

**Verhoogt de productiviteit**

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- **Ideaal voor 3D en Plunge / Axiaal frezen**
- **Voor voorfrezen van matrijzen en stempels**

## **HOGEOEDINGSFREZEN**



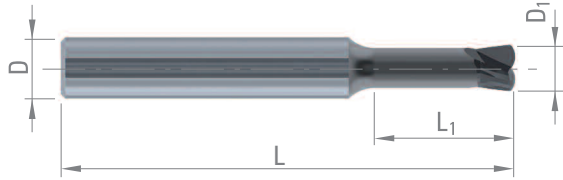
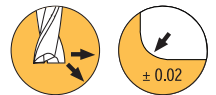
**DIXI 7702**

The image shows a close-up of a DIXI 7702 high-feed end mill. The tool is dark grey with a black cutting edge. It has a double-flute design. The background is a light orange color with faint technical drawings of mechanical parts.

# DIXI 7702

HOGEOEDINGSFREZEN

Z = 2



Steel + Pb	Low alloyed steel	High alloyed steel	DUPLEX stainless steel	Steel Cast iron > 45 HRC
Cast iron	Refractory alloy	Titanium, titanium alloy	Cu alloy Silver Gold	Alliage Cu difficile
Al	Graphite			

D <sub>1</sub>	L <sub>1</sub>	D <sub>h5</sub>	L	XIDUR
0.50	1.50	6	40	305279
0.80	2.40	6	40	305280
1.00	3.00	6	40	997920
1.50	4.50	6	40	997921
2.00	6.00	6	40	997922
3.00	9.00	6	40	997923
4.00	12.00	6	57	997924
5.00	15.00	6	57	997925
6.00	18.00	8	63	997926
8.00	24.00	10	80	997927
10.00	30.00	10	80	997928
12.00	36.00	12	80	997929

## industriële toepassingen



## Applicatie voorbeelden



**Hardmetaal:**

- Verbeterde slijtvastheid en stabiliteit
- Hoogwaardige momentopname hogevoedingsfrees

**Geometrie:**

- Vernieuwde geometrie voor een optimale verspaningsconditie
- Twee rechte snijkanten

**DAC coating:**

- Excellente hechting op het hardmetaal
- Hoogwaardige temperatuurweerstand

## Eigenschappen en voordelen van hogevoedingsfreesen DIXI 7702

### Hogevoedingsfreesen

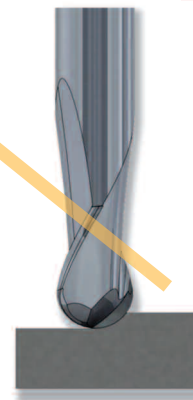
Richting snijkrachten



**Stabiel**

### Bolfrees / Radiusfrees

Richting snijkrachten



**Trilling**

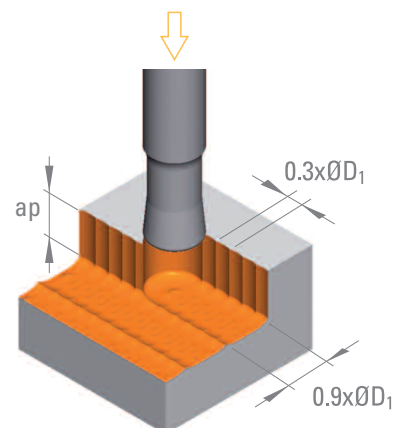
Door onze speciale versterkte geometrie en grote stabiliteit is het mogelijk een optimale snijsnelheid van 10.000 mm / min te halen.

Meer radiale snijkrachten dan axiale snijkrachten. Met als gevolg meer trillingen en doorbuigen van het snijgereedschap.

VERSPANINGSCONDITIES

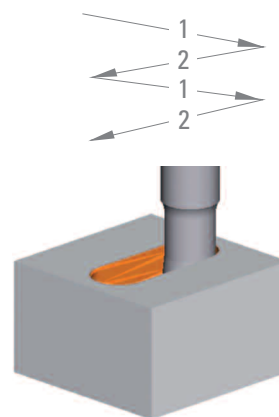
Plunge frezen

Te bewerken uitgangsmateriaal		XIDUR Vc [m/min]	$\alpha$ [°]
P	Unalloyed steel / Low alloyed steel < 600 N/mm <sup>2</sup>	175	<1xØD <sub>1</sub>
P	Unalloyed steel / Low alloyed steel 600 – 1500 N/mm <sup>2</sup>	140	<1xØD <sub>1</sub>
P	Lead alloyed cutting steel	175	<1xØD <sub>1</sub>
P	High alloyed steel 700 – 1500 N/mm <sup>2</sup>	140	<1xØD <sub>1</sub>
H	Hardened steel >50HRC	110	<0.8xØD <sub>1</sub>
M	Stainless steel 400 – 700 N/mm <sup>2</sup>	110	<0.8xØD <sub>1</sub>
M	DUPLEX stainless steel > 800 N/mm <sup>2</sup>	80	<1xØD <sub>1</sub>
K	Grey cast iron / Nodular pearlitic iron < 250 HB	110	<1xØD <sub>1</sub>
K	Alloyed cast iron / Nodular pearlitic iron > 250 HB	70	<1xØD <sub>1</sub>
K	Nodular ferritic cast iron / Malleable cast iron	80	<1xØD <sub>1</sub>
S	Special alloys / Heat resistant stainless steel	30	<0.8xØD <sub>1</sub>
S	Titanium, titanium alloys	70	<0.8xØD <sub>1</sub>

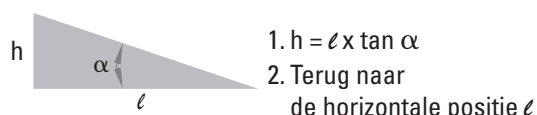


Ramping

Te bewerken uitgangsmateriaal		XIDUR Vc [m/min]	$\alpha$ [°]
P	Unalloyed steel / Low alloyed steel < 600 N/mm <sup>2</sup>	250	<1xØD <sub>1</sub>
P	Unalloyed steel / Low alloyed steel 600 – 1500 N/mm <sup>2</sup>	200	0.75
P	Lead alloyed cutting steel	250	0.75
P	High alloyed steel 700 – 1500 N/mm <sup>2</sup>	200	0.75
H	Hardened steel >50HRC	80	0.75
M	Stainless steel 400 – 700 N/mm <sup>2</sup>	110	0.50
M	DUPLEX stainless steel > 800 N/mm <sup>2</sup>	80	0.50
K	Grey cast iron / Nodular pearlitic iron < 250 HB	150	0.75
K	Alloyed cast iron / Nodular pearlitic iron > 250 HB	100	0.75
K	Nodular ferritic cast iron / Malleable cast iron	110	0.75
S	Special alloys / Heat resistant stainless steel	40	0.50
S	Titanium, titanium alloys	100	0.50

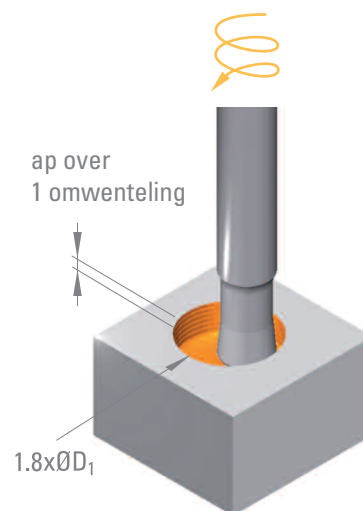


Ramping calculatie:



Circulair frezen

Te bewerken uitgangsmateriaal		XIDUR Vc [m/min]	$\alpha$ [°]
P	Unalloyed steel / Low alloyed steel < 600 N/mm <sup>2</sup>	250	0.75
P	Unalloyed steel / Low alloyed steel 600 – 1500 N/mm <sup>2</sup>	200	0.75
P	Lead alloyed cutting steel	250	0.75
P	High alloyed steel 700 – 1500 N/mm <sup>2</sup>	200	0.75
H	Hardened steel >50HRC	80	0.75
M	Stainless steel 400 – 700 N/mm <sup>2</sup>	110	0.50
M	DUPLEX stainless steel > 800 N/mm <sup>2</sup>	80	0.50
K	Grey cast iron / Nodular pearlitic iron < 250 HB	150	0.75
K	Alloyed cast iron / Nodular pearlitic iron > 250 HB	100	0.75
K	Nodular ferritic cast iron / Malleable cast iron	110	0.75
S	Special alloys / Heat resistant stainless steel	40	0.50
S	Titanium, titanium alloys	100	0.50



Calculatie circulair frezen

$ap \text{ over } 1 \text{ omwenteling} = \pi \times D_1 \times \tan \alpha$

Voeding per tand **fz [mm]**

Ø D <sub>1</sub> 0.50	Ø D <sub>1</sub> 0.80	Ø D <sub>1</sub> 1.00	Ø D <sub>1</sub> 1.50	Ø D <sub>1</sub> 2.00	Ø D <sub>1</sub> 3.00	Ø D <sub>1</sub> 4.00	Ø D <sub>1</sub> 5.00	Ø D <sub>1</sub> 6.00	Ø D <sub>1</sub> 8.00	Ø D <sub>1</sub> 10.00	Ø D <sub>1</sub> 12.00
0.004	0.006	0.008	0.012	0.016	0.024	0.032	0.040	0.048	0.064	0.080	0.096
0.003	0.005	0.006	0.010	0.013	0.019	0.026	0.032	0.038	0.051	0.064	0.077
0.004	0.006	0.008	0.012	0.016	0.024	0.032	0.040	0.048	0.064	0.080	0.096
0.003	0.005	0.006	0.010	0.013	0.019	0.026	0.032	0.038	0.051	0.064	0.077
0.003	0.004	0.006	0.008	0.011	0.017	0.022	0.028	0.034	0.045	0.056	0.067
0.003	0.004	0.006	0.008	0.011	0.017	0.022	0.028	0.034	0.045	0.056	0.067
0.003	0.004	0.006	0.008	0.011	0.017	0.022	0.028	0.034	0.045	0.056	0.067
0.004	0.006	0.008	0.012	0.016	0.024	0.032	0.040	0.048	0.064	0.080	0.096
0.003	0.005	0.006	0.010	0.013	0.019	0.026	0.032	0.038	0.051	0.064	0.077
0.003	0.004	0.006	0.008	0.011	0.017	0.022	0.028	0.034	0.045	0.056	0.067
0.002	0.004	0.005	0.007	0.010	0.014	0.019	0.024	0.029	0.038	0.048	0.058
0.003	0.004	0.006	0.008	0.011	0.017	0.022	0.028	0.034	0.045	0.056	0.067

Voeding per tand **fz [mm]**

Ø D <sub>1</sub> 0.50	Ø D <sub>1</sub> 0.80	Ø D <sub>1</sub> 1.00	Ø D <sub>1</sub> 1.50	Ø D <sub>1</sub> 2.00	Ø D <sub>1</sub> 3.00	Ø D <sub>1</sub> 4.00	Ø D <sub>1</sub> 5.00	Ø D <sub>1</sub> 6.00	Ø D <sub>1</sub> 8.00	Ø D <sub>1</sub> 10.00	Ø D <sub>1</sub> 12.00
0.013	0.021	0.026	0.040	0.053	0.079	0.106	0.132	0.158	0.211	0.264	0.317
0.012	0.019	0.024	0.036	0.048	0.072	0.096	0.120	0.144	0.192	0.240	0.288
0.013	0.021	0.026	0.040	0.053	0.079	0.106	0.132	0.158	0.211	0.264	0.317
0.012	0.019	0.024	0.036	0.048	0.072	0.096	0.120	0.144	0.192	0.240	0.288
0.004	0.006	0.008	0.012	0.016	0.024	0.032	0.040	0.048	0.064	0.080	0.096
0.010	0.015	0.019	0.029	0.038	0.058	0.077	0.096	0.115	0.154	0.192	0.230
0.010	0.015	0.019	0.029	0.038	0.058	0.077	0.096	0.115	0.154	0.192	0.230
0.010	0.015	0.019	0.029	0.038	0.058	0.077	0.096	0.115	0.154	0.192	0.230
0.007	0.012	0.014	0.022	0.029	0.043	0.058	0.072	0.086	0.115	0.144	0.173
0.006	0.010	0.013	0.019	0.026	0.038	0.051	0.064	0.077	0.102	0.128	0.154
0.007	0.012	0.014	0.022	0.029	0.043	0.058	0.072	0.086	0.115	0.144	0.173
0.008	0.013	0.017	0.025	0.034	0.050	0.067	0.084	0.101	0.134	0.168	0.202

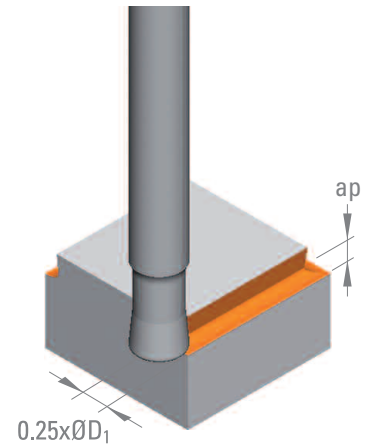
Voeding per tand **fz [mm]**

Ø D <sub>1</sub> 0.50	Ø D <sub>1</sub> 0.80	Ø D <sub>1</sub> 1.00	Ø D <sub>1</sub> 1.50	Ø D <sub>1</sub> 2.00	Ø D <sub>1</sub> 3.00	Ø D <sub>1</sub> 4.00	Ø D <sub>1</sub> 5.00	Ø D <sub>1</sub> 6.00	Ø D <sub>1</sub> 8.00	Ø D <sub>1</sub> 10.00	Ø D <sub>1</sub> 12.00
0.018	0.028	0.035	0.053	0.070	0.106	0.141	0.176	0.211	0.282	0.352	0.422
0.016	0.026	0.032	0.048	0.064	0.096	0.128	0.160	0.192	0.256	0.320	0.384
0.018	0.028	0.035	0.053	0.070	0.106	0.141	0.176	0.211	0.282	0.352	0.422
0.016	0.026	0.032	0.048	0.064	0.096	0.128	0.160	0.192	0.256	0.320	0.384
0.005	0.008	0.010	0.014	0.019	0.029	0.038	0.048	0.058	0.077	0.096	0.115
0.013	0.020	0.026	0.038	0.051	0.077	0.102	0.128	0.154	0.205	0.256	0.307
0.013	0.020	0.026	0.038	0.051	0.077	0.102	0.128	0.154	0.205	0.256	0.307
0.013	0.020	0.026	0.038	0.051	0.077	0.102	0.128	0.154	0.205	0.256	0.307
0.010	0.015	0.019	0.029	0.038	0.058	0.077	0.096	0.115	0.154	0.192	0.230
0.010	0.015	0.019	0.029	0.038	0.058	0.077	0.096	0.115	0.154	0.192	0.230
0.008	0.012	0.015	0.023	0.030	0.046	0.061	0.076	0.091	0.122	0.152	0.182
0.011	0.018	0.022	0.034	0.045	0.067	0.090	0.112	0.134	0.179	0.224	0.269

VERSPANINGSCONDITIONES

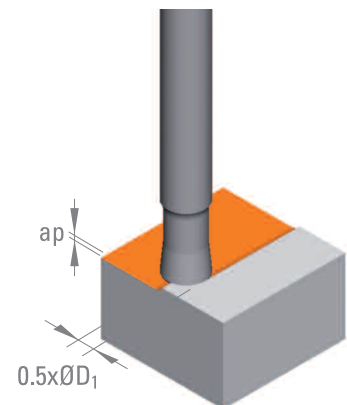
Omtrekfrezen

Te bewerken uitgangsmateriaal		XIDUR Vc [m/min]	ap [mm]
P	Unalloyed steel / Low alloyed steel < 600 N/mm <sup>2</sup>	250	<0.5xØD <sub>1</sub>
P	Unalloyed steel / Low alloyed steel 600 – 1500 N/mm <sup>2</sup>	200	<0.5xØD <sub>1</sub>
P	Lead alloyed cutting steel	250	<0.5xØD <sub>1</sub>
P	High alloyed steel 700 – 1500 N/mm <sup>2</sup>	200	<0.5xØD <sub>1</sub>
H	Hardened steel >50HRC	80	<0.4xØD <sub>1</sub>
M	Stainless steel 400 – 700 N/mm <sup>2</sup>	110	<0.4xØD <sub>1</sub>
M	DUPLEX stainless steel > 800 N/mm <sup>2</sup>	80	<0.4xØD <sub>1</sub>
K	Grey cast iron / Nodular pearlitic iron < 250 HB	150	<0.5xØD <sub>1</sub>
K	Alloyed cast iron / Nodular pearlitic iron > 250 HB	100	<0.5xØD <sub>1</sub>
K	Nodular ferritic cast iron / Malleable cast iron	110	<0.5xØD <sub>1</sub>
S	Special alloys / Heat resistant stainless steel	40	<0.4xØD <sub>1</sub>
S	Titanium, titanium alloys	100	<0.4xØD <sub>1</sub>



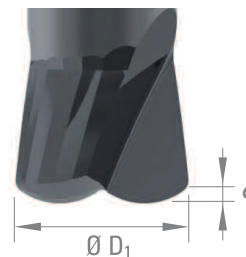
Vlakfrezen

Te bewerken uitgangsmateriaal		XIDUR Vc [m/min]	ap [mm]
P	Unalloyed steel / Low alloyed steel < 600 N/mm <sup>2</sup>	250	<1x $\epsilon$
P	Unalloyed steel / Low alloyed steel 600 – 1500 N/mm <sup>2</sup>	200	<1x $\epsilon$
P	Lead alloyed cutting steel	250	<1x $\epsilon$
P	High alloyed steel 700 – 1500 N/mm <sup>2</sup>	200	<1x $\epsilon$
H	Hardened steel >50HRC	80	<0.8x $\epsilon$
M	Stainless steel 400 – 700 N/mm <sup>2</sup>	110	<0.8x $\epsilon$
M	DUPLEX stainless steel > 800 N/mm <sup>2</sup>	80	<0.8x $\epsilon$
K	Grey cast iron / Nodular pearlitic iron < 250 HB	150	<1x $\epsilon$
K	Alloyed cast iron / Nodular pearlitic iron > 250 HB	100	<1x $\epsilon$
K	Nodular ferritic cast iron / Malleable cast iron	110	<1x $\epsilon$
S	Special alloys / Heat resistant stainless steel	40	<0.5x $\epsilon$
S	Titanium, titanium alloys	100	<0.5x $\epsilon$



Deze hogevoedingsfrezen beschikken niet over een snijkant in het center.

Voor het vlakfrezen is de  $\epsilon$  waarde afhankelijk  $\epsilon$  Ø D<sub>1</sub>



Voeding per tand **fz [mm]**

Ø D <sub>1</sub>	Ø D <sub>1</sub>	Ø D <sub>1</sub>	Ø D <sub>1</sub>	Ø D <sub>1</sub>	Ø D <sub>1</sub>	Ø D <sub>1</sub>	Ø D <sub>1</sub>	Ø D <sub>1</sub>	Ø D <sub>1</sub>	Ø D <sub>1</sub>	Ø D <sub>1</sub>
0.50	0.80	1.00	1.50	2.00	3.00	4.00	5.00	6.00	8.00	10.00	12.00
0.010	0.017	0.021	0.031	0.042	0.062	0.083	0.104	0.125	0.166	0.208	0.250
0.010	0.015	0.019	0.029	0.038	0.058	0.077	0.096	0.115	0.154	0.192	0.230
0.010	0.017	0.021	0.031	0.042	0.062	0.083	0.104	0.125	0.166	0.208	0.250
0.010	0.015	0.019	0.029	0.038	0.058	0.077	0.096	0.115	0.154	0.192	0.230
0.005	0.008	0.010	0.014	0.019	0.029	0.038	0.048	0.058	0.077	0.096	0.115
0.008	0.013	0.016	0.024	0.032	0.048	0.064	0.080	0.096	0.128	0.160	0.192
0.008	0.013	0.016	0.024	0.032	0.048	0.064	0.080	0.096	0.128	0.160	0.192
0.008	0.013	0.016	0.024	0.032	0.048	0.064	0.080	0.096	0.128	0.160	0.192
0.006	0.009	0.011	0.017	0.022	0.034	0.045	0.056	0.067	0.090	0.112	0.134
0.005	0.008	0.010	0.016	0.021	0.031	0.042	0.052	0.062	0.083	0.104	0.125
0.006	0.009	0.011	0.017	0.022	0.034	0.045	0.056	0.067	0.090	0.112	0.134
0.007	0.011	0.014	0.020	0.027	0.041	0.054	0.068	0.082	0.109	0.136	0.163

Voeding per tand **fz [mm]**

Ø D <sub>1</sub>	Ø D <sub>1</sub>	Ø D <sub>1</sub>	Ø D <sub>1</sub>	Ø D <sub>1</sub>	Ø D <sub>1</sub>	Ø D <sub>1</sub>	Ø D <sub>1</sub>	Ø D <sub>1</sub>	Ø D <sub>1</sub>	Ø D <sub>1</sub>	Ø D <sub>1</sub>
0.50	0.80	1.00	1.50	2.00	3.00	4.00	5.00	6.00	8.00	10.00	12.00
0.022	0.035	0.044	0.066	0.088	0.132	0.176	0.220	0.264	0.352	0.440	0.528
0.020	0.032	0.040	0.060	0.080	0.120	0.160	0.200	0.240	0.320	0.400	0.480
0.022	0.035	0.044	0.066	0.088	0.132	0.176	0.220	0.264	0.352	0.440	0.528
0.020	0.032	0.040	0.060	0.080	0.120	0.160	0.200	0.240	0.320	0.400	0.480
0.006	0.010	0.012	0.018	0.024	0.036	0.048	0.060	0.072	0.096	0.120	0.144
0.016	0.026	0.032	0.048	0.064	0.096	0.128	0.160	0.192	0.256	0.320	0.384
0.016	0.026	0.032	0.048	0.064	0.096	0.128	0.160	0.192	0.256	0.320	0.384
0.016	0.026	0.032	0.048	0.064	0.096	0.128	0.160	0.192	0.256	0.320	0.384
0.012	0.019	0.024	0.036	0.048	0.072	0.096	0.120	0.144	0.192	0.240	0.288
0.012	0.019	0.024	0.036	0.048	0.072	0.096	0.120	0.144	0.192	0.240	0.288
0.010	0.015	0.019	0.029	0.038	0.058	0.077	0.096	0.115	0.154	0.192	0.230
0.014	0.022	0.028	0.042	0.056	0.084	0.112	0.140	0.168	0.224	0.280	0.336

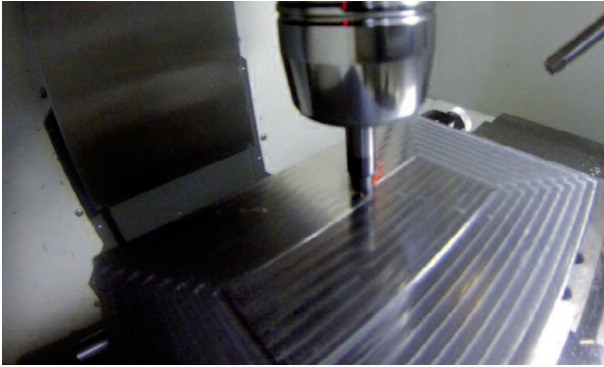
<b>0.025</b>	<b>0.04</b>	<b>0.05</b>	<b>0.10</b>	<b>0.15</b>	<b>0.20</b>	<b>0.25</b>	<b>0.30</b>	<b>0.35</b>	<b>0.40</b>	<b>0.45</b>	<b>0.50</b>
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z waarde

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## Vlakfrez

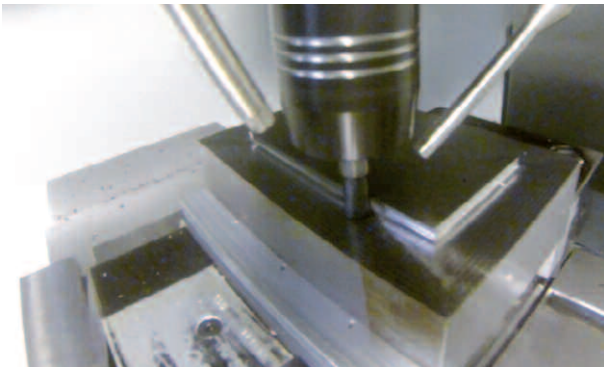
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Productiemethode: Vlakfrez  
Materiaal: 1.2767  
 $n = 5'570$  rpm/min  
 $V_f = 3'310$  mm/min  
 $a_p = 0.4$  mm  
 $a_e = 4$  mm

## Omtrekfrez

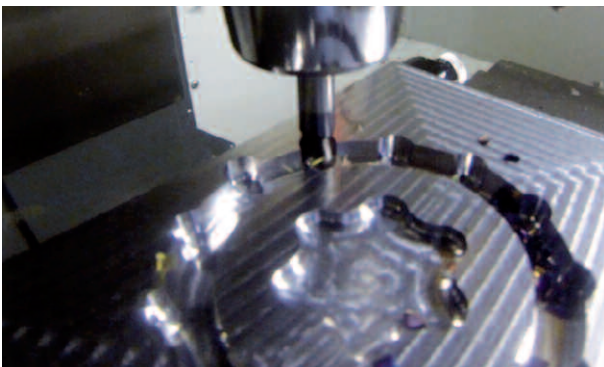
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Productiemethode: Omtrekfrez  
Materiaal: 1.2767  
 $n = 6'366$  rpm/min  
 $V_f = 3'184$  mm/min  
 $a_p = 5$  mm  
 $a_e = 2$  mm

## Plunge / Axiaal frezen

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Productiemethode: Plunge / Axiaal frezen  
Materiaal: 1.2767  
 $n = 4'456$  rpm/min  
 $V_f = 891$  mm/min  
 $a_p = 10$  mm  
 $a_e = 3$  mm

Onze video's zijn beschikbaar op  
[www.youtube.com](http://www.youtube.com)

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**DIXI POLYTOOL B.V.**

De Hofstede 11

4033 BT Lienden

T +31 (0)344 603 410

F +31 (0)344 603 488

[dixiholland@dixi.com](mailto:dixiholland@dixi.com)

[www.dixipolytool.com](http://www.dixipolytool.com)