20	100	8	0,5	4
KR.83200R1.00	8	20	100	8	1	4
KR.83250R0.50	10	21	100	10	0,5	4
KR.83250R1.00	10	21	100	10	1	4
KR.83300R0.50	12	25	100	12	0,5	4
KR.83300R1.00	12	25	100	12	1	4

● Önerilir ○ Kabul Edilebilir ○ Önerilmez

Çelik	Paslanmaz Çelik	Sertleştirilmiş Çelik ≤54 HRc	Sertleştirilmiş Çelik >54 HRc	Döküm	Grafit	Demir Dışı Metaller	HRSA	Titanyum
●	○	○	○	●	○	○	○	○

## CHATTER FREE KARBÜR PARMAK FREZE

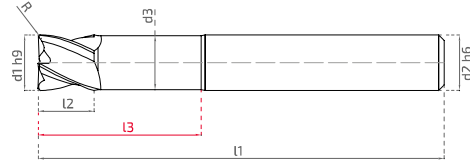
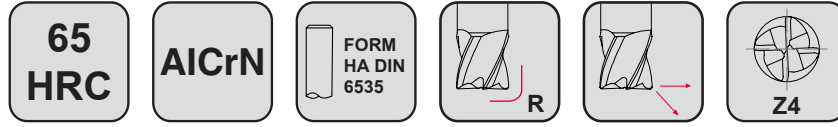


KOD	d1 h9	L2 (mm)	L3 (mm)	d3 (mm)	L1 (mm)	d2 h6	Ch	Z
KR.81080	1	2,5	-	-	50	4	0	4
KR.81130	2	4	6	1,95	50	4	0,08	4
KR.81180	2,5	6	10	2,4	58	6	0,15	4
KR.81230	3	8	12	2,8	58	6	0,15	4
KR.81330	4	11	15	3,8	58	6	0,15	4
KR.81430	5	12	16	4,8	58	6	0,25	4
KR.81480	6	14	19	5,8	58	6	0,25	4
KR.81530	7	19	25	6,8	64	8	0,3	4
KR.81580	8	20	28	7,8	64	8	0,3	4
KR.81680	10	22	32	9,7	73	10	0,4	4
KR.81780	12	27	38	11,7	82	12	0,5	4
KR.81830	14	32	40	13,6	82	14	0,5	4
KR.81880	16	34	49	15,5	93	16	0,6	4
KR.81930	18	35	53	17,6	93	18	0,6	4
KR.81980	20	42	60	19,6	105	20	0,6	4

● Önerilir ○ Kabul Edilebilir ○ Önerilmez

Çelik	Paslanmaz Çelik	Sertleştirilmiş Çelik ≤54 HRc	Sertleştirilmiş Çelik >54 HRc	Döküm	Grafit	Demir Dışı Metaller	HRSA	Titanyum
●	○	●	●	●	○	○	○	○

## KÖŞE RADYÜS KARBÜR PARMAK FREZE

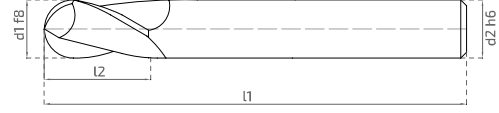


KOD	d1 h9	L2 (mm)	L3 (mm)	d3 (mm)	L1 (mm)	d2 h6	R	Z
KR.81130R0.50	2	2	12	1,9	58	6	0,5	4
KR.81230R0.50	3	3	16	2,8	58	6	0,5	4
KR.81230R1.00	3	3	16	2,8	58	6	1	4
KR.81330R0.50	4	4	20	3,8	58	6	0,5	4
KR.81330R1.00	4	4	20	3,8	58	6	1	4
KR.81430R0.50	5	5	18	4,8	58	6	0,5	4
KR.81430R1.00	5	5	18	4,8	58	6	1	4
KR.81480R0.50	6	6	23	5,8	58	6	0,5	4
KR.81480R1.00	6	6	23	5,8	58	6	1	4
KR.81580R0.50	8	8	25	7,7	64	8	0,5	4
KR.81580R1.00	8	8	25	7,7	64	8	1	4
KR.81680R0.50	10	10	32	9,7	73	10	0,5	4
KR.81680R1.00	10	10	32	9,7	73	10	1	4
KR.81780R0.50	12	12	36	11,7	82	12	0,5	4
KR.81780R1.00	12	12	36	11,7	82	12	1	4
KR.81780R2.00	12	12	36	11,7	82	12	2	4
KR.81880R1.00	16	16	43	15,5	93	16	1	4
KR.81880R2.00	16	16	43	15,5	93	16	2	4

● Önerilir ○ Kabul Edilebilir ○ Önerilmez

Çelik	Paslanmaz Çelik	Sertleştirilmiş Çelik ≤54 HRc	Sertleştirilmiş Çelik >54 HRc	Döküm	Grafit	Demir Dışı Metaller	HRSA	Titanyum
●	○	●	●	○	○	○	○	○

## 2 AĞIZ KÜRESEL KISA KARBÜR PARMAK FREZE



KOD	d1 f8	L2 (mm)	L1 (mm)	d2 h6	Z
KR.81035	1	2,5	50	4	2
KR.81085	1,5	4	50	4	2
KR.81135	2	5	50	4	2
KR.81185	2,5	6	50	4	2
KR.81235	3	8	50	4	2
KR.81335	4	8	51	4	2
KR.81435	5	10	51	5	2
KR.81485	6	12	58	6	2
KR.81585	8	14	64	8	2
KR.81685	10	18	73	10	2
KR.81785	12	22	82	12	2

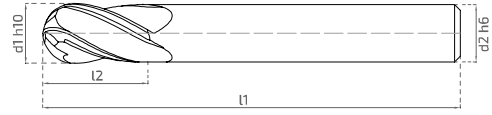
## 2 AĞIZ KÜRESEL UZUN KARBÜR PARMAK FREZE

KOD	d1 h9	L2 (mm)	L1 (mm)	d2 h6	Z
KR.83035	3	8	75	3	2
KR.83085	4	10	75	4	2
KR.83135	5	10	75	5	2
KR.83185	6	10	75	6	2
KR.83187	6	15	100	6	2
KR.83235	8	15	100	8	2
KR.83285	10	20	110	10	2
KR.83335	12	22	110	12	2

● Önerilir ○ Kabul Edilebilir ○ Önerilmez

Çelik	Paslanmaz Çelik	Sertleştirilmiş Çelik ≤54 HRc	Sertleştirilmiş Çelik >54 HRc	Döküm	Grafit	Demir Dışı Metaller	HRSA	Titanyum
●	○	○	○	●	○	○	○	○

## 4 AĞIZ KÜRESEL KISA KARBÜR PARMAK FREZE



KOD	d1 h10	L2 (mm)	L1 (mm)	d2 h6	Z
KR.81234	3	12	38	3	4
KR.81334	4	14	51	4	4
KR.81434	5	20	51	5	4
KR.81484	6	20	58	6	4
KR.81584	8	20	64	8	4
KR.81684	10	25	73	10	4
KR.81784	12	25	82	12	4

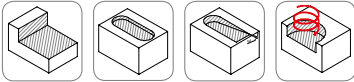
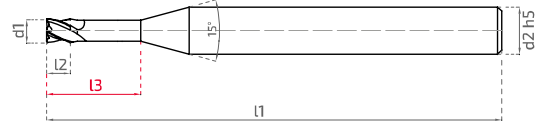
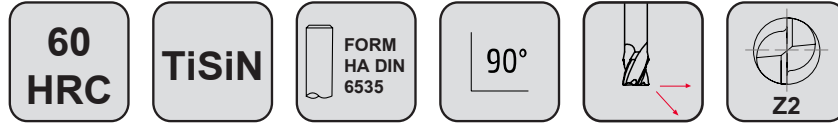
## 4 AĞIZ KÜRESEL UZUN KARBÜR PARMAK FREZE

KOD	d1 h10	L2 (mm)	L1 (mm)	d2 h6	Z
KR.83034	3	8	75	3	4
KR.83084	4	10	75	4	4
KR.83134	5	10	75	5	4
KR.83184	6	15	75	6	4
KR.83186	6	15	100	6	4
KR.83234	8	15	75	8	4
KR.83236	8	15	100	8	4
KR.83284	10	20	110	10	4
KR.83334	12	20	110	12	4

● Önerilir ○ Kabul Edilebilir ○ Önerilmez

Çelik	Paslanmaz Çelik	Sertleştirilmiş Çelik ≤54 HRc	Sertleştirilmiş Çelik >54 HRc	Döküm	Grafit	Demir Dışı Metaller	HRSA	Titanyum
●	○	○	○	●	○	○	○	○

## MİKRO DÜZ KARBÜR PARMAK FREZE

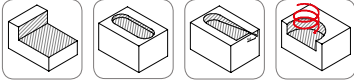
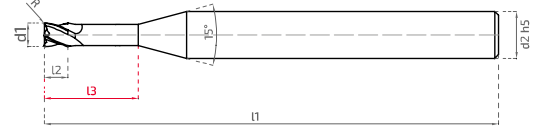
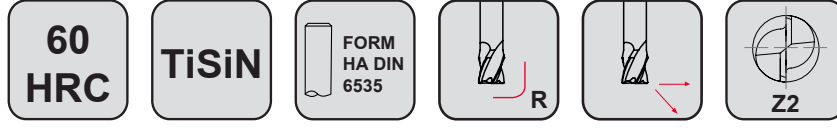


KOD	d1 (mm)	L2 (mm)	L3 (mm)	L1 (mm)	d2 h5	Z
KR.80110	0,5	0,5	2	50	4	2
KR.80111	0,5	0,5	3	50	4	2
KR.80112	0,5	0,5	4	50	4	2
KR.80120	1	1	2	50	4	2
KR.80121	1	1	4	50	4	2
KR.80122	1	1	6	50	4	2
KR.80123	1	1	8	50	4	2
KR.80124	1	1	10	50	4	2
KR.80125	1	1	12	50	4	2
KR.80126	1	1	14	50	4	2
KR.80127	1	1	16	50	4	2
KR.80130	1,5	1,5	4	50	4	2
KR.80131	1,5	1,5	6	50	4	2
KR.80132	1,5	1,5	10	50	4	2
KR.80133	1,5	1,5	12	50	4	2
KR.80134	1,5	1,5	14	50	4	2
KR.80135	1,5	1,5	16	50	4	2
KR.80140	2	2	4	50	4	2
KR.80141	2	2	6	50	4	2
KR.80142	2	2	8	50	4	2
KR.80143	2	2	10	50	4	2
KR.80144	2	2	12	50	4	2
KR.80145	2	2	16	50	4	2
KR.80146	2	2	20	50	4	2
KR.80150	2,5	2,5	6	50	4	2
KR.80151	2,5	2,5	8	50	4	2
KR.80152	2,5	2,5	10	50	4	2
KR.80153	2,5	2,5	12	50	4	2
KR.80154	2,5	2,5	20	50	4	2

● Önerilir ○ Kabul Edilebilir ○ Önerilmez

Çelik	Paslanmaz Çelik	Sertleştirilmiş Çelik ≤54 HRc	Sertleştirilmiş Çelik >54 HRc	Döküm	Grafit	Demir Dışı Metaller	HRSA	Titanyum
●	●	●	●	○	○	○	○	●

## MİKRO KÖŞE RADYÜS KARBÜR PARMAK FREZE

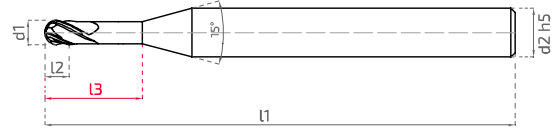


KOD	d1 (mm)	L2 (mm)	L3 (mm)	L1 (mm)	d2 h5	R
KR.80310	0,5	0,5	2	50	4	0,05
KR.80311	0,5	0,5	3	50	4	0,05
KR.80312	0,5	0,5	4	50	4	0,02
KR.80320	1	1	6	50	4	0,10
KR.80321	1	1	8	50	4	0,10
KR.80322	1	1	10	50	4	0,10
KR.80323	1	1	12	50	4	0,10
KR.80324	1	1	16	50	4	0,10
KR.80325	1	1	20	50	4	0,10
KR.80330	1,5	1,5	6	50	4	0,20
KR.80331	1,5	1,5	8	50	4	0,20
KR.80332	1,5	1,5	10	50	4	0,20
KR.80333	1,5	1,5	12	50	4	0,20
KR.80334	1,5	1,5	16	60	4	0,20
KR.80335	1,5	1,5	20	60	4	0,20
KR.80430	2	2	6	50	4	0,20
KR.80431	2	2	8	50	4	0,20
KR.80432	2	2	10	50	4	0,20
KR.80433	2	2	12	50	4	0,20
KR.80434	2	2	16	50	4	0,20
KR.80435	2	2	20	50	4	0,20

● Önerilir ○ Kabul Edilebilir ○ Önerilmez

Çelik	Paslanmaz Çelik	Sertleştirilmiş Çelik ≤54 HRc	Sertleştirilmiş Çelik >54 HRc	Döküm	Grafit	Demir Dışı Metaller	HRSA	Titanyum
●	●	●	●	○	○	○	○	●

## MİKRO KÜRESEL KARBÜR PARMAK FREZE

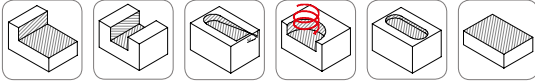
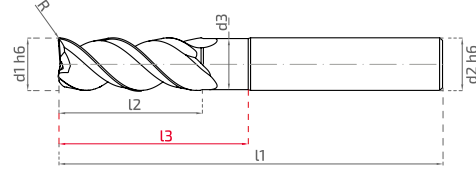
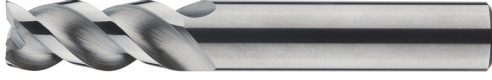
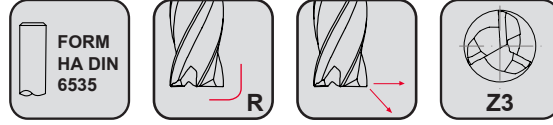


KOD	d1 (mm)	L2 (mm)	L3 (mm)	L1 (mm)	d2 h5	Z
KR.80210	0,5	0,5	2	50	4	2
KR.80211	0,5	0,5	3	50	4	2
KR.80212	0,5	0,5	4	50	4	2
KR.80213	0,5	0,5	6	50	4	2
KR.80220	1	1	6	50	4	2
KR.80221	1	1	8	50	4	2
KR.80222	1	1	10	50	4	2
KR.80223	1	1	12	50	4	2
KR.80224	1	1	16	50	4	2
KR.80225	1	1	20	50	4	2
KR.80230	1,5	1,5	6	50	4	2
KR.80231	1,5	1,5	8	50	4	2
KR.80232	1,5	1,5	10	50	4	2
KR.80233	1,5	1,5	12	50	4	2
KR.80234	1,5	1,5	16	50	4	2
KR.80235	1,5	1,5	20	50	4	2
KR.80240	2	2	6	50	4	2
KR.80241	2	2	8	50	4	2
KR.80242	2	2	10	50	4	2
KR.80243	2	2	12	50	4	2
KR.80244	2	2	16	50	4	2
KR.80245	2	2	20	50	4	2

● Önerilir ○ Kabul Edilebilir ○ Önerilmez

Çelik	Paslanmaz Çelik	Sertleştirilmiş Çelik ≤54 HRC	Sertleştirilmiş Çelik >54 HRC	Döküm	Grafit	Demir Dışı Metaller	HRSA	Titanyum
●	●	●	●	○	○	○	○	●

3 AĞIZ KISA ALÜMİNYUM KARBÜR PARMAK FREZELER



KOD	d1 h6	d2 h6	d3 (mm)	l1 (mm)	l2 (mm)	l3 (mm)	R	Z
KR.88000	3	6	2,8	58	8	13	0,2	3
KR.88050	4	6	3,8	58	13	15	0,2	3
KR.88100	5	6	4,8	58	15	21	0,2	3
KR.88150	6	6	5,7	58	15	26	0,2	3
KR.88200	8	8	7,7	64	22	30	0,2	3
KR.88250	10	10	9,7	73	25	35	0,2	3
KR.88300	12	12	11,7	82	28	40	0,2	3
KR.88350	14	14	13,7	82	28	40	0,2	3
KR.88400	16	16	15,7	93	37	53	0,2	3
KR.88450	20	20	19,7	105	38	54	0,2	3

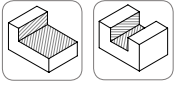
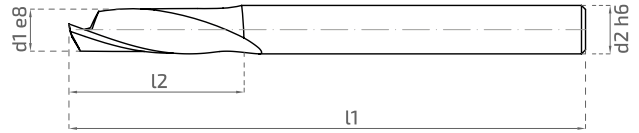
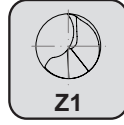
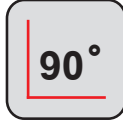
3 AĞIZ UZUN ALÜMİNYUM KARBÜR PARMAK FREZELER

KOD	d1 h6	d2 h6	d3 (mm)	l1 (mm)	l2 (mm)	l3 (mm)	R	Z
KR.88500	3	6	2,8	75	8	13	0,2	3
KR.88550	4	6	3,8	75	13	15	0,2	3
KR.88600	5	6	4,8	75	15	21	0,2	3
KR.88650	6	6	5,7	108	15	45	0,2	3
KR.88700	8	8	7,7	108	18	62	0,2	3
KR.88750	10	10	9,7	108	20	62	0,2	3
KR.88800	12	12	11,7	125	25	105	0,2	3
KR.88850	14	14	13,7	125	25	105	0,2	3
KR.88900	16	16	15,7	160	30	110	0,2	3
KR.88950	20	20	19,7	200	30	115	0,2	3

● Önerilir ○ Kabul Edilebilir ○ Önerilmez

Çelik	Paslanmaz Çelik	Sertleştirilmiş Çelik ≤54 HRc	Sertleştirilmiş Çelik >54 HRc	Döküm	Grafit	Demir Dışı Metaller	HRSA	Titanyum
○	○	○	○	○	○	●	○	○

## TEK AĞIZ ALÜMİNYUM KARBÜR PARMAK FREZELER



KOD	d1 e8	d2 h6	L1 (mm)	L2 (mm)	Z
KR.901.1105	3	4	51	12	1
KR.901.1110	4	4	51	15	1
KR.901.1114	5	6	58	16	1
KR.901.1119	6	6	58	20	1
KR.901.1120	6	6	64	30	1
KR.901.1122	8	8	64	25	1
KR.901.1123	8	8	73	38	1
KR.901.1124	10	10	73	30	1

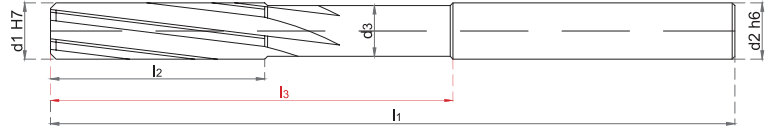
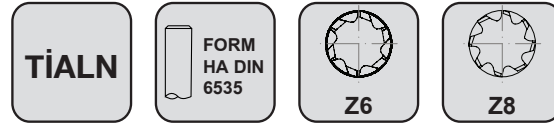
● Önerilir

◐ Kabul Edilebilir

○ Önerilmez

Çelik	Paslanmaz Çelik	Sertleştirilmiş Çelik ≤54 HRc	Sertleştirilmiş Çelik >54 HRc	Döküm	Grafit	Demir Dışı Metaller	HRSA	Titanyum
○	○	○	○	○	○	●	○	○

## KARBÜR RAYBALAR

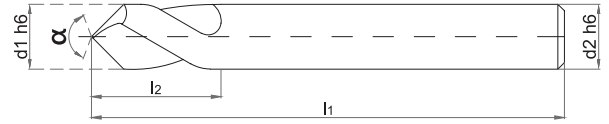


KOD	d1 h7	d2 h6	d3 (mm)	l1 (mm)	l2 (mm)	l3 (mm)	Z
KR.30.1025	2	6	1,5	58	12	31	4
KR.30.1050	2,5	6	2	58	12	31	4
KR.30.1181	3	6	2,5	58	12	31	4
KR.30.1378	3,5	6	3	63	15	33	4
KR.30.1575	4	6	3,5	74	18	47	6
KR.30.1772	4,5	6	3,5	74	18	47	6
KR.30.1969	5	6	4	86	23	50	6
KR.30.2125	5,5	6	4,5	93	23	57	6
KR.30.2362	6	6	5	93	26	57	6
KR.30.2559	6,5	8	5,5	100	26	65	6
KR.30.2756	7	8	6	110	31	73	6
KR.30.3150	8	8	7	117	33	81	6
KR.30.3543	9	10	8	125	36	85	6
KR.30.3937	10	10	9	133	38	93	6
KR.30.4331	11	12	10	142	41	97	6
KR.30.4724	12	12	11	151	44	106	6
KR.30.5264	14	14	13	160	67	112	6
KR.30.6299	16	16	15	160	55	114	8

● Önerilir    ◐ Kabul Edilebilir    ○ Önerilmez

Çelik	Paslanmaz Çelik	Sertleştirilmiş Çelik ≤54 HRc	Sertleştirilmiş Çelik >54 HRc	Döküm	Grafit	Demir Dışı Metaller	HRSA	Titanyum
●	◐	◐	○	●	○	◐	◐	●

## KARBÜR NC PUNTA MATKABI

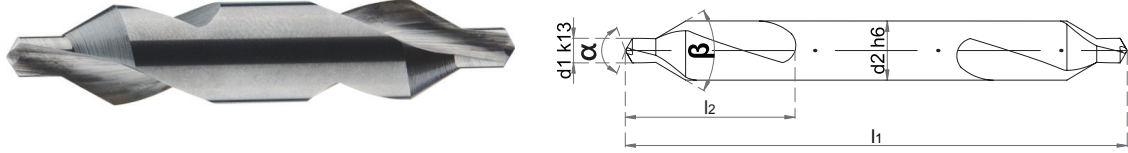
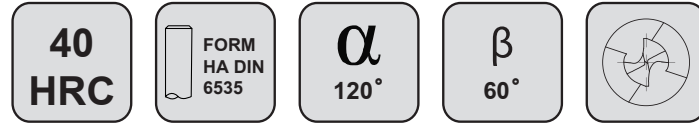


KOD	d1 h7	d2 h6	L1 (mm)	L2 (mm)	$\alpha$
KR.89250	3	3	32	8	90°
KR.89251	4	4	40	10	90°
KR.89252	6	6	51	13	90°
KR.89253	10	10	70	20	90°
KR.89254	12	12	70	24	90°
KR.89255	3	3	32	8	120°
KR.89256	4	4	40	10	120°
KR.89257	6	6	51	13	120°
KR.89258	10	12	70	20	120°
KR.89259	12	12	70	24	120°

● Önerilir    ◐ Kabul Edilebilir    ○ Önerilmez

Çelik	Paslanmaz Çelik	Sertleştirilmiş Çelik ≤54 HRC	Sertleştirilmiş Çelik >54 HRC	Döküm	Grafit	Demir Dışı Metaller	HRSA	Titanyum
●	◐	◐	○	●	○	◐	◐	●

## KARBÜR PUNTA MATKABI



KOD	d1 k13	d2 h6	L1 (mm)	L2 (mm)
KR.89203	2	5	40	2,9
KR.89206	2,5	6	45	3,6
KR.89209	3,15	8	50	4,4
KR.89212	4	10	75	5,6
KR.89215	5	12	82	6,9
KR.89218	6,3	16	93	8,6

● Önerilir    ◐ Kabul Edilebilir    ○ Önerilmez

Çelik	Paslanmaz Çelik	Sertleştirilmiş Çelik ≤54 HRc	Sertleştirilmiş Çelik >54 HRc	Döküm	Grafit	Demir Dışı Metaller	HRSA	Titanyum
●	◐	◐	○	●	○	◐	◐	●

## KARBÜR KÖŞE YUVARLAMA FREZESİ

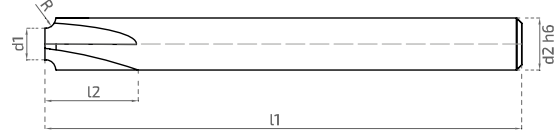
55  
HRC

TiALN

FORM  
HA DIN  
6535

Z3

Z4



KOD	d1	L2 (mm)	L1 (mm)	d2 h6	R (±0,02)	Z
KR.3600.050	4,5	7	58	6	0,5	3
KR.3600.075	4,5	7	58	6	0,75	3
KR.3600.100	6	10	64	8	1	4
KR.3600.150	5	10	64	8	1,5	4
KR.3600.200	5,5	12	73	10	2	4
KR.3600.250	3,5	12	73	10	2,5	4
KR.3600.300	3,5	14	82	12	3	4
KR.3600.400	5,5	16	82	14	4	4
KR.3600.500	6	20	93	16	5	4
KR.3600.600	8	20	105	20	6	4

## KARBÜR PAH KIRMA FREZESİ

55  
HRC

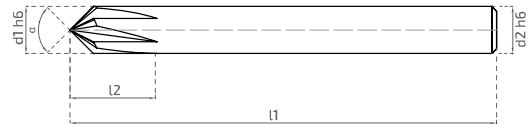
TiALN

FORM  
HA DIN  
6535 $\alpha$ 

Z4

Z5

Z6



KOD	d1 h6	L2 (mm)	L1 (mm)	d2 h6	$\alpha$	Z
KR.3500.090040	4	9	51	6	90°	4
KR.3500.090060	6	15	58	6	90°	4
KR.3500.090080	8	15	64	8	90°	5
KR.3500.090100	10	21	73	10	90°	6
KR.3500.090120	12	25	82	12	90°	6

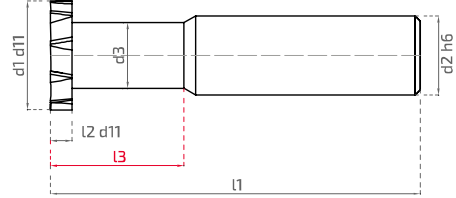
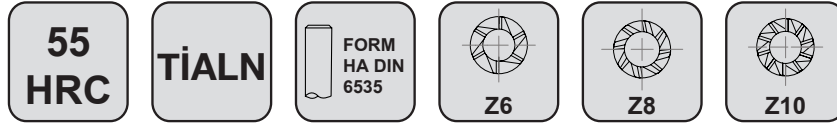
● Önerilir

◐ Kabul Edilebilir

○ Önerilmez

Çelik	Paslanmaz Çelik	Sertleştirilmiş Çelik ≤54 HRC	Sertleştirilmiş Çelik >54 HRC	Döküm	Grafit	Demir Dışı Metaller	HRSA	Titanyum
●	◐	◐	◐	●	○	○	◐	◐

## KARBÜR T-YARIK FREZESİ



KOD	d1 d11	L2 d11	L3 (mm)	d3 (mm)	L1 (mm)	d2 h6	Z
KR.3200.045010	4,5	1	15	3	50	6	6
KR.3200.075015	7,5	1,5	15	4	50	6	6
KR.3200.075020	7,5	2	15	4	50	6	6
KR.3200.105020	10,5	2	15	5	50	6	6
KR.3200.105025	10,5	2,5	15	5	50	6	6
KR.3200.105030	10,5	3	15	5	50	6	6
KR.3200.135030	13,5	3	20	8	56	10	8
KR.3200.135040	13,5	4	20	8	56	10	8
KR.3200.165030	16,5	3	20	10	56	12	8
KR.3200.165040	16,5	4	20	10	56	12	8
KR.3200.165050	16,5	5	20	10	56	12	8
KR.3200.195030	19,5	3	20	12	56	14	10
KR.3200.195040	19,5	4	20	12	56	14	10
KR.3200.195050	19,5	5	20	12	56	14	10
KR.3200.225040	22,5	4	20	12	63	14	10
KR.3200.225050	22,5	5	20	12	63	14	10
KR.3200.225060	22,5	6	20	12	63	14	10
KR.3200.255050	25,5	5	20	14	63	16	10
KR.3200.255060	25,5	6	20	14	63	16	10
KR.3200.255070	25,5	7	20	14	63	16	10
KR.3200.255080	25,5	8	20	14	63	16	10
KR.3200.285050	28,5	5	20	16	63	18	10
KR.3200.285060	28,5	6	20	16	63	18	10
KR.3200.285070	28,5	7	20	16	63	18	10
KR.3200.285080	28,5	8	20	16	63	18	10

● Önerilir ○ Kabul Edilebilir ○ Önerilmez

Çelik	Paslanmaz Çelik	Sertleştirilmiş Çelik ≤54 HRc	Sertleştirilmiş Çelik >54 HRc	Döküm	Grafit	Demir Dışı Metaller	HRSA	Titanyum
●	○	○	○	●	○	○	○	○