

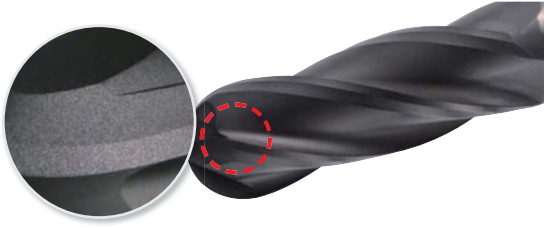
F D Endmill için Teknik Bilgi

Elmas kaplamalı parmak freze

D Endmill *Yeni*

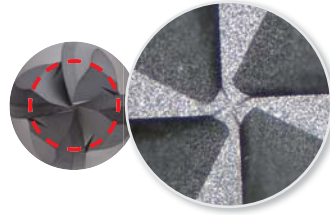
- Mükemmel yüzey finışı için tanjantiyel kesme kenarı geometrisi
- Yüksek saflıkta elmas kaplama ve yüksek sertlik sayesinde mükemmel aşınma direnci
- Teğetsel takım geometrisi ve keskin kenarlar sayesinde gelişmiş yüzey finışı ve kesim performansı

Özellikler



Tanjantiyel kesme kenarı geometrisi

- Tek geçişli bileme sistemi
- İşlenen yüzeyde kademeli konikliği önler
- Küre uçlu 2 ve 4 ağızlı takım

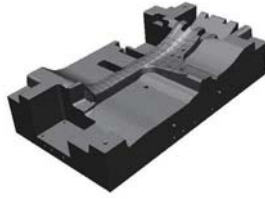


Merkez eşleşmeli küresel şekil (4-oluk)

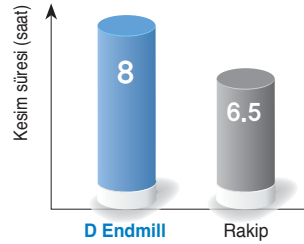
- Yüksek ilerlemeli işleme için küresel nokta şekli
- Gelişmiş sertlik ve mükemmel yüzey finışı

Uygulama örnekleri

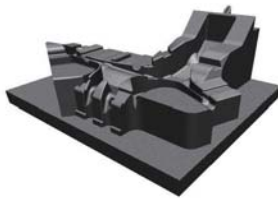
- İş Parçası Grafite kalıp
- Kesme koşulu
vc (m/dak) = 100,
fz (mm/diş) = 0.11
ap (mm) = 0.26, kuru
- Takımlar DBE4060-110-N250S06



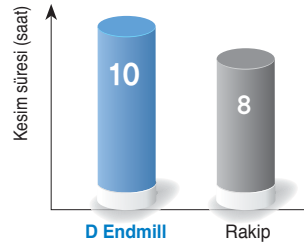
Test sonucu



- İş Parçası Grafite kalıp
- Kesme koşulu
vc (m/dak) = 180,
fz (mm/diş) = 0.1
ap (mm) = 0.2, kuru
- Takımlar DBE2060-110-N250S06



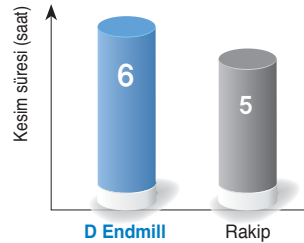
Test sonucu



- İş Parçası Grafite kalıp
- Kesme koşulu
vc (m/dak) = 300,
fz (mm/diş) = 0.1
ap (mm) = 0.15, kuru
- Takımlar DBE2060-080-N250S06



Test sonucu



F Parmak Frezeler

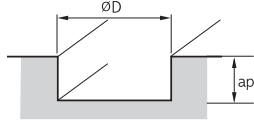
88

D Endmill için Teknik Bilgi F

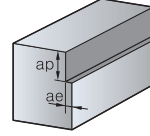
Önerilen Kesme Koşulu (Düz tip)

Takımlar	DFE2000 (Kanal açma)		DFE2000 (Dik kenar işleme)		DFE4000 (Dik kenar işleme)	
İş Parçası	Grafit					
Koşullar	Devir	İlerleme	Devir	İlerleme	Devir	İlerleme
Çap (Ø)	n (dak ⁻¹)	vf (mm/dak)	n (dak ⁻¹)	vf (mm/dak)	n (dak ⁻¹)	vf (mm/dak)
1	40,000	500	40,000	700	-	-
2	25,000	570	25,000	800	25,000	1,600
3	20,000	570	20,000	800	20,000	1,600
4	18,000	680	18,000	950	18,000	1,900
5	14,000	960	14,000	1,200	14,000	2,400
6	11,000	1,000	11,000	1,400	11,000	2,800
8	8,000	930	8,000	1,300	8,000	2,600
10	6,500	860	6,500	1,200	6,500	2,400
12	5,500	860	5,500	1,200	5,500	2,400

Uygulama



- Kanal işleme derinliği (ap)
 - $D \leq \varnothing 2.5$, $ap = 0.3D$
 - $D > \varnothing 2.5$, $ap = 0.5D$



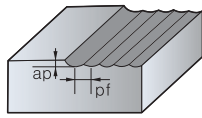
- Dik kenar işleme derinliği (ap)
 - $D \leq \varnothing 2.5$, $ap = 1.5D$, $ae = 0.05D$
 - $D > \varnothing 2.5$, $ap = 1.5D$, $ae = 0.1D$

* İş parçası sertçe bağlanmalı. Titreşim halinde R.P.M. ve ilerleme oranını aynı oranda azaltın

Önerilen Kesme Koşulu (Küresel tip)

Takımlar	DBE2000		DBE4000	
İş Parçası	Grafit			
Koşullar	Devir n (dak ⁻¹)	İlerleme vf (mm/dak)	Devir n (dak ⁻¹)	İlerleme vf (mm/dak)
Çap (Ø)				
1	16,000	400	-	-
2	16,000	800	16,000	1,200
3	16,000	1,450	16,000	2,000
4	16,000	2,100	16,000	3,100
5	15,500	2,550	15,000	3,800
6	15,000	2,950	15,000	4,400
8	13,000	3,000	13,000	4,500
10	11,500	3,000	12,000	4,600
12	10,700	3,200	10,000	4,700

Uygulama



- Kesim derinliği (ap)
 - $ap = 0.2D$
 - $pf = 0.2D$

* İş parçası sertçe bağlanmalı. Titreşim halinde R.P.M. ve ilerleme oranını aynı oranda azaltın

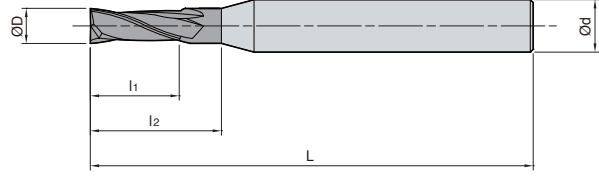
Not

- Kesim koşulları işlemin durumuna ve kesim şekline bağlıdır
- İş parçası sertçe bağlanmalı. Titreşim halinde RPM ve ilerleme oranını aynı oranda azaltın
- İşleme derinliği 3D'den daha uzun olduğunda RPM ve ilerleme oranını azaltın



F D Endmill

DFE2000 (Düz)



ØD	Tolerans
~Ø5.9	0.00~-0.02
Ø6.0~	0.00~-0.03

(mm)						
Kod	ØD	Ød	L1	L2	L	
DFE	2010-045-N050S04	1	4	3	5	45
	2010-060-N050S04	1	4	3	5	60
2	2010-060-N100S04	1	4	3	10	60
	2010-060-N150S04	1	4	3	15	60
	2010-060-N200S04	1	4	3	20	60
	2010-060-N250S04	1	4	3	25	60
	2015-060-N050S04	1.5	4	4	5	60
	2015-060-N100S04	1.5	4	4	10	60
	2015-060-N150S04	1.5	4	4	15	60
	2015-060-N200S04	1.5	4	4	20	60
	2015-060-N250S04	1.5	4	4	25	60
	2020-045-N080S04	2	4	6	8	45
	2020-080-N080S04	2	4	6	8	80
	2020-080-N100S04	2	4	6	10	80
	2020-080-N150S04	2	4	6	15	80
	2020-080-N200S04	2	4	6	20	80
	2020-080-N250S04	2	4	6	25	80
	2020-080-N300S04	2	4	6	30	80
	2020-080-N400S04	2	4	6	40	80
	2030-050-N100S06	3	6	9	10	50
	2030-080-N100S04	3	4	9	10	80
	2030-080-N200S04	3	4	9	20	80
	2030-080-N250S04	3	4	9	25	80
	2030-080-N300S04	3	4	9	30	80
	2030-080-N400S04	3	4	9	40	80
	2040-050-N160S06	4	6	12	16	50
	2040-080-N160S04	4	4	12	16	80
	2050-060-N200S06	5	6	15	20	60
	2050-110-N200S06	5	6	15	20	110
	2060-060-N180S06	6	6	18	-	60
	2060-110-N250S06	6	6	18	25	110
	2060-150-N250S06	6	6	18	25	150
	2080-070-N250S08	8	8	25	-	70
	2080-150-N400S08	8	8	25	40	150
	2100-080-N300S10	10	10	30	-	80
	2100-150-N500S10	10	10	30	50	150
	2120-080-N350S12	12	12	35	-	80
	2120-150-N600S12	12	12	35	60	150

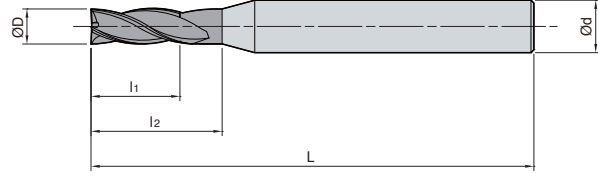


F

Parmak Frezeler



DFE4000 (Düz)



ØD	Tolerans
~Ø5.9	0.00~-0.02
Ø6.0~	0.00~-0.03

(mm)

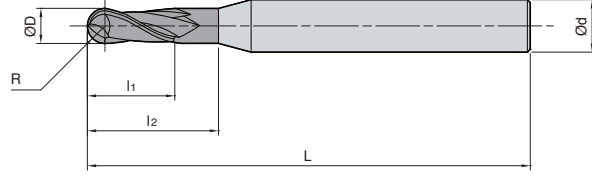
Kod	ØD	Ød	l1	l2	L
DFE					
4020-045-N060S04	2	4	6	8	45
4020-060-N100S04	2	4	10	12	60
4030-050-N100S06	3	6	10	12	50
4030-060-N150S04	3	4	15	18	60
4040-050-N150S06	4	6	15	18	50
4040-080-N200S04	4	4	20	-	80
4060-060-N180S06	6	6	18	-	60
4060-110-N300S06	6	6	30	-	110
4060-150-N300S06	6	6	30	-	150
4080-070-N250S08	8	8	25	-	70
4080-110-N400S08	8	8	40	-	110
4080-150-N400S08	8	8	40	-	150
4100-080-N250S10	10	10	25	-	80
4100-110-N400S10	10	10	40	-	110
4100-150-N500S10	10	10	50	-	150
4120-080-N300S12	12	12	30	-	80
4120-110-N400S12	12	12	40	-	110
4120-150-N500S12	12	12	50	-	150





F D Endmill

DBE2000 (Küresel)



ØD	Tolerans
~Ø5.9	0.00~-0.02
Ø6.0~	0.00~-0.03

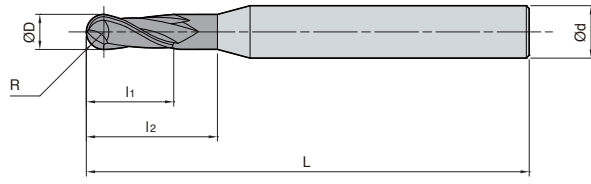
Kod	R	ØD	Ød	l1	l2	L
DBE						
2006-045-N020S04	0.3	0.6	4	2	2	45
2006-045-N050S04	0.3	0.6	4	2	5	45
2006-045-N080S04	0.3	0.6	4	2	8	45
2006-045-N100S04	0.3	0.6	4	2	10	45
2008-045-N030S04	0.4	0.8	4	2.5	3	45
2008-045-N050S04	0.4	0.8	4	2.5	5	45
2008-045-N100S04	0.4	0.8	4	2.5	10	45
2010-060-N030S04	0.5	1	4	3	3	60
2010-060-N050S04	0.5	1	4	3	5	60
2010-060-N080S04	0.5	1	4	3	8	60
2010-060-N100S04	0.5	1	4	3	10	60
2010-060-N120S04	0.5	1	4	3	12	60
2010-060-N150S04	0.5	1	4	3	15	60
2010-060-N200S04	0.5	1	4	3	20	60
2010-080-N250S04	0.5	1	4	3	25	80
2010-080-N300S04	0.5	1	4	3	30	80
2010-080-N350S04	0.5	1	4	3	35	80
2010-080-N400S04	0.5	1	4	3	40	80
2015-060-N050S04	0.75	1.5	4	4	5	60
2015-080-N100S04	0.75	1.5	4	4	10	80
2015-080-N150S04	0.75	1.5	4	4	15	80
2015-080-N200S04	0.75	1.5	4	4	20	80
2015-080-N250S04	0.75	1.5	4	4	25	80
2015-080-N300S04	0.75	1.5	4	4	30	80
2015-080-N350S04	0.75	1.5	4	4	35	80
2015-080-N400S04	0.75	1.5	4	4	40	80
2020-060-N080S04	1	2	4	6	8	60
2020-080-N100S04	1	2	4	6	10	80
2020-080-N150S04	1	2	4	6	15	80
2020-080-N200S04	1	2	4	6	20	80
2020-080-N250S04	1	2	4	6	25	80
2020-080-N300S04	1	2	4	6	30	80
2020-080-N350S04	1	2	4	6	35	80
2020-100-N400S04	1	2	4	6	40	100
2020-100-N450S04	1	2	4	6	45	100
2020-100-N500S04	1	2	4	6	50	100



F Parmak Frezeler



DBE2000 (Küresel)



ØD	Tolerans
~Ø5.9	0.00~-0.02
Ø6.0~	0.00~-0.03

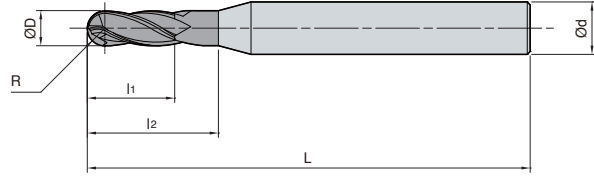
(mm)							
Kod	R	ØD	Ød	l1	l2	L	
DBE	2030-060-N100S04	1.5	3	4	9	10	60
	2030-100-N150S04	1.5	3	4	9	15	100
	2030-100-N200S04	1.5	3	4	9	20	100
	2030-100-N250S04	1.5	3	4	9	25	100
	2030-100-N300S04	1.5	3	4	9	30	100
	2030-100-N350S04	1.5	3	4	9	35	100
	2030-100-N400S04	1.5	3	4	9	40	100
	2030-100-N500S04	1.5	3	4	9	50	100
	2040-060-N160S04	2	4	4	12	16	60
	2040-080-N160S04	2	4	4	12	16	80
	2040-080-N300S04	2	4	4	12	30	80
	2040-100-N160S04	2	4	4	12	16	100
	2040-100-N400S04	2	4	4	12	40	100
	2040-130-N160S04	2	4	4	12	16	130
	2040-130-N400S04	2	4	4	12	40	130
	2050-110-N200S06	2.5	5	6	15	20	110
	2060-080-N250S06	3	6	6	20	25	80
	2060-110-N250S06	3	6	6	20	25	110
	2060-150-N300S06	3	6	6	20	30	150
	2080-080-N300S08	4	8	8	25	30	80
	2080-110-N300S08	4	8	8	25	30	110
	2080-150-N500S08	4	8	8	25	50	150
	2080-200-N400S08	4	8	8	25	40	200
	2100-080-N400S10	5	10	10	30	40	80
	2100-110-N400S10	5	10	10	30	40	110
	2100-150-N600S10	5	10	10	30	60	150
	2100-200-N500S10	5	10	10	30	50	200
	2120-110-N500S12	6	12	12	35	50	110
	2120-150-N500S12	6	12	12	35	50	150
	2120-200-N600S12	6	12	12	35	60	200





F D Endmill

DBE4000 (Küresel)



ØD	Tolerans
~Ø5.9	0.00~-0.02
Ø6.0~	0.00~-0.03

							(mm)
Kod	R	ØD	Ød	l1	l2	L	
DBE 4	4020-060-N080S04	1	2	4	6	8	60
	4020-080-N100S04	1	2	4	6	10	80
	4020-080-N200S04	1	2	4	6	20	80
	4020-080-N300S04	1	2	4	6	30	80
	4020-080-N400S04	1	2	4	6	40	80
	4030-060-N100S04	1.5	3	4	9	10	60
	4030-100-N150S04	1.5	3	4	9	15	100
	4030-100-N200S04	1.5	3	4	9	20	100
	4030-100-N300S04	1.5	3	4	9	30	100
	4030-100-N400S04	1.5	3	4	9	40	100
	4030-100-N500S04	1.5	3	4	9	50	100
	4040-060-N160S04	2	4	4	12	16	60
	4040-080-N160S04	2	4	4	12	16	80
	4040-100-N160S04	2	4	4	12	16	100
	4040-130-N160S04	2	4	4	12	16	130
	4060-080-N250S06	3	6	6	20	25	80
	4060-110-N250S06	3	6	6	20	25	110
	4060-150-N300S06	3	6	6	20	30	150
	4080-080-N300S08	4	8	8	25	30	80
	4080-110-N300S08	4	8	8	25	30	110
	4080-150-N350S08	4	8	8	25	35	150
	4080-200-N400S08	4	8	8	25	40	200
	4100-080-N350S10	5	10	10	30	35	80
	4100-110-N350S10	5	10	10	30	35	110
	4100-150-N400S10	5	10	10	30	40	150
	4100-200-N500S10	5	10	10	30	50	200
	4120-110-N500S12	6	12	12	35	50	110
	4120-150-N500S12	6	12	12	35	50	150
	4120-200-N600S12	6	12	12	35	60	200



F

Parmak Frezeler