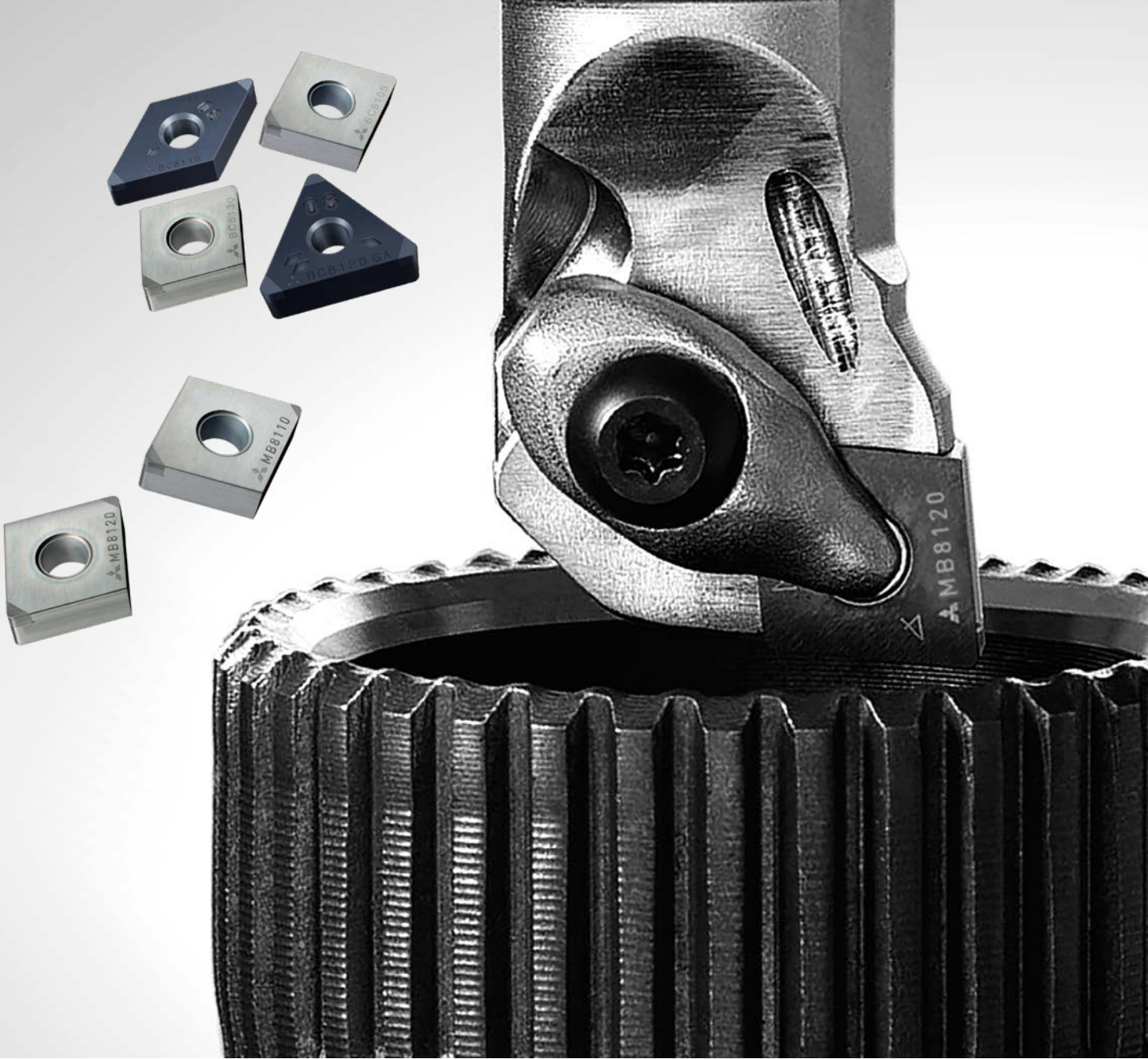


BC8100/MB8100 SERİSİ

KAPLAMASIZ PCBN TORNALAMA UÇLARI



BC8100 SERİSİ

SERTLEŞTİRİLMİŞ ÇELİKLER İÇİN KAPLAMALI PCBN SERİSİ



BC8105

YÜKSEK HASSASİYET

Darbesiz kesme işlemleri içindir.

- Sahip olduğu uzun takım ömrü ile beraber, mükemmel finiş işlemleri gerçekleştirir ve her proseste birbirine yakın tolerans değeri sağlar.
- Rz 2.4'e (Ra 0.6) kadar finiş işlemleri içindir.

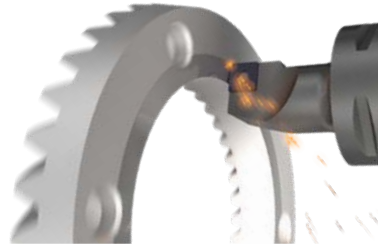


BC8110/MB8110

YÜKSEK HIZLI TORNALAMA

Darbesiz ve hafif darbeli kesme işlemleri içindir.

- Rz 6.3 değerinin altındaki finiş işlemleri için uzun ve stabil takım ömrü.



BC8120/MB8120

GENEL UYGULAMALAR

Darbesiz işlemlerden orta darbeli işlem aralığı içindir.

- Kaba ve yarı-finiş işlemler için ilk tercihtir.



BC8130/MB8130

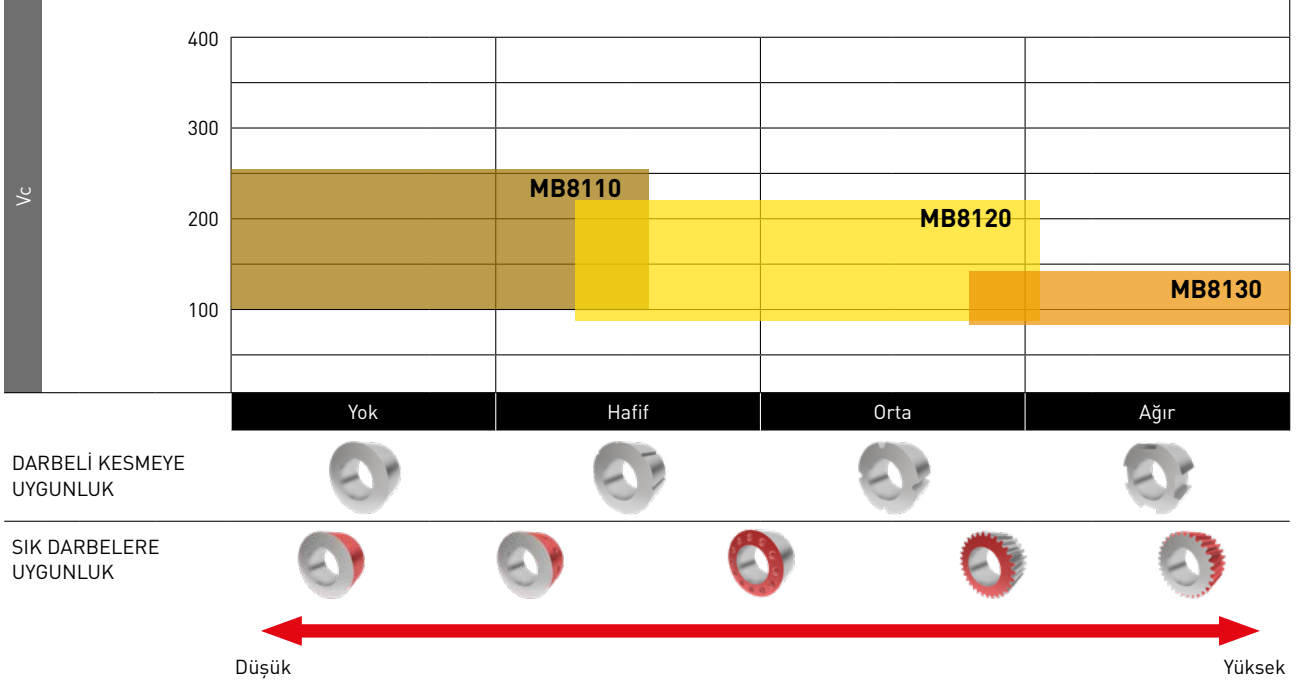
DARBELİ İŞLEME

Stabil olmayan uygulamalar ve ağır darbeli kesme için

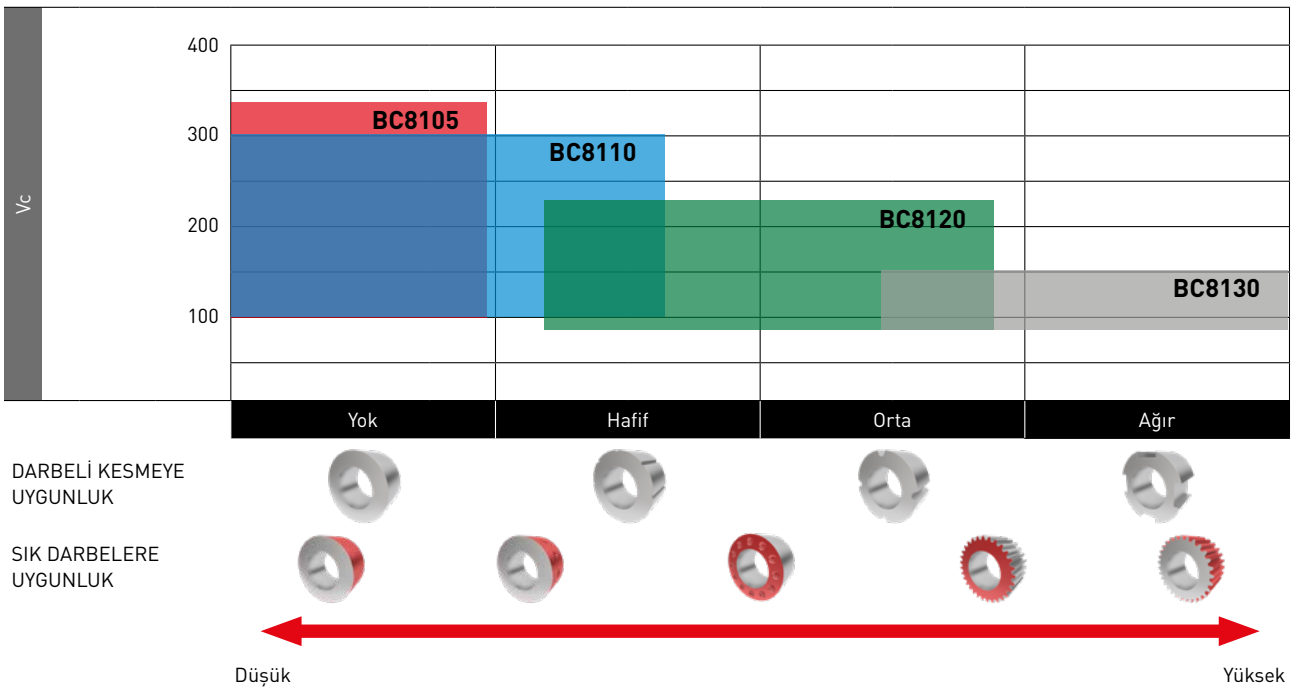
- Çok sayıda darbeye maruz kalan işlemlerde dahi, tolerans doğruluğu yüksektir.

UYGULAMA ARALIĞI

MB8100 KAPLAMASIZ PCBN SERİ



BC8100 KAPLAMALI PCBN SERİ



KALİTELER

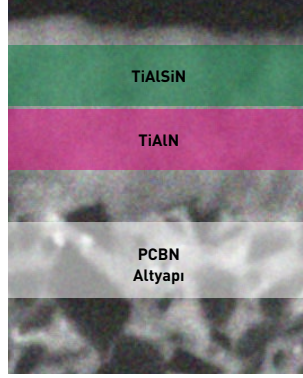
YENİ GELİŞTİRİLMİŞ KAPLAMA

BC8105



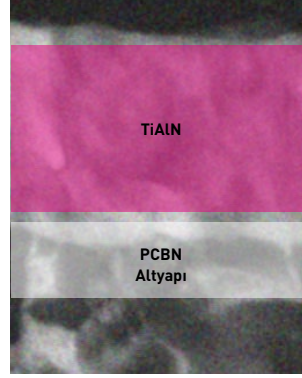
Düşük sürtünmeli kaplama talaş kaynağını önler ve mükemmel yüzey kalitesi sağlar.

BC8110



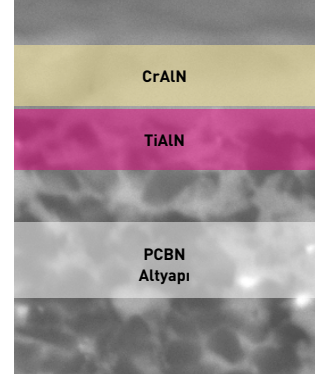
Yüksek aşınma direnci sayesinde yüksek hızlı işlemede daha uzun takım ömrü.

BC8120



Daha uzun takım ömrü sağlayan yüksek kaplama soyulma direnci.

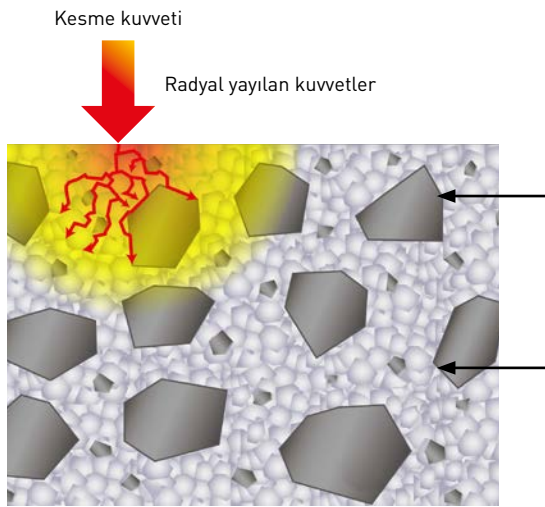
BC8130



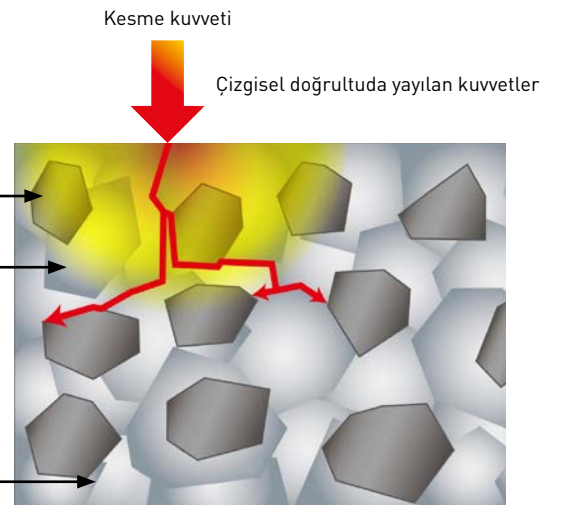
Kenar ufalanmasına ve kaplamanın soyulmasına karşı son derece yüksek direnç.

GELİŞTİRİLMİŞ ALTYAPI TEKNOLOJİSİ

BC8100 / MB8100 SERİSİ



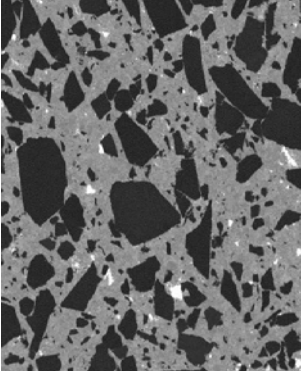
GELENEKSEL



Kaplanmış ve kaplanmamış PCBN kesici uçlar için doğrusal çatlak gelişimini engelleyen yeni ultra mikro partiküllü bağlayıcı, ani kırılmaları önler.

MB8100 KAPLAMASIZ PCBN SERİ

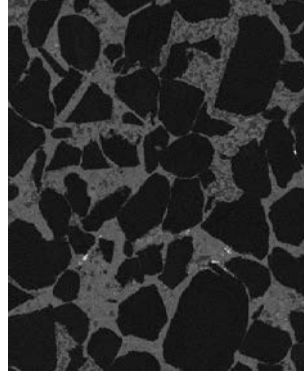
MB8110



Düzenli darbesiz Kesme için

MB8110 mükemmel aşınma direnci sağlar, düz darbesiz kesme için idealdir.

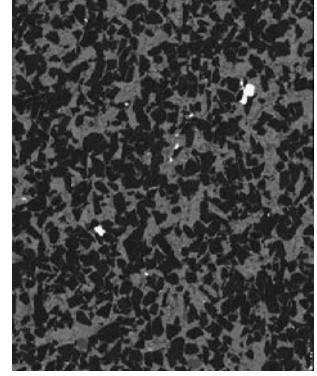
MB8120



Genel Kesme için

MB8120 daha geniş bir uygulama aralığında, mükemmel aşınma ve de kırılma direnci sağlar.

MB8130



Ağır Darbeli Kesme için

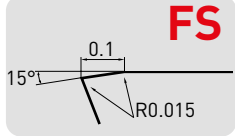
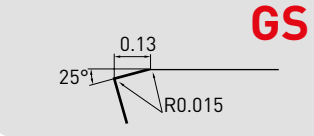
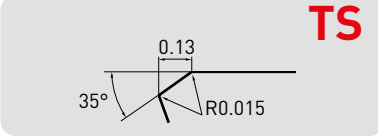
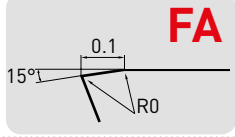
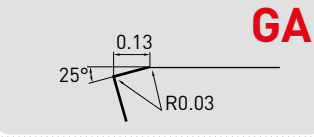
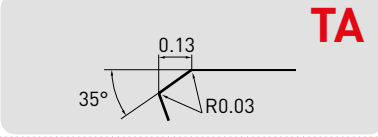
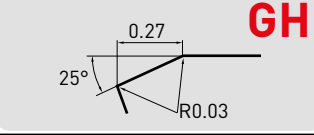
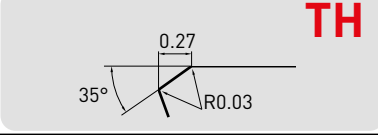




MB8130 yüksek kırılma direncine sahiptir, stabil olmayan uygulamalar ve ağır darbeli işlemler için idealdir.

Kaplanmamış ve de kaplanmış PCBN kaliteleri, ultra mikro partikül bağlayıcı teknoloji kullanılarak üretilmektedir.



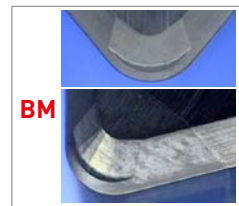
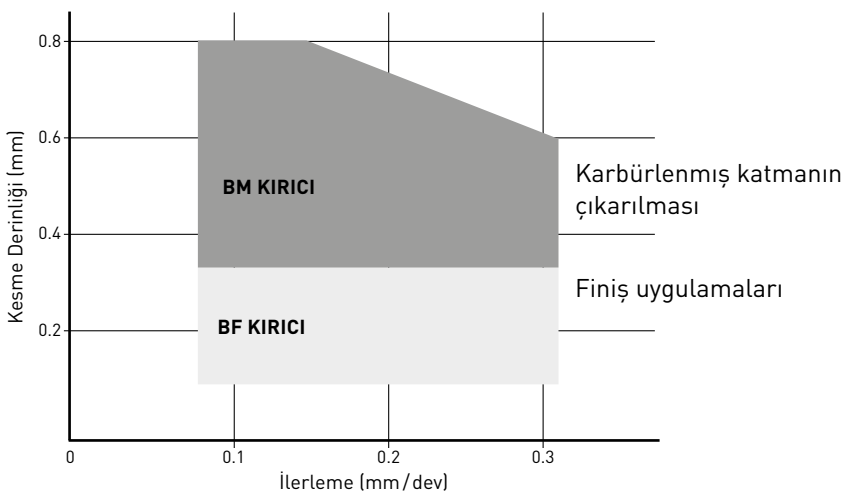
GEOMETRİ

KESME KENARI FORMU

Çok Küçük Kesme Derinlikleri İçin	 FS	 GS	 TS	
Genel Amaçlı İşleme İçin	 FA	 GA	 TA	
Ağır Darbeli Kesme		 GH	 TH	
Darbeli Kesmeye Uygunluk	 Yok	 Hafif	 Orta	 Ağır

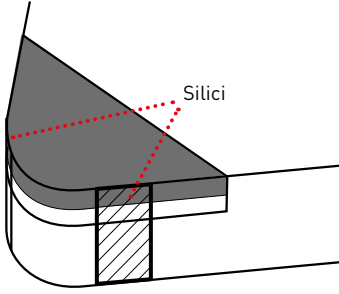
Tüm uygulamalar için çeşitli kesme kenarı formları.

BM/BF KIRICI



Karbürleşmiş üst katmanın çıkarılması, finiş işlemler ve yumuşak-sert işlemler için geliştirilmiş talaş kırıcı sistemi

SİLİCİLİ KESİCİ UÇ



FİNİŞ YÜZEY KALİTELERİNİ İYİLEŞTİRME

Geleneksel kırıcılarla aynı işleme koşullarında, ilerleme hızı artırılarak iş parçasının finiş işlemi iyileştirilebilir.

VERİNLİLİĞİ ARTIRMA

Yüksek ilerleme hızlarında işleme yapmak; kesme sürelerini azalttığı gibi, kaba ve finiş operasyonları arasında kombinasyon yapmayı da mümkün kılar.

TAKIM ÖMRÜNÜ ARTIRMA

Yüksek ilerleme hızlarında işleme yapıldığında işleme süresi kısılır ve her bir uç ile daha fazla parça işlenebilir. Ayrıca yüksek ilerleme hızı, parça ile kesici uç arasındaki sürtünmeyi azaltır. Bu sayede aşınmayı düşürürerek takım ömrünü artırmış olur.

TALAŞ KONTROLÜNÜ İYİLEŞTİRME

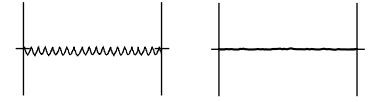
Yüksek ilerleme hızları altında oluşan talaşlar daha kalın ve kırılması daha kolaydır. Bu sayede talaş kontrolünde de iyileştirme sağlanmış olur.

ÖNERİLEN KESME KOŞULLARI VE PERFORMANS

YÜKSEK HASSASİYETLİ FİNİŞ İŞLEME

Silicisiz

Silicili



Ry = 3.2 µm

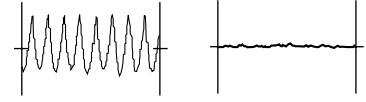
Ry = 1.0 µm

Kesme Hızı: 100 m/dk
İlerleme: 0.1 mm/dev
Kesme Derinliği: 0.1 mm
Kuru Kesme

YÜKSEK İLERLEME İLE İŞLEME

Silicisiz

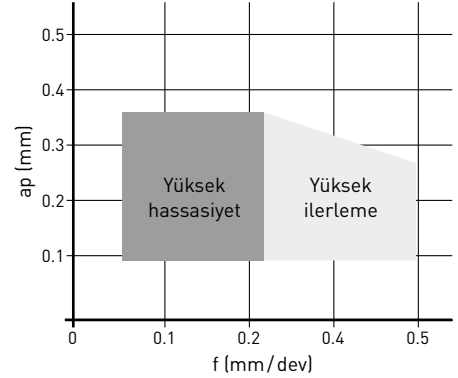
Silicili



Ry = 12.2 µm

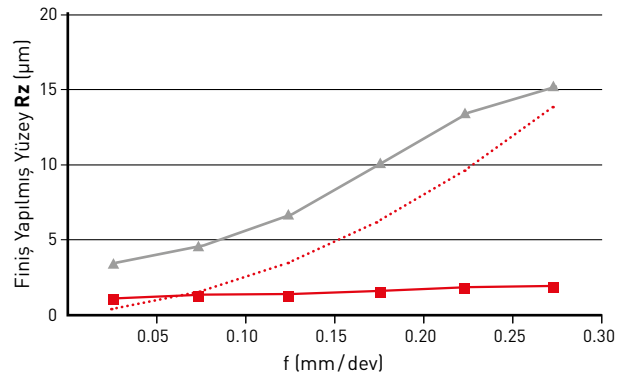
Ry = 1.2 µm

Kesme Hızı: 100 m/dk
İlerleme: 0.3 mm/dev
Kesme Derinliği: 0.1 mm
Kuru Kesme



KESME PERFORMANSI

Kesici uç	NP-CNGA120408
İş Parçası Malzemesi	Sertleştirilmiş çelik (HRC60)
Kesme modu	Darbesiz
Vc (m/dk)	120
f (mm/dev)	Değişken
ap (mm)	0.1
Soğutma Sıvısı	Kuru kesme



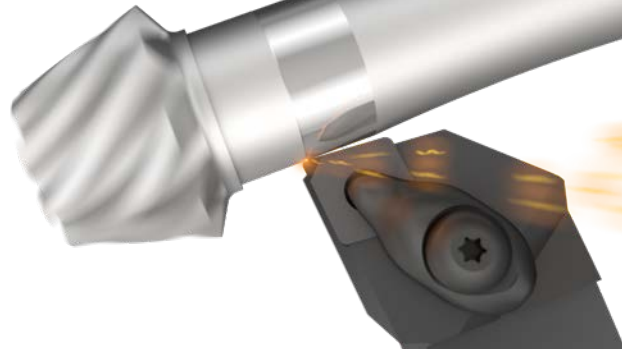
- Silicili
- ▲ Silicisiz
- Teorik Finiş Yüzey Pürüzlülüğü

BC8105

YÜKSEK HASSASİYET

DARBESİZ KESME İŞLEMLERİ İÇİN

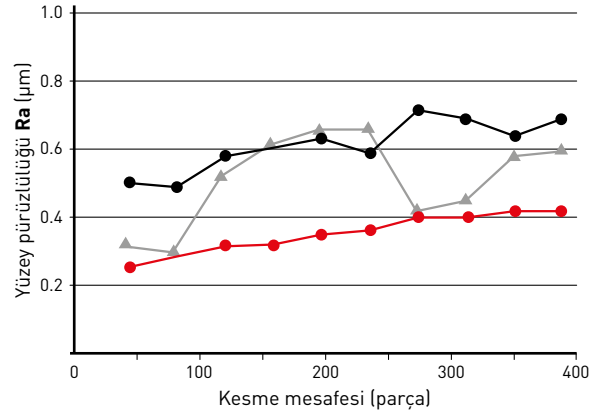
- Sahip olduğu uzun takım ömrü ile beraber, mükemmel yüzey işlemleri ve birbirine yakın tolerans değerli sağlar.
- Rz 2.4' e (Ra 0.6) kadar finiş operasyonları için



YÜZEY FİNİŞ İŞLEMİ

Kesici uç	NP-DNGA150608GS2
İş Parçası Malzemesi	34Mn5 (60 HRC)
Kesme modu	Darbesiz
Vc (m/dk)	176
f (mm/dev)	0.09
ap (mm)	0.15
Soğutma Sıvısı	Emülsiyon

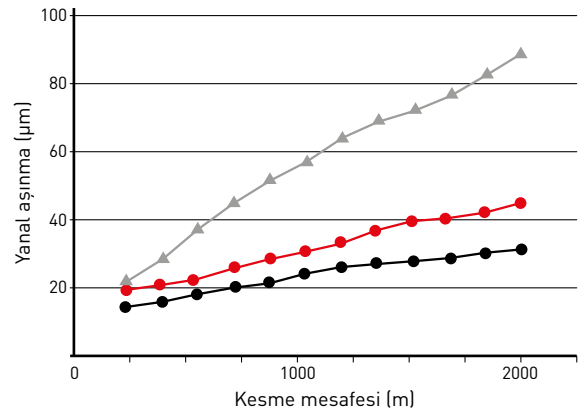
BC8105, üst düzey finiş işlemleri için ilk tercihtir.



TAKIM ÖMRÜ (YANAL AŞINMA)

Kesici uç	NP-CNGA120408GS2
İş Parçası Malzemesi	42CrMo4 (60 HRC)
Kesme modu	Darbesiz
Vc (m/dk)	200
f (mm/dev)	0.05
ap (mm)	0.05
Soğutma Sıvısı	Kuru kesme

Miracle Sigma Teknolojisi sayesinde mükemmel aşınma direnci.



BC8110

YÜKSEK HIZLI TORNALAMA

DARBESİZ KESME İÇİNDİR

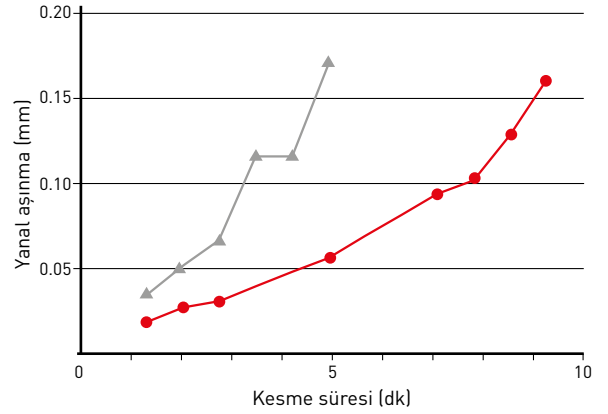
- Rz 6.3 µm altında finiş işlemleri için uzun ve stabil takım ömrü.
- Darbesiz kesme için geniş bir uygulama aralığını kapsar.



TAKIM ÖMRÜ (YANAL AŞINMA)

Kesici uç	NP-CNGA120408GS2
İş Parçası Malzemesi	42CrMo4 (60HRC)
Kesme modu	Darbesiz
Vc (m/dk)	250
f (mm/dev)	0.10
ap (mm)	0.2
Soğutma Sıvısı	Kuru kesme

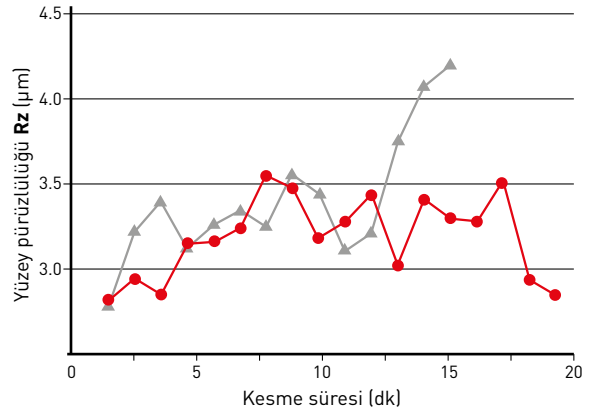
BC8110 “yüksek hızlı” finiş işlemler için ilk tercihtir.



YÜZEY FİNİŞ İŞLEMİ

Kesici uç	NP-CNGA120408GS2
İş Parçası Malzemesi	42CrMo4 (60HRC)
Kesme modu	Darbesiz
Vc (m/dk)	250
f (mm/dev)	0.10
ap (mm)	0.2
Soğutma Sıvısı	Kuru kesme

Uzun ve darbesiz kesme işlemleri sırasında korunan mükemmel yüzey finiş işlemleri

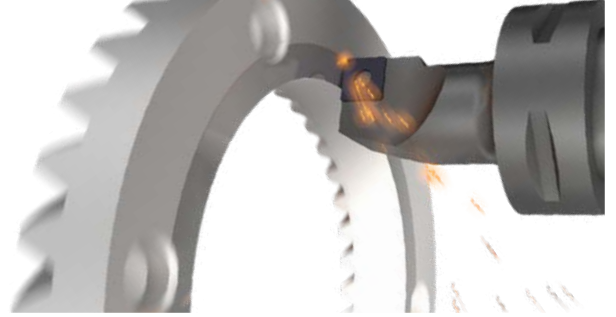


BC8120

GENEL UYGULAMALAR

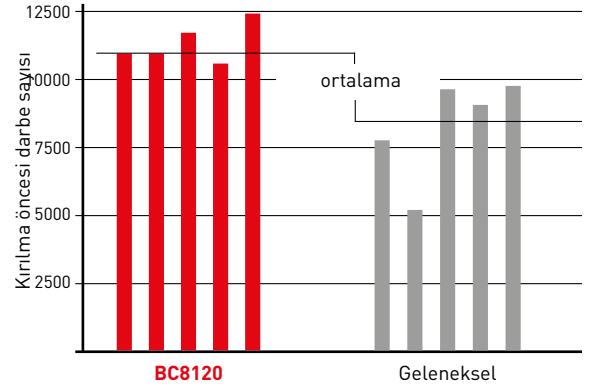
DARBESİZ VE HAFİF DARBELİ KESME

- Kaba işleme ve yarı finiş işlemler için ilk tercih
- Darbesiz ve hafif darbeli işlemler için geniş bir uygulama aralığını kapsar.



DARBELİ KESME TESTİ

Kesici uç	NP-CNGA120408GA2
İş Parçası Malzemesi	42CrMo4 (60 HRC)
Kesme modu	Darbesiz
Vc (m/dk)	250
f (mm/dev)	0.15
ap (mm)	0.1
Soğutma Sıvısı	Kuru kesme



8.000 darbeden sonra kesme kenarı durumu



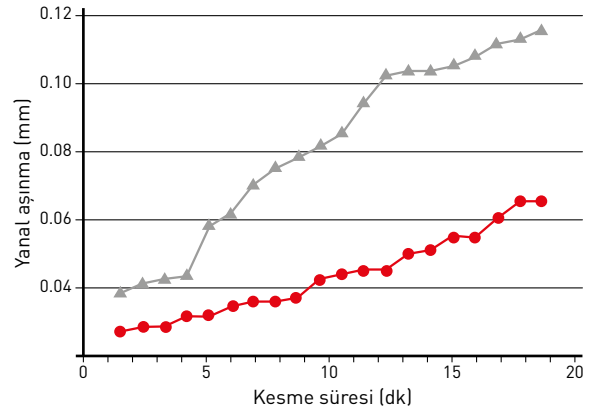
BC8120



Geleneksel

TAKIM ÖMRÜ (YANAL AŞINMA)

Kesici uç	NP-CNGA120408GA2
İş Parçası Malzemesi	42CrMo4 (60 HRC)
Kesme modu	Darbesiz
Vc (m/dk)	150
f (mm/dev)	0.10
ap (mm)	0.2
Soğutma Sıvısı	Kuru kesme



15 dakika işleme sonrası kesme kenarı



BC8120



Geleneksel

Soyulma

BC8130

DARBELİ İŞLEME

STABİL OLMAYAN UYGULAMALAR VE AĞIR DARBELİ KESME İÇİN

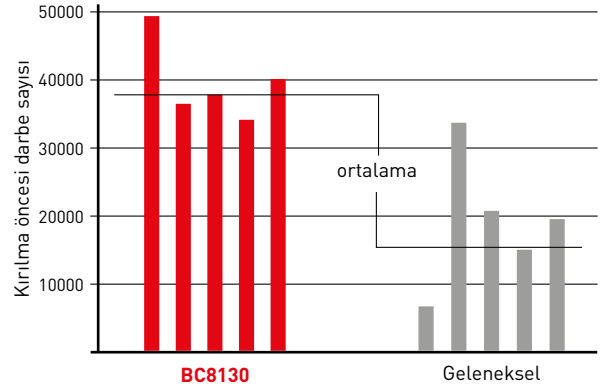
- Çok sayıda darbeye maruz kalınan işlemlerde dahi, tolerans doğruluğu yüksektir.



AĞIR DARBELİ KESME (LABORATUAR TESTİ)

Kesici uç	NP-CNGA120408GA2
İş Parçası Malzemesi	42CrMo4 (60 HRC)
Kesme modu	Ağır Darbeli
Vc (m/dk)	250
f (mm/dev)	0.05
ap (mm)	0.1
Soğutma Sıvısı	Islak kesme

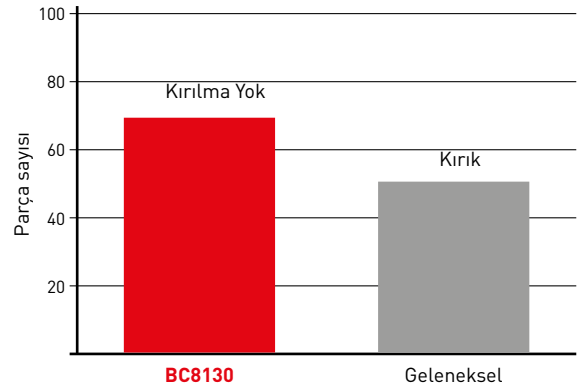
BC8130, 30.000 darbeye kadar stabil takım performansı sağlar.



AĞIR KESME

Kesici uç	NP-CNGA120408TH2
İş Parçası Malzemesi	C45 (58 HRC)
Kesme modu	Ağır Darbeli
Vc (m/dk)	130
f (mm/dev)	0.08
ap (mm)	0.15
Soğutma Sıvısı	Islak kesme

70 parça işlendikten sonra kırılma oluşmamıştır.



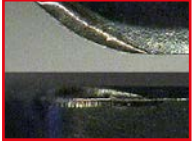
MB8100 SERİ

ULTRA İNCE PARTİKÜLLÜ BAĞLAYICI TEKNOLOJİSİNİ KULLANAN KAPLAMASIZ PCBN KALİTELER

TAKIM ÖMRÜ (YAN KENAR AŞINMASI)

Kesici uç	NP-CNGA120408GA2
İş parçası malzemesi	JIS SCr420 (60 HRC)
Kesme şekli	Dış çap düz darbesiz kesme
Vc (m/dk)	250
f (mm/dev)	0.1
ap (mm)	0.2
Soğutma	Kuru kesme

180 SANİYE SONRA KESME KENARI

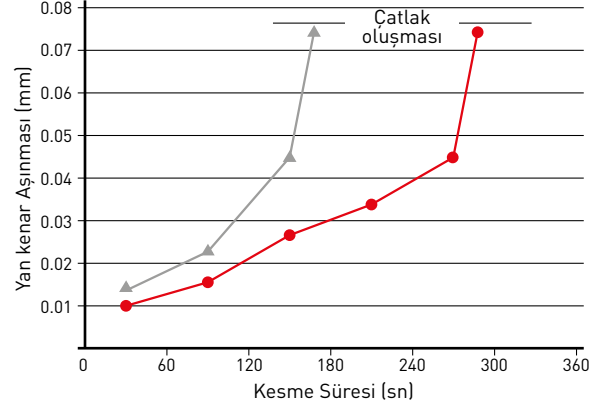


MB8110



Geleneksel

Büyük Aşınma



AĞIR KESME

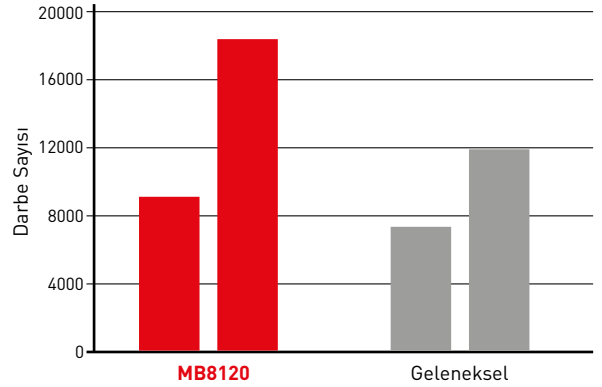
Kesici uç	NP-CNGA120408GA2
İş parçası malzemesi	JIS SCr420 (60 HRC)
Kesme şekli	Dış çap darbeli kesme
Vc (m/dk)	250
f (mm/dev)	0.15
ap (mm)	0.1
Soğutma	Kuru kesme



MB8120



Geleneksel



AĞIR KESME

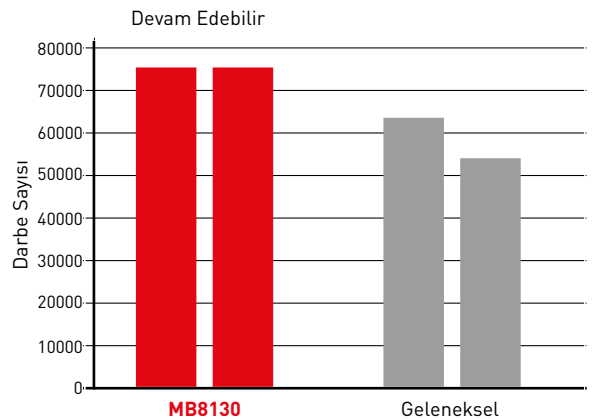
Kesici uç	NP-CNGA120408GA2
İş parçası malzemesi	JIS SCr420 (60 HRC)
Kesme şekli	Dış çap ağır darbeli kesme
Vc (m/dk)	150
f (mm/dev)	0.05
ap (mm)	0.1
Soğutma	Islak kesme



MB8130



Geleneksel



TANIMLAMA

PCBN KESİCİ UÇLARI İÇİN



Kesici Uç Geometrisi	Kesme kenarı formu	Silici	Kesme Yönü*
NP Standart			
	GA Darbesiz Kesme	WS Silicili FBWL GBWL	Şekil Sembol JR Sağ
	FA Darbesiz Kesme FS	İşaret yok Silicisiz	JL Sol
	TA Darbeli Kesme TH		

* Kesme kenarı açısı 93°



CNGA, CNGM

NEGATİF KESİCİ UÇLAR (DELİKLİ)

Sipariş Numarası	BC8105	BC8110	BC8120	BC8130	MB8110	MB8120	MB8130	ZEFF	IC	S	RE	D1	Geometri
NP-CNGA120404GA4			●	●		★		4	12.7	4.76	0.4	5.16	
NP-CNGA120408GA4			●	●		★		4	12.7	4.76	0.8	5.16	
NP-CNGA120412GA4			●	●		★		4	12.7	4.76	1.2	5.16	
NP-CNGA120404GS4	●	●						4	12.7	4.76	0.4	5.16	
NP-CNGA120408GS4	●	●						4	12.7	4.76	0.8	5.16	
NP-CNGA120412GS4	●	●						4	12.7	4.76	1.2	5.16	
NP-CNGA120404GH4		★	★	●				4	12.7	4.76	0.4	5.16	
NP-CNGA120408GH4		★	★	●				4	12.7	4.76	0.8	5.16	
NP-CNGA120412GH4		★	★	●				4	12.7	4.76	1.2	5.16	
NP-CNGA120404FS4	●	★	★		★			4	12.7	4.76	0.4	5.16	
NP-CNGA120408FS4	●	★	★		★			4	12.7	4.76	0.8	5.16	
NP-CNGA120412FS4	●	★	★		★			4	12.7	4.76	1.2	5.16	
NP-CNGA120404TA4			★	●		★	★	4	12.7	4.76	0.4	5.16	
NP-CNGA120408TA4			●	●		★	★	4	12.7	4.76	0.8	5.16	
NP-CNGA120412TA4			★	●		★	★	4	12.7	4.76	1.2	5.16	
NP-CNGA120404TS4		★						4	12.7	4.76	0.4	5.16	
NP-CNGA120408TS4		★						4	12.7	4.76	0.8	5.16	
NP-CNGA120412TS4		★						4	12.7	4.76	1.2	5.16	
NP-CNGA120404TH4			★	●			★	4	12.7	4.76	0.4	5.16	
NP-CNGA120408TH4			★	●			★	4	12.7	4.76	0.8	5.16	
NP-CNGA120412TH4			★	●			★	4	12.7	4.76	1.2	5.16	
NP-CNGA120404FSWS4	W	★	★	★		★		4	12.7	4.76	0.4	5.16	
NP-CNGA120408FSWS4	W	★	★	★		★		4	12.7	4.76	0.8	5.16	
NP-CNGA120412FSWS4	W	★	★	★		★		4	12.7	4.76	1.2	5.16	
NP-CNGA120404GAWS4	W		●	●			★	4	12.7	4.76	0.4	5.16	
NP-CNGA120408GAWS4	W		●	●			★	4	12.7	4.76	0.8	5.16	
NP-CNGA120412GAWS4	W		●	●			★	4	12.7	4.76	1.2	5.16	
NP-CNGA120404GSWS4	W	●	●					4	12.7	4.76	0.4	5.16	
NP-CNGA120408GSWS4	W	●	●					4	12.7	4.76	0.8	5.16	
NP-CNGA120412GSWS4	W	●	●					4	12.7	4.76	1.2	5.16	
NP-CNGA120402GA2			★				★	2	12.7	4.76	0.2	5.16	
NP-CNGA120404GA2			●	●		●		2	12.7	4.76	0.4	5.16	
NP-CNGA120408GA2			●	●		●		2	12.7	4.76	0.8	5.16	
NP-CNGA120412GA2			●	●		●		2	12.7	4.76	1.2	5.16	
NP-CNGA120402GS2		★						2	12.7	4.76	0.2	5.16	
NP-CNGA120404GS2	●	●						2	12.7	4.76	0.4	5.16	
NP-CNGA120408GS2	●	●						2	12.7	4.76	0.8	5.16	
NP-CNGA120412GS2	●	●						2	12.7	4.76	1.2	5.16	
NP-CNGA120404GH2		★	★	●				2	12.7	4.76	0.4	5.16	
NP-CNGA120408GH2		★	★	●				2	12.7	4.76	0.8	5.16	
NP-CNGA120412GH2		●	★	●				2	12.7	4.76	1.2	5.16	
NP-CNGA120402FS2		★					★	2	12.7	4.76	0.2	5.16	
NP-CNGA120404FS2	●	●	●		●			2	12.7	4.76	0.4	5.16	
NP-CNGA120408FS2	●	●	●		●			2	12.7	4.76	0.8	5.16	
NP-CNGA120412FS2	●	●	●		★			2	12.7	4.76	1.2	5.16	
NP-CNGA120404TA2			●	●		★	●	2	12.7	4.76	0.4	5.16	
NP-CNGA120408TA2			●	●		★	●	2	12.7	4.76	0.8	5.16	
NP-CNGA120412TA2			●	●		★	●	2	12.7	4.76	1.2	5.16	
NP-CNGA120404TS2		●						2	12.7	4.76	0.4	5.16	
NP-CNGA120408TS2		●						2	12.7	4.76	0.8	5.16	
NP-CNGA120412TS2		●						2	12.7	4.76	1.2	5.16	
NP-CNGA120404TH2			★	●			●	2	12.7	4.76	0.4	5.16	
NP-CNGA120408TH2			★	●			●	2	12.7	4.76	0.8	5.16	
NP-CNGA120412TH2			★	●			●	2	12.7	4.76	1.2	5.16	
NP-CNGA120404FBWL2	W	★	★	★		★		2	12.7	4.76	0.4	5.16	
NP-CNGA120408FBWL2	W	●	★	★		★		2	12.7	4.76	0.8	5.16	
NP-CNGA120412FBWL2	W	★	★	★		★		2	12.7	4.76	1.2	5.16	
NP-CNGA120404GBWL2	W	★	★	★			★	2	12.7	4.76	0.4	5.16	

B: Kırıcı W: Silici



Sipariş Numarası		BC8105	BC8110	BC8120	BC8130	MB8110	MB8120	MB8130	ZEFF	IC	S	RE	D1	Geometri
NP-CNGA120408GBWL2	W	★	★	★			★		2	12.7	4.76	0.8	5.16	
NP-CNGA120412GBWL2	W	★	★	★			★		2	12.7	4.76	1.2	5.16	
NP-CNGA120404FSWS2	W	★	★	★		★			2	12.7	4.76	0.4	5.16	
NP-CNGA120408FSWS2	W	●	●	★		★			2	12.7	4.76	0.8	5.16	
NP-CNGA120412FSWS2	W	★	★	★		★			2	12.7	4.76	1.2	5.16	
NP-CNGA120404GAWS2	W			●	●		★		2	12.7	4.76	0.4	5.16	
NP-CNGA120408GAWS2	W			●	●		★		2	12.7	4.76	0.8	5.16	
NP-CNGA120412GAWS2	W			●	●		★		2	12.7	4.76	1.2	5.16	
NP-CNGA120404GSWS2	W	●	★						2	12.7	4.76	0.4	5.16	
NP-CNGA120408GSWS2	W	●	●						2	12.7	4.76	0.8	5.16	
NP-CNGA120412GSWS2	W	●	★						2	12.7	4.76	1.2	5.16	
BM-CNGM120404TA2	B			●					2	12.7	4.76	0.4	5.16	
BM-CNGM120408TA2	B		★						2	12.7	4.76	0.8	5.16	
BM-CNGM120412TA2	B			●					2	12.7	4.76	1.2	5.16	
BF-CNGM120404TS2	B		●						2	12.7	4.76	0.4	5.16	
BF-CNGM120408TS2	B		●						2	12.7	4.76	0.8	5.16	
BF-CNGM120412TS2	B		●						2	12.7	4.76	1.2	5.16	

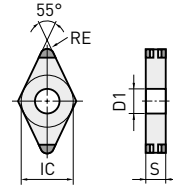
B: Kırıcı W: Silici



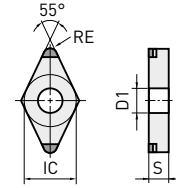
DNGA, DNGM

NEGATİF KESİCİ UÇLAR (DELİKLİ)

Sipariş Numarası	BC8105	BC8110	BC8120	BC8130	MB8110	MB8120	MB8130	ZEFF	IC	S	RE	D1	Geometri
NP-DNGA150404GA4			★	★		★		4	12.7	4.76	0.4	5.16	
NP-DNGA150408GA4			★	★		★		4	12.7	4.76	0.8	5.16	
NP-DNGA150412GA4			★	★		★		4	12.7	4.76	1.2	5.16	
NP-DNGA150604GA4			●	●		★		4	12.7	6.35	0.4	5.16	
NP-DNGA150608GA4			●	●		★		4	12.7	6.35	0.8	5.16	
NP-DNGA150612GA4			●	●		★		4	12.7	6.35	1.2	5.16	
NP-DNGA150404GS4	★	★						4	12.7	4.76	0.4	5.16	
NP-DNGA150408GS4	★	★						4	12.7	4.76	0.8	5.16	
NP-DNGA150412GS4	★	★						4	12.7	4.76	1.2	5.16	
NP-DNGA150604GS4	●	●						4	12.7	6.35	0.4	5.16	
NP-DNGA150608GS4	●	●						4	12.7	6.35	0.8	5.16	
NP-DNGA150612GS4	●	●						4	12.7	6.35	1.2	5.16	
NP-DNGA150404GH4		★	★	★				4	12.7	4.76	0.4	5.16	
NP-DNGA150408GH4		★	★	★				4	12.7	4.76	0.8	5.16	
NP-DNGA150412GH4		★	★	★				4	12.7	4.76	1.2	5.16	
NP-DNGA150604GH4		★	★	●				4	12.7	6.35	0.4	5.16	
NP-DNGA150608GH4		★	★	●				4	12.7	6.35	0.8	5.16	
NP-DNGA150612GH4		★	★	●				4	12.7	6.35	1.2	5.16	
NP-DNGA150404FS4	★	★	★		★			4	12.7	4.76	0.4	5.16	
NP-DNGA150408FS4	★	★	★		★			4	12.7	4.76	0.8	5.16	
NP-DNGA150412FS4	★	★	★		★			4	12.7	4.76	1.2	5.16	
NP-DNGA150604FS4	●	★			★			4	12.7	6.35	0.4	5.16	
NP-DNGA150608FS4	●	★			★			4	12.7	6.35	0.8	5.16	
NP-DNGA150612FS4	●	★			★			4	12.7	6.35	1.2	5.16	
NP-DNGA150404TA4			★	★		★	★	4	12.7	4.76	0.4	5.16	
NP-DNGA150408TA4			★	★		★	★	4	12.7	4.76	0.8	5.16	
NP-DNGA150412TA4			★	★		★	★	4	12.7	4.76	1.2	5.16	
NP-DNGA150604TA4			★	●		★		4	12.7	6.35	0.4	5.16	
NP-DNGA150608TA4			★	●		★		4	12.7	6.35	0.8	5.16	
NP-DNGA150612TA4			★	●		★		4	12.7	6.35	1.2	5.16	
NP-DNGA150404TS4		★						4	12.7	4.76	0.4	5.16	
NP-DNGA150408TS4		★						4	12.7	4.76	0.8	5.16	
NP-DNGA150412TS4		★						4	12.7	4.76	1.2	5.16	
NP-DNGA150604TS4		★						4	12.7	6.35	0.4	5.16	
NP-DNGA150608TS4		★						4	12.7	6.35	0.8	5.16	
NP-DNGA150612TS4		★						4	12.7	6.35	1.2	5.16	
NP-DNGA150404TH4			★	★			★	4	12.7	4.76	0.4	5.16	
NP-DNGA150408TH4			★	★			★	4	12.7	4.76	0.8	5.16	
NP-DNGA150412TH4			★	★			★	4	12.7	4.76	1.2	5.16	
NP-DNGA150604TH4			★	★				4	12.7	6.35	0.4	5.16	
NP-DNGA150608TH4			★	★				4	12.7	6.35	0.8	5.16	
NP-DNGA150612TH4			★	★				4	12.7	6.35	1.2	5.16	



Sipariş Numarası	BC8105	BC8110	BC8120	BC8130	MB8110	MB8120	MB8130	ZEFF	IC	S	RE	D1	Geometri
NP-DNGA110408GA2			●	●		●		2	9.53	4.76	0.8	3.81	
NP-DNGA150402GA2			★					2	12.7	4.76	0.2	5.16	
NP-DNGA150404GA2			★	★		★		2	12.7	4.76	0.4	5.16	
NP-DNGA150408GA2			★	★		★		2	12.7	4.76	0.8	5.16	
NP-DNGA150412GA2			★	★		★		2	12.7	4.76	1.2	5.16	
NP-DNGA150602GA2			★					2	12.7	6.35	0.2	5.16	
NP-DNGA150604GA2			●	●		●		2	12.7	6.35	0.4	5.16	
NP-DNGA150608GA2			●	●		●		2	12.7	6.35	0.8	5.16	
NP-DNGA150612GA2			●	●		●		2	12.7	6.35	1.2	5.16	
NP-DNGA150402GS2		★						2	12.7	4.76	0.2	5.16	
NP-DNGA150404GS2	★	★						2	12.7	4.76	0.4	5.16	
NP-DNGA150408GS2	★	★						2	12.7	4.76	0.8	5.16	
NP-DNGA150412GS2	★	★						2	12.7	4.76	1.2	5.16	
NP-DNGA150604GS2	●	●						2	12.7	6.35	0.4	5.16	
NP-DNGA150608GS2	●	●						2	12.7	6.35	0.8	5.16	
NP-DNGA150612GS2	●	●						2	12.7	6.35	1.2	5.16	
NP-DNGA150404GH2		★	★	★				2	12.7	4.76	0.4	5.16	
NP-DNGA150408GH2		★	★	★				2	12.7	4.76	0.8	5.16	
NP-DNGA150412GH2		★	★	★				2	12.7	4.76	1.2	5.16	
NP-DNGA150604GH2		★	★	●				2	12.7	6.35	0.4	5.16	
NP-DNGA150608GH2		★	★	●				2	12.7	6.35	0.8	5.16	
NP-DNGA150612GH2		★	★	●				2	12.7	6.35	1.2	5.16	
NP-DNGA150402FS2		★				★		2	12.7	4.76	0.2	5.16	
NP-DNGA150404FS2	★	★	★			★		2	12.7	4.76	0.4	5.16	
NP-DNGA150408FS2	★	★	★			★		2	12.7	4.76	0.8	5.16	
NP-DNGA150412FS2	★	★	★			★		2	12.7	4.76	1.2	5.16	
NP-DNGA150604FS2	●	●	●			★		2	12.7	6.35	0.4	5.16	
NP-DNGA150608FS2	●	●	●			★		2	12.7	6.35	0.8	5.16	
NP-DNGA150612FS2	●	●	●			★		2	12.7	6.35	1.2	5.16	
NP-DNGA150404TA2			★	★		★	●	2	12.7	4.76	0.4	5.16	
NP-DNGA150408TA2			★	★		★	●	2	12.7	4.76	0.8	5.16	
NP-DNGA150412TA2			★	★		★	★	2	12.7	4.76	1.2	5.16	
NP-DNGA150604TA2			●	●		★		2	12.7	6.35	0.4	5.16	
NP-DNGA150608TA2			●	●		●		2	12.7	6.35	0.8	5.16	
NP-DNGA150612TA2			●	●		★		2	12.7	6.35	1.2	5.16	
NP-DNGA150404TS2		★						2	12.7	4.76	0.4	5.16	
NP-DNGA150408TS2		★						2	12.7	4.76	0.8	5.16	
NP-DNGA150412TS2		★						2	12.7	4.76	1.2	5.16	
NP-DNGA150604TS2		●						2	12.7	6.35	0.4	5.16	
NP-DNGA150608TS2		●						2	12.7	6.35	0.8	5.16	
NP-DNGA150612TS2		●						2	12.7	6.35	1.2	5.16	
NP-DNGA150404TH2			★	★			★	2	12.7	4.76	0.4	5.16	
NP-DNGA150408TH2			★	★			★	2	12.7	4.76	0.8	5.16	
NP-DNGA150412TH2			★	★			★	2	12.7	4.76	1.2	5.16	
NP-DNGA150604TH2			★	★				2	12.7	6.35	0.4	5.16	
NP-DNGA150608TH2			★	★				2	12.7	6.35	0.8	5.16	
NP-DNGA150612TH2			★	★				2	12.7	6.35	1.2	5.16	
NP-DNGA150404GAWS2JR	W		★			★		2	12.7	4.76	0.4	5.16	
NP-DNGA150404GAWS2JL	W		★			★		2	12.7	4.76	0.4	5.16	
NP-DNGA150408GAWS2JR	W		★			★		2	12.7	4.76	0.8	5.16	
NP-DNGA150408GAWS2JL	W		★			★		2	12.7	4.76	0.8	5.16	
NP-DNGA150604GAWS2JR	W		●			★		2	12.7	6.35	0.4	5.16	
NP-DNGA150604GAWS2JL	W		●			★		2	12.7	6.35	0.4	5.16	
NP-DNGA150608GAWS2JR	W		●			★		2	12.7	6.35	0.8	5.16	
NP-DNGA150608GAWS2JL	W		●			★		2	12.7	6.35	0.8	5.16	
BF-DNGM150404TS2	B	●						2	12.7	4.76	0.4	5.16	
BF-DNGM150408TS2	B	●						2	12.7	4.76	0.8	5.16	
BF-DNGM150412TS2	B	●						2	12.7	4.76	1.2	5.16	
BM-DNGM150404TA2	B		★					2	12.7	4.76	0.4	5.16	
BM-DNGM150408TA2	B		★					2	12.7	4.76	0.8	5.16	
BM-DNGM150412TA2	B		★					2	12.7	4.76	1.2	5.16	
BM-DNGM150604TA2	B		●					2	12.7	6.35	0.4	5.16	
BM-DNGM150608TA2	B		●					2	12.7	6.35	0.8	5.16	
BM-DNGM150612TA2	B		●					2	12.7	6.35	1.2	5.16	



B: Kırıcı W: Silici

SNGA, TNGA, TNGM

NEGATİF KESİCİ UÇLAR (DELİKLİ)

Sipariş Numarası	BC8105	BC8110	BC8120	BC8130	MB8110	MB8120	MB8130	ZEFF	IC	S	RE	D1	Geometri
NP-SNGA120408GA2			●	★		★		2	12.7	4.76	0.8	5.16	
NP-SNGA120412GA2			★	★		★		2	12.7	4.76	1.2	5.16	

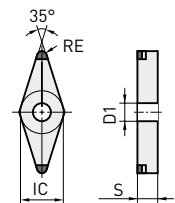
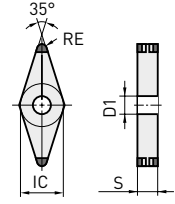
NP-TNGA160404GA6			●	●		★		6	9.53	4.76	0.4	3.81	
NP-TNGA160408GA6			●	●		★		6	9.53	4.76	0.8	3.81	
NP-TNGA160412GA6			●	●		★		6	9.53	4.76	1.2	3.81	
NP-TNGA160404GS6	●	●						6	9.53	4.76	0.4	3.81	
NP-TNGA160408GS6	●	●						6	9.53	4.76	0.8	3.81	
NP-TNGA160412GS6	●	●						6	9.53	4.76	1.2	3.81	
NP-TNGA160404GH6		★	★	★				6	9.53	4.76	0.4	3.81	
NP-TNGA160408GH6		★	★	★				6	9.53	4.76	0.8	3.81	
NP-TNGA160412GH6		★	★	★				6	9.53	4.76	1.2	3.81	
NP-TNGA160404FS6	●	★	★		★			6	9.53	4.76	0.4	3.81	
NP-TNGA160408FS6	●	★	★		★			6	9.53	4.76	0.8	3.81	
NP-TNGA160412FS6	●	★	★		★			6	9.53	4.76	1.2	3.81	
NP-TNGA160404TA6			★	●		★	★	6	9.53	4.76	0.4	3.81	
NP-TNGA160408TA6			★	●		★	★	6	9.53	4.76	0.8	3.81	
NP-TNGA160412TA6			★	●		★	★	6	9.53	4.76	1.2	3.81	
NP-TNGA160404TS6		★						6	9.53	4.76	0.4	3.81	
NP-TNGA160408TS6		★						6	9.53	4.76	0.8	3.81	
NP-TNGA160412TS6		★						6	9.53	4.76	1.2	3.81	
NP-TNGA160404TH6			★	★			★	6	9.53	4.76	0.4	3.81	
NP-TNGA160408TH6			★	●			★	6	9.53	4.76	0.8	3.81	
NP-TNGA160412TH6			★	●			★	6	9.53	4.76	1.2	3.81	
NP-TNGA160402GA3			★			★		3	9.53	4.76	0.2	3.81	
NP-TNGA160404GA3			●	●		★		3	9.53	4.76	0.4	3.81	
NP-TNGA160408GA3			●	●		●		3	9.53	4.76	0.8	3.81	
NP-TNGA160412GA3			★	●		★		3	9.53	4.76	1.2	3.81	
NP-TNGA160402GS3		★						3	9.53	4.76	0.2	3.81	
NP-TNGA160404GS3	●	★						3	9.53	4.76	0.4	3.81	
NP-TNGA160408GS3	●	★						3	9.53	4.76	0.8	3.81	
NP-TNGA160412GS3	●	★						3	9.53	4.76	1.2	3.81	
NP-TNGA160404GH3		★	★	●				3	9.53	4.76	0.4	3.81	
NP-TNGA160408GH3		★	★	●				3	9.53	4.76	0.8	3.81	
NP-TNGA160412GH3		★	★	●				3	9.53	4.76	1.2	3.81	
NP-TNGA160402FS3		★				★		3	9.53	4.76	0.2	3.81	
NP-TNGA160404FS3	●	●	●		★			3	9.53	4.76	0.4	3.81	
NP-TNGA160408FS3	●	●	●		★			3	9.53	4.76	0.8	3.81	
NP-TNGA160412FS3	●	●	●		★			3	9.53	4.76	1.2	3.81	
NP-TNGA160404TA3			●	●		●	●	3	9.53	4.76	0.4	3.81	
NP-TNGA160408TA3			●	●		●	★	3	9.53	4.76	0.8	3.81	
NP-TNGA160412TA3			●	●		●	★	3	9.53	4.76	1.2	3.81	
NP-TNGA160404TS3		●						3	9.53	4.76	0.4	3.81	
NP-TNGA160408TS3		●						3	9.53	4.76	0.8	3.81	
NP-TNGA160412TS3		●						3	9.53	4.76	1.2	3.81	
NP-TNGA160404TH3			★	★			★	3	9.53	4.76	0.4	3.81	
NP-TNGA160408TH3			★	★			★	3	9.53	4.76	0.8	3.81	
NP-TNGA160412TH3			★	★			★	3	9.53	4.76	1.2	3.81	
BM-TNGM160408TA3	B		●					3	9.53	4.76	0.8	3.81	
BM-TNGM160412TA3	B		●					3	9.53	4.76	1.2	3.81	

B: Kırıcı W: Silici

VNGA

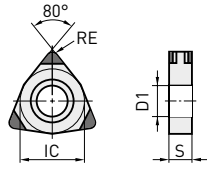
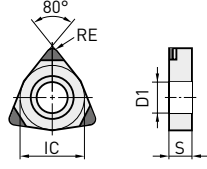
NEGATİF KESİCİ UÇLAR (DELİKLİ)

Sipariş Numarası	BC8105	BC8110	BC8120	BC8130	MB8110	MB8120	MB8130	ZEFF	IC	S	RE	D1	Geometri
NP-VNGA160404GA4			●	●		★		4	9.53	4.76	0.4	3.81	
NP-VNGA160408GA4			●	●		★		4	9.53	4.76	0.8	3.81	
NP-VNGA160412GA4			●	●		★		4	9.53	4.76	1.2	3.81	
NP-VNGA160404GS4	●	★						4	9.53	4.76	0.4	3.81	
NP-VNGA160408GS4	●	●						4	9.53	4.76	0.8	3.81	
NP-VNGA160412GS4		★						4	9.53	4.76	1.2	3.81	
NP-VNGA160404GH4		★	★	★				4	9.53	4.76	0.4	3.81	
NP-VNGA160408GH4		★	★	★				4	9.53	4.76	0.8	3.81	
NP-VNGA160412GH4		★	★	★				4	9.53	4.76	1.2	3.81	
NP-VNGA160404FS4	●	★	★		★			4	9.53	4.76	0.4	3.81	
NP-VNGA160408FS4	●	★	★		★			4	9.53	4.76	0.8	3.81	
NP-VNGA160412FS4			★					4	9.53	4.76	1.2	3.81	
NP-VNGA160404TA4			★	●		★		4	9.53	4.76	0.4	3.81	
NP-VNGA160408TA4			★	●		★		4	9.53	4.76	0.8	3.81	
NP-VNGA160412TA4			★	●		★		4	9.53	4.76	1.2	3.81	
NP-VNGA160404TS4		★						4	9.53	4.76	0.4	3.81	
NP-VNGA160408TS4		★						4	9.53	4.76	0.8	3.81	
NP-VNGA160404TH4			★	★				4	9.53	4.76	0.4	3.81	
NP-VNGA160408TH4			★	★				4	9.53	4.76	0.8	3.81	
NP-VNGA160412TH4			★	★				4	9.53	4.76	1.2	3.81	
NP-VNGA160402GA2			●			★		2	9.53	4.76	0.2	3.81	
NP-VNGA160404GA2			●	●		●		2	9.53	4.76	0.4	3.81	
NP-VNGA160408GA2			●	●		●		2	9.53	4.76	0.8	3.81	
NP-VNGA160412GA2			★	★		★		2	9.53	4.76	1.2	3.81	
NP-VNGA160402GS2		★						2	9.53	4.76	0.2	3.81	
NP-VNGA160404GS2	●	●						2	9.53	4.76	0.4	3.81	
NP-VNGA160408GS2	●	●						2	9.53	4.76	0.8	3.81	
NP-VNGA160412GS2		★						2	9.53	4.76	1.2	3.81	
NP-VNGA160404GH2		★	★	★				2	9.53	4.76	0.4	3.81	
NP-VNGA160408GH2		★	★	★				2	9.53	4.76	0.8	3.81	
NP-VNGA160412GH2		★	★	★				2	9.53	4.76	1.2	3.81	
NP-VNGA160402FS2		★			★			2	9.53	4.76	0.2	3.81	
NP-VNGA160404FS2	●	★	●		★			2	9.53	4.76	0.4	3.81	
NP-VNGA160408FS2	●	★	●		★			2	9.53	4.76	0.8	3.81	
NP-VNGA160412FS2			★					2	9.53	4.76	1.2	3.81	
NP-VNGA160404TA2			●	●		●		2	9.53	4.76	0.4	3.81	
NP-VNGA160408TA2			●	●		★		2	9.53	4.76	0.8	3.81	
NP-VNGA160412TA2			★	★		★		2	9.53	4.76	1.2	3.81	
NP-VNGA160404TS2		★						2	9.53	4.76	0.4	3.81	
NP-VNGA160408TS2		★						2	9.53	4.76	0.8	3.81	
NP-VNGA160404TH2			★	★				2	9.53	4.76	0.4	3.81	
NP-VNGA160408TH2			★	★				2	9.53	4.76	0.8	3.81	
NP-VNGA160412TH2			★	★				2	9.53	4.76	1.2	3.81	



WNGA

NEGATİF KESİCİ UÇLAR (DELİKLİ)

Sipariş Numarası	BC8105	BC8110	BC8120	BC8130	MB8110	MB8120	MB8130	ZEFF	IC	S	RE	D1	Geometri
NP-WNGA080408GS6	★	●						6	12.7	4.76	0.8	5.16	
NP-WNGA080408FS6	★	★						6	12.7	4.76	0.8	5.16	
NP-WNGA080408TS6		★						6	12.7	4.76	0.8	5.16	
NP-WNGA080408GA3			★	★				3	12.7	4.76	0.8	5.16	
NP-WNGA080408GS3	★	★						3	12.7	4.76	0.8	5.16	
NP-WNGA080408GH3		★	★	★				3	12.7	4.76	0.8	5.16	
NP-WNGA080408FS3	★	★	★					3	12.7	4.76	0.8	5.16	
NP-WNGA080408TA3			★	★				3	12.7	4.76	0.8	5.16	
NP-WNGA080408TS3		★						3	12.7	4.76	0.8	5.16	
NP-WNGA080408TH3			★	★				3	12.7	4.76	0.8	5.16	
NP-WNGA080408GSWS3	W	●						3	12.7	4.76	0.8	5.16	

B: Kırıcı W: Silici

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CCGW 7°, CCGT 7°

POZİTİFİ KESİCİ UÇLAR (DELİKLİ)

Sipariş Numarası	BC8105	BC8110	BC8120	BC8130	MB8110	MB8120	MB8130	ZEFF	IC	S	RE	D1	Geometri
NP-CCGW060202GA2			●			●		2	6.35	2.38	0.2	2.8	
NP-CCGW060204GA2			●	●		●		2	6.35	2.38	0.4	2.8	
NP-CCGW060208GA2			●	●		●		2	6.35	2.38	0.8	2.8	
NP-CCGW09T302GA2			●			●		2	9.53	3.97	0.2	4.4	
NP-CCGW09T304GA2			●	●		●		2	9.53	3.97	0.4	4.4	
NP-CCGW09T308GA2			●	●		●		2	9.53	3.97	0.8	4.4	
NP-CCGW060202GS2	★	★						2	6.35	2.38	0.2	2.8	
NP-CCGW060204GS2	●	●						2	6.35	2.38	0.4	2.8	
NP-CCGW060208GS2	●	●						2	6.35	2.38	0.8	2.8	
NP-CCGW09T302GS2	★	★						2	9.53	3.97	0.2	4.4	
NP-CCGW09T304GS2	●	●						2	9.53	3.97	0.4	4.4	
NP-CCGW09T308GS2	●	●						2	9.53	3.97	0.8	4.4	
NP-CCGW09T304GH2		★	★	●				2	9.53	3.97	0.4	4.4	
NP-CCGW09T308GH2		★	★	●				2	9.53	3.97	0.8	4.4	
NP-CCGW060202FS2		●			●			2	6.35	2.38	0.2	2.8	
NP-CCGW060204FS2		●			●			2	6.35	2.38	0.4	2.8	
NP-CCGW060208FS2		●			●			2	6.35	2.38	0.8	2.8	
NP-CCGW09T302FS2	★	●			●			2	9.53	3.97	0.2	4.4	
NP-CCGW09T304FS2	●	●	●		●			2	9.53	3.97	0.4	4.4	
NP-CCGW09T308FS2	●	●	●		●			2	9.53	3.97	0.8	4.4	
NP-CCGW060204TA2				●			★	2	6.35	2.38	0.4	2.8	
NP-CCGW060208TA2				●			★	2	6.35	2.38	0.8	2.8	
NP-CCGW09T304TA2			●	●		★	★	2	9.53	3.97	0.4	4.4	
NP-CCGW09T308TA2			●	●		★	★	2	9.53	3.97	0.8	4.4	
NP-CCGW09T304TH2			★	●			★	2	9.53	3.97	0.4	4.4	
NP-CCGW09T308TH2			★	●			★	2	9.53	3.97	0.8	4.4	
NP-CCGW09T304FBWL2	W	★	★	★		★		2	9.525	3.97	0.4	4.4	
NP-CCGW09T308FBWL2	W	★	★	★		★		2	9.525	3.97	0.8	4.4	
NP-CCGW09T304GBWL2	W	★	★	★			★	2	9.525	3.97	0.4	4.4	
NP-CCGW09T308GBWL2	W	★	★	★			★	2	9.525	3.97	0.8	4.4	
NP-CCGW09T304FSWS2	W	●	★	★		★		2	9.53	3.97	0.4	4.4	
NP-CCGW09T308FSWS2	W	●	★	★		★		2	9.53	3.97	0.8	4.4	
NP-CCGW09T304GAWS2	W		●	●		★		2	9.53	3.97	0.4	4.4	
NP-CCGW09T308GAWS2	W		●	●		★		2	9.53	3.97	0.8	4.4	
NP-CCGW09T304GSWS2	W	●	●					2	9.53	3.97	0.4	4.4	
NP-CCGW09T308GSWS2	W	●	●					2	9.53	3.97	0.8	4.4	
BF-CCGT09T304TS2	B	●						2	9.53	3.97	0.4	4.4	
BF-CCGT09T308TS2	B	●						2	9.53	3.97	0.8	4.4	
BM-CCGT09T304TA2	B		●					2	9.53	3.97	0.4	4.4	
BM-CCGT09T308TA2	B		●					2	9.53	3.97	0.8	4.4	
NP-CCGW03S102GS		●						1	3.57	1.39	0.2	2.0	
NP-CCGW03S104GS		●						1	3.57	1.39	0.4	2.0	
NP-CCGW04T002GS		●						1	4.37	1.79	0.2	2.4	
NP-CCGW04T004GS		●						1	4.37	1.79	0.4	2.4	
NP-CCGW03S102FS		●			★			1	3.57	1.39	0.2	2.0	
NP-CCGW03S104FS		●			●			1	3.57	1.39	0.4	2.0	
NP-CCGW04T002FS		●			●			1	4.37	1.79	0.2	2.4	
NP-CCGW04T004FS		●			●			1	4.37	1.79	0.4	2.4	

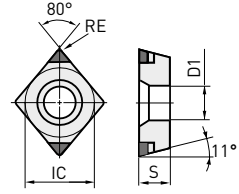
B: Kırıcı W: Silici

26

CPGB 11°

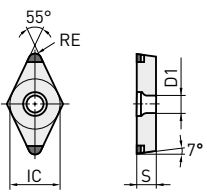
POZİTİFİ KESİCİ UÇLAR (DELİKLİ)

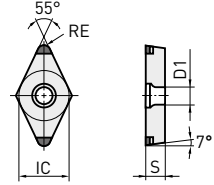
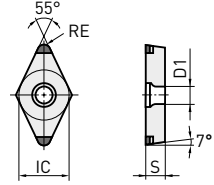
Sipariş Numarası	BC8105	BC8110	BC8120	BC8130	MB8110	MB8120	MB8130	ZEFF	IC	S	RE	D1	Geometri
NP-CPGB080204GA2			●	●				2	7.94	2.38	0.4	3.5	
NP-CPGB080208GA2			●	●				2	7.94	2.38	0.8	3.5	
NP-CPGB080212GA2			★	★				2	7.94	2.38	1.2	3.5	
NP-CPGB090302GA2			★					2	9.53	3.18	0.2	4.5	
NP-CPGB090304GA2			●	●				2	9.53	3.18	0.4	4.5	
NP-CPGB090308GA2			●	●				2	9.53	3.18	0.8	4.5	
NP-CPGB090312GA2			★	★				2	9.53	3.18	1.2	4.5	
NP-CPGB080204GS2	●	★						2	7.94	2.38	0.4	3.5	
NP-CPGB080208GS2	●	★						2	7.94	2.38	0.8	3.5	
NP-CPGB090302GS2	★	★						2	9.53	3.18	0.2	4.5	
NP-CPGB090304GS2	●	★						2	9.53	3.18	0.4	4.5	
NP-CPGB090308GS2	●	★						2	9.53	3.18	0.8	4.5	
NP-CPGB080204FS2		★						2	7.94	2.38	0.4	3.5	
NP-CPGB080208FS2		★						2	7.94	2.38	0.8	3.5	
NP-CPGB090302FS2	★	★						2	9.53	3.18	0.2	4.5	
NP-CPGB090304FS2	●		★					2	9.53	3.18	0.4	4.5	
NP-CPGB090308FS2	●		★					2	9.53	3.18	0.8	4.5	
NP-CPGB090312FS2			★					2	9.53	3.18	1.2	4.5	
NP-CPGB080204TA2				★				2	7.94	2.38	0.4	3.5	
NP-CPGB080208TA2				★				2	7.94	2.38	0.8	3.5	
NP-CPGB080212TA2				★				2	7.94	2.38	1.2	3.5	
NP-CPGB090304TA2			★	★				2	9.53	3.18	0.4	4.5	
NP-CPGB090308TA2			★	★				2	9.53	3.18	0.8	4.5	
NP-CPGB090312TA2			★	★				2	9.53	3.18	1.2	4.5	



DCGW 7°, DCGT 7°

POZİTİFİ KESİCİ UÇLAR (DELİKLİ)

Sipariş Numarası	BC8105	BC8110	BC8120	BC8130	MB8110	MB8120	MB8130	ZEFF	IC	S	RE	D1	Geometri
NP-DCGW070202GA2			●			●		2	6.35	2.38	0.2	2.8	
NP-DCGW070204GA2			●	●		●		2	6.35	2.38	0.4	2.8	
NP-DCGW070208GA2				●				2	6.35	2.38	0.8	2.8	
NP-DCGW11T302GA2			●			●		2	9.53	3.97	0.2	4.4	
NP-DCGW11T304GA2			●	●		●		2	9.53	3.97	0.4	4.4	
NP-DCGW11T308GA2			●	●		●		2	9.53	3.97	0.8	4.4	
NP-DCGW070202GS2	●	●						2	6.35	2.38	0.2	2.8	
NP-DCGW070204GS2	●	●						2	6.35	2.38	0.4	2.8	
NP-DCGW070208GS2	●	●						2	6.35	2.38	0.8	2.8	
NP-DCGW11T302GS2	●	●						2	9.53	3.97	0.2	4.4	
NP-DCGW11T304GS2	●	●						2	9.53	3.97	0.4	4.4	
NP-DCGW11T308GS2	●	●						2	9.53	3.97	0.8	4.4	
NP-DCGW11T304GH2		★	★	●				2	9.53	3.97	0.4	4.4	
NP-DCGW11T308GH2		★	★	●				2	9.53	3.97	0.8	4.4	
NP-DCGW070202FS2		●			●			2	6.35	2.38	0.2	2.8	
NP-DCGW070204FS2		●	●		●			2	6.35	2.38	0.4	2.8	
NP-DCGW070208FS2		★			★			2	6.35	2.38	0.8	2.8	
NP-DCGW11T302FS2	●	●			●			2	9.53	3.97	0.2	4.4	
NP-DCGW11T304FS2	●	●	●		●			2	9.53	3.97	0.4	4.4	
NP-DCGW11T308FS2	●	●	●		●			2	9.53	3.97	0.8	4.4	
NP-DCGW070204TA2			●	●		●	●	2	6.35	2.38	0.4	2.8	
NP-DCGW070208TA2				●			★	2	6.35	2.38	0.8	2.8	
NP-DCGW11T304TA2			★	●		★	●	2	9.53	3.97	0.4	4.4	
NP-DCGW11T308TA2			★	●		★	●	2	9.53	3.97	0.8	4.4	
NP-DCGW11T304TH2			★	●		●	●	2	9.53	3.97	0.4	4.4	
NP-DCGW11T308TH2			★	●		●	●	2	9.53	3.97	0.8	4.4	
BM-DCGT11T304TA2	B		●					2	9.53	3.97	0.4	4.4	
BM-DCGT11T308TA2	B		●					2	9.53	3.97	0.8	4.4	
BF-DCGT11T304TS2	B	●						2	9.53	3.97	0.4	4.4	
BF-DCGT11T308TS2	B	●						2	9.53	3.97	0.8	4.4	



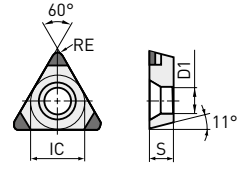
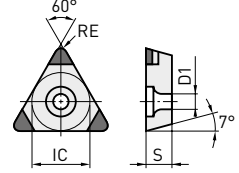
B: Kırıcı W: Silici



TCGW 7°, TPGB 11°

POZİTİFİ KESİCİ UÇLAR (DELİKLİ)

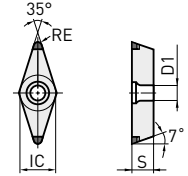
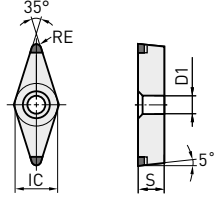
Sipariş Numarası	BC8105	BC8110	BC8120	BC8130	MB8110	MB8120	MB8130	ZEFF	IC	S	RE	D1	Geometri
NP-TCGW090204GS3		★						3	5.56	2.38	0.4	2.5	
NP-TCGW090208GS3		★						3	5.56	2.38	0.8	2.5	
NP-TCGW110202GS3		★						3	6.35	2.38	0.2	2.8	
NP-TCGW110204GS3		★						3	6.35	2.38	0.4	2.8	
NP-TCGW110208GS3		★						3	6.35	2.38	0.8	2.8	
NP-TCGW130304GS3		★						3	7.94	3.18	0.4	3.4	
NP-TCGW130308GS3		★						3	7.94	3.18	0.8	3.4	
NP-TCGW16T304GS3		★						3	9.53	3.97	0.4	4.4	
NP-TCGW16T308GS3		★						3	9.53	3.97	0.8	4.4	
NP-TPGB080204GA3				●				3	4.76	2.38	0.4	2.4	
NP-TPGB080208GA3				●				3	4.76	2.38	0.8	2.4	
NP-TPGB090204GA3			★	●		●		3	5.56	2.38	0.4	2.9	
NP-TPGB090208GA3			★	●		★		3	5.56	2.38	0.8	2.9	
NP-TPGB110302GA3			★			★		3	6.35	3.18	0.2	3.4	
NP-TPGB110304GA3			●	●		●		3	6.35	3.18	0.4	3.4	
NP-TPGB110308GA3			●	●		●		3	6.35	3.18	0.8	3.4	
NP-TPGB160304GA3			●	★		★		3	9.53	3.18	0.4	4.4	
NP-TPGB160308GA3			●	★		★		3	9.53	3.18	0.8	4.4	
NP-TPGB080204GS3	★	★						3	4.76	2.38	0.4	2.4	
NP-TPGB080208GS3	★	★						3	4.76	2.38	0.8	2.4	
NP-TPGB090204GS3	★	★						3	5.56	2.38	0.4	2.9	
NP-TPGB090208GS3	★	★						3	5.56	2.38	0.8	2.9	
NP-TPGB110302GS3	★	★						3	6.35	3.18	0.2	3.4	
NP-TPGB110304GS3	★	★						3	6.35	3.18	0.4	3.4	
NP-TPGB110308GS3	★	★						3	6.35	3.18	0.8	3.4	
NP-TPGB160304GS3	★	★						3	9.53	3.18	0.4	4.4	
NP-TPGB160308GS3	★	★						3	9.53	3.18	0.8	4.4	
NP-TPGB160304GH3		★	★	★				3	9.53	3.18	0.4	4.4	
NP-TPGB160308GH3		★	★	★				3	9.53	3.18	0.8	4.4	
NP-TPGB110302FS3	★	★			★			3	6.35	3.18	0.2	3.4	
NP-TPGB110304FS3	★	★	●		●			3	6.35	3.18	0.4	3.4	
NP-TPGB110308FS3	★	★	●		●			3	6.35	3.18	0.8	3.4	
NP-TPGB160304FS3			●					3	9.53	3.18	0.4	4.4	
NP-TPGB160308FS3			●					3	9.53	3.18	0.8	4.4	
NP-TPGB080204TA3				★		●		3	4.76	2.38	0.4	2.4	
NP-TPGB080208TA3				★		★		3	4.76	2.38	0.8	2.4	
NP-TPGB090204TA3				★		●		3	5.56	2.38	0.4	2.9	
NP-TPGB090208TA3				★		★		3	5.56	2.38	0.8	2.9	
NP-TPGB110304TA3			★	●		●	●	3	6.35	3.18	0.4	3.4	
NP-TPGB110308TA3			★	●		★	★	3	6.35	3.18	0.8	3.4	
NP-TPGB160304TA3			★	●		★	★	3	9.53	3.18	0.4	4.4	
NP-TPGB160308TA3			★	●		★	★	3	9.53	3.18	0.8	4.4	
NP-TPGB160304TH3			★	★		★		3	9.53	3.18	0.4	4.4	
NP-TPGB160308TH3			★	★		★		3	9.53	3.18	0.8	4.4	



VBGW 5°, VCGW 7°

POZİTİF KESİCİ UÇLAR (DELİKLİ)

Sipariş Numarası	BC8105	BC8110	BC8120	BC8130	MB8110	MB8120	MB8130	ZEFF	IC	S	RE	D1	Geometri
NP-VBGW110302GA2			●			★		2	6.35	3.18	0.2	2.9	
NP-VBGW110304GA2			●	●				2	6.35	3.18	0.4	2.9	
NP-VBGW110308GA2			★	★		★		2	6.35	3.18	0.8	2.9	
NP-VBGW160402GA2			★			★		2	9.53	4.76	0.2	4.4	
NP-VBGW160404GA2			●	●		★		2	9.53	4.76	0.4	4.4	
NP-VBGW160408GA2			●	●		★		2	9.53	4.76	0.8	4.4	
NP-VBGW110302GS2	★	★						2	6.35	3.18	0.2	2.9	
NP-VBGW110304GS2	★	★						2	6.35	3.18	0.4	2.9	
NP-VBGW110308GS2	★	★						2	6.35	3.18	0.8	2.9	
NP-VBGW160402GS2	★	●						2	9.53	4.76	0.2	4.4	
NP-VBGW160404GS2	●	●						2	9.53	4.76	0.4	4.4	
NP-VBGW160408GS2	●	●						2	9.53	4.76	0.8	4.4	
NP-VBGW160404GH2		★	★	★				2	9.53	4.76	0.4	4.4	
NP-VBGW160408GH2		★	★	●				2	9.53	4.76	0.8	4.4	
NP-VBGW110302FS2		●				★		2	6.35	3.18	0.2	2.9	
NP-VBGW110304FS2		★				★		2	6.35	3.18	0.4	2.9	
NP-VBGW110308FS2		★				★		2	6.35	3.18	0.8	2.9	
NP-VBGW160402FS2		★				★		2	9.53	4.76	0.2	4.4	
NP-VBGW160404FS2			●					2	9.53	4.76	0.4	4.4	
NP-VBGW160408FS2			●					2	9.53	4.76	0.8	4.4	
NP-VBGW110304TA2					★			2	6.35	3.18	0.4	2.9	
NP-VBGW110308TA2					★			2	6.35	3.18	0.8	2.9	
NP-VBGW160404TA2			●	★		★		2	9.53	4.76	0.4	4.4	
NP-VBGW160408TA2			★	★		★		2	9.53	4.76	0.8	4.4	
NP-VBGW160404TH2			★	★				2	9.53	4.76	0.4	4.4	
NP-VBGW160408TH2			★	★				2	9.53	4.76	0.8	4.4	
NP-VCGW160404GA2			●	●				2	9.53	4.76	0.4	4.4	
NP-VCGW160408GA2			●	●				2	9.53	4.76	0.8	4.4	
NP-VCGW160404GS2	●	●						2	9.53	4.76	0.4	4.4	
NP-VCGW160408GS2	●	●						2	9.53	4.76	0.8	4.4	
NP-VCGW160404GH2		★	★	★				2	9.53	4.76	0.4	4.4	
NP-VCGW160408GH2		★	★	★				2	9.53	4.76	0.8	4.4	
NP-VCGW160404FS2		●	●			★		2	9.53	4.76	0.4	4.4	
NP-VCGW160408FS2		●	●			★		2	9.53	4.76	0.8	4.4	
NP-VCGW160404TA2			★	★				2	9.53	4.76	0.4	4.4	
NP-VCGW160408TA2			★	★				2	9.53	4.76	0.8	4.4	
NP-VCGW160404TS2		★						2	9.53	4.76	0.4	4.4	
NP-VCGW160408TS2		★						2	9.53	4.76	0.8	4.4	
NP-VCGW160404TH2			★	★				2	9.53	4.76	0.4	4.4	
NP-VCGW160408TH2			★	★				2	9.53	4.76	0.8	4.4	



ÖNERİLEN KESME KOŞULLARI

BC8100

Malzeme	Kalite	Kesme Şekli	Vc	f	ap	Soğutma
H Sertleştirilmiş Çelik (Isıl işlem görmüş çelik vs.)	BC8105	Darbesiz Kesme		-0.15	-0.20	
	BC8110	Darbesiz Kesme		-0.20	-0.35	
	BC8120	Darbesiz Kesme		-0.30	-0.80	Kuru, Islak
	BC8120	Darbeli		-0.20	-0.30	
	BC8130	Darbeli		-0.20	-0.30	

MB8100

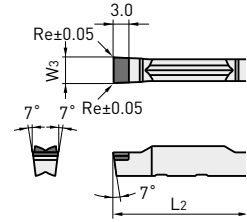
Malzeme	Kalite	Kesme Şekli	Vc	f	ap	Soğutma
H Sertleştirilmiş Çelikler (Isıl İşlem Görmüş Çelikler)	MB8110	Dış çap Düz Kesintisiz Kesme		-0.20	-0.30	
	MB8120	Dış çap Düz Kesintisiz Kesme		-0.20	-0.50	Kuru, Islak
		Dış çap Darbeli Kesme		-0.20	-0.30	
	MB8130	Dış çap Darbeli Kesme		-0.20	-0.30	

GY1G

GY KANAL AÇMA SİSTEMİ İÇİN KESİCİ UÇLAR

Sipariş Numarası	BC8110	W3	Tolerans	Re	L2
GY1G0200D020N-GFGS	●	2.00	±0.03	0.2	20.70
GY1G0239E020N-GFGS	●	2.39	±0.03	0.2	20.70
GY1G0250E020N-GFGS	●	2.50	±0.03	0.2	20.70
GY1G0300F020N-GFGS	●	3.00	±0.03	0.2	20.70
GY1G0318F020N-GFGS	●	3.18	±0.03	0.2	20.70
GY1G0400G020N-GFGS	●	4.00	±0.03	0.2	25.65
GY1G0475H020N-GFGS	●	4.75	±0.03	0.2	25.65
GY1G0500H020N-GFGS	●	5.00	±0.03	0.2	25.65
GY1G0600J020N-GFGS	●	6.00	±0.03	0.2	25.65

Üstü Düz
(Sertleştirilmiş malzeme için)

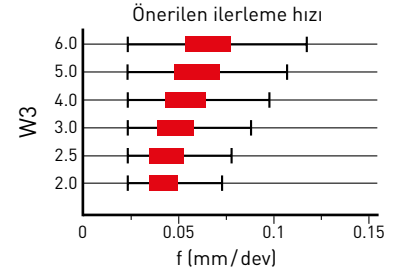


1. İç çap kanal açma için "D1" min. delik çapına ulaşıldığında, ilerlemeyi lütfen %20 oranında azaltın.

ÖNERİLEN KESME KOŞULLARI

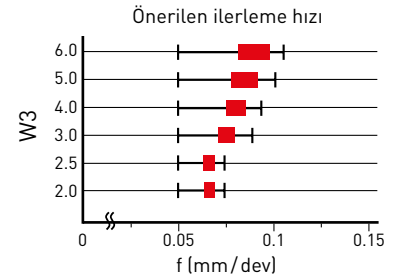
DIŞ ÇAP KANAL AÇMA İÇİN

Malzeme	Sertlik	Vc
H Sertleştirilmiş çelik	≤ 50HRC	80 - 120



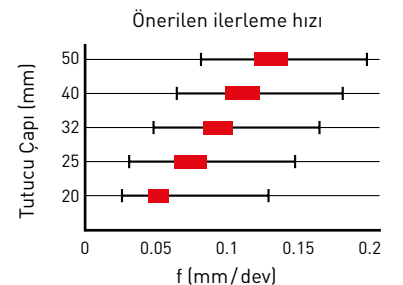
ALIN KANAL AÇMA İÇİN

Malzeme	Sertlik	Vc
H Sertleştirilmiş çelik	≤ 50HRC	60 - 100



İÇ ÇAP KANAL AÇMA İÇİN

Malzeme	Sertlik	Vc
H Sertleştirilmiş çelik	≤ 50HRC	60 - 100

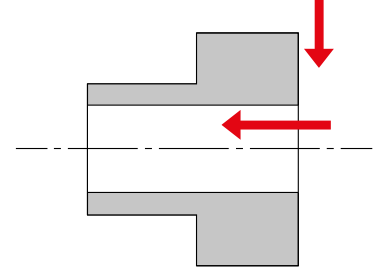
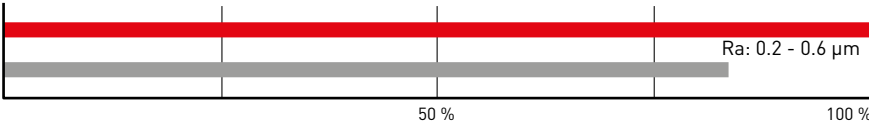


■ : 1. önerilen aralık

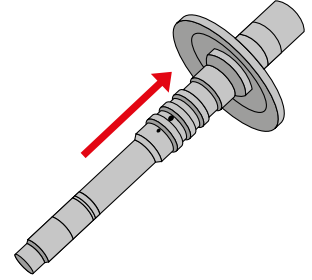
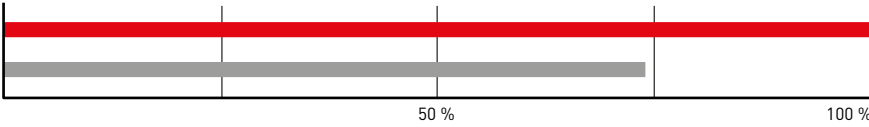
UYGULAMA ÖRNEKLERİ

BC8105

Kesici uç	NP-DCGW11T308GS2
İş Parçası Malzemesi	20CrMo2-2 (58-60 HRC)
Kesme modu	İç Çap / Alın Tornalama, Darbesiz
Kesme Hızı Vc (m/dk)	165
İlerleme f (mm/dev)	0.085
Kesme Derinliği ap (mm)	0.1
Soğutma Sıvısı	Kuru kesme
Sonuç	İş parçası sayısı: 80

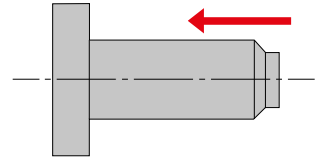
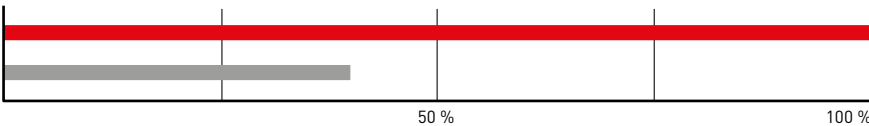


Kesici uç	NP-CNGA120408GSWS2
İş Parçası Malzemesi	S55CHT (55-65 HRC)
Kesme modu	Dış Çap Tornalama / Darbesiz
Kesme Hızı Vc (m/dk)	160
İlerleme f (mm/dev)	0.35
Kesme Derinliği ap (mm)	0.15
Soğutma Sıvısı	Kuru kesme
Sonuç	İş parçası sayısı: 134

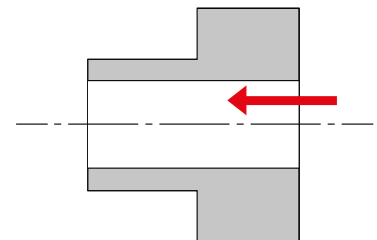
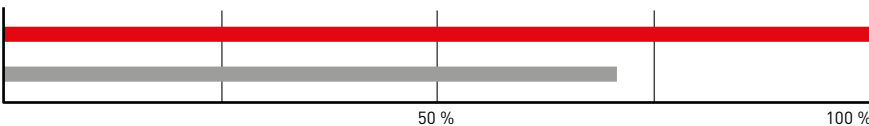


BC8110

Kesici uç	NP-DNGA150404FS2
İş Parçası Malzemesi	S55CHT (55-65HRC)
Kesme modu	Dış Çap Tornalama, Darbesiz
Kesme Hızı Vc (m/dk)	160
İlerleme f (mm/dev)	0.20
Kesme Derinliği ap (mm)	0.20
Soğutma Sıvısı	Islak kesme
Sonuç	İş parçası sayısı: 500

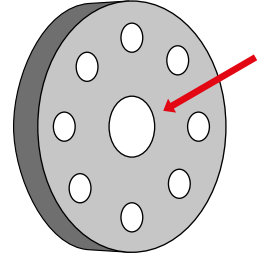
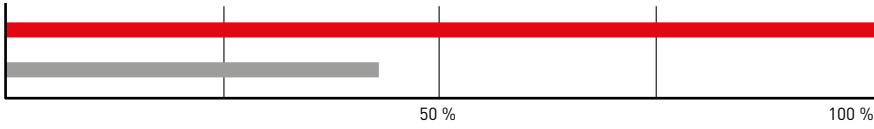


Kesici uç	NP-CCGW09T308GS2
İş Parçası Malzemesi	16MnCr5 (60-65HRC)
Kesme modu	İç Çap Tornalama, Darbesiz
Kesme Hızı Vc (m/dk)	110
İlerleme f (mm/dev)	0.15
Kesme Derinliği ap (mm)	0.20
Soğutma Sıvısı	Kuru kesme
Sonuç	İş parçası sayısı: 3.500

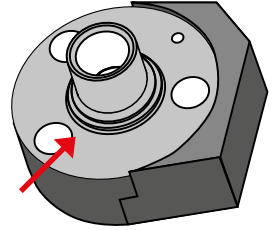
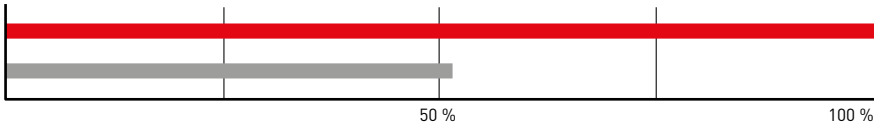


BC8120

Kesici uç	NP-CNGA120408TA2
İş Parçası Malzemesi	SUJ (50HRC)
Kesme modu	Alın Tornalama, Darbeli
Kesme Hızı Vc (m/dk)	130
İlerleme f (mm/dev)	0.08
Kesme Derinliği ap (mm)	0.50
Soğutma Sıvısı	Islak kesme
Sonuç	İş parçası sayısı: 110

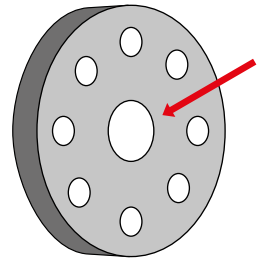
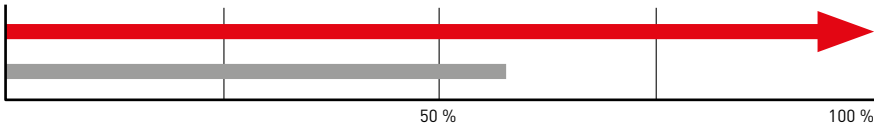


Kesici uç	NP-CNGA120408GA2
İş Parçası Malzemesi	CAC403 (55-58HRC)
Kesme modu	Alın Tornalama, Darbeli
Kesme Hızı Vc (m/dk)	150
İlerleme f (mm/dev)	0.15
Kesme Derinliği ap (mm)	0.10
Soğutma Sıvısı	Kuru kesme
Sonuç	İş parçası sayısı: 150

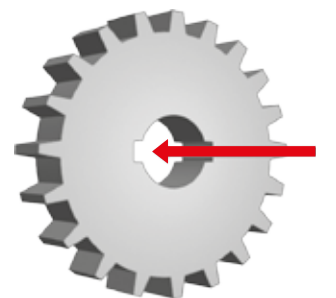
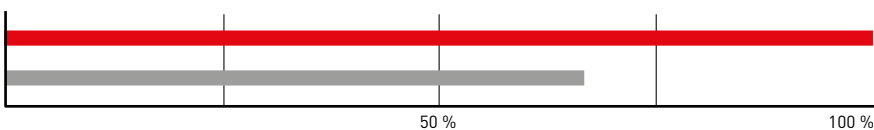


BC8130

Kesici uç	NP-CNGA120408TH2
İş Parçası Malzemesi	S45C (58 HRC)
Kesme modu	Alın Tornalama, Darbeli
Kesme Hızı Vc (m/dk)	130
İlerleme f (mm/dev)	0.08
Kesme Derinliği ap (mm)	0.15
Soğutma Sıvısı	Islak kesme
Sonuç	İş parçası sayısı: 70 (kırılma yok)



Kesici uç	NP-CCGW09T308TN2
İş Parçası Malzemesi	16MnCrS5 (58-60 HRC)
Kesme modu	İç Çap Tornalama, Darbeli
Kesme Hızı Vc (m/dk)	159-175
İlerleme f (mm/dev)	0.11
Kesme Derinliği ap (mm)	0.12
Soğutma Sıvısı	Kuru kesme
Sonuç	İş parçası sayısı: 170



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