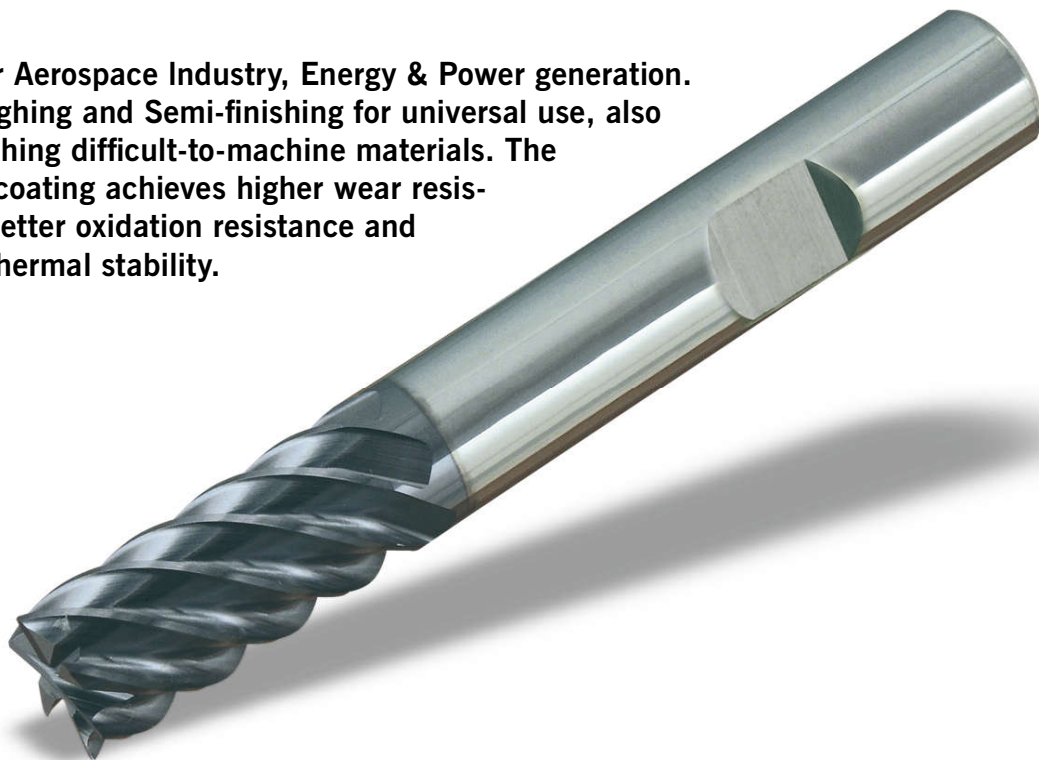


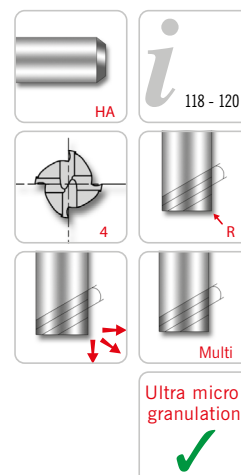
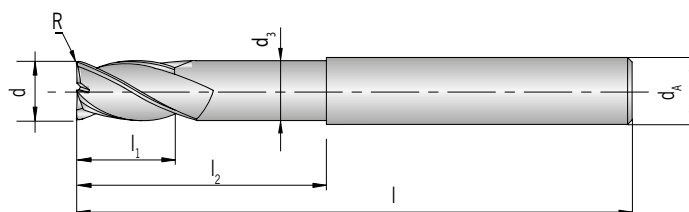
IDEAL FOR HIGH SPEED MACHINING OF EXOTIC MATERIALS (TITANIUM, INCONEL) AND STAINLESS STEELS.

Tools for Aerospace Industry, Energy & Power generation.
For Roughing and Semi-finishing for universal use, also
for Finishing difficult-to-machine materials. The
special coating achieves higher wear resistance, better oxidation resistance and
higher thermal stability.



AFE51840-...R...

4 flutes, short design, with corner radius



AFE

Shank DIN 6535HA	d -0,03	d _A h6	d ₃	l ₁	l ₂	l	R	HC
								E200
AFE51840-060R0,5	6	6,0	5.5	13	20	57	0.5	◆
AFE51840-060R1,0	6	6,0	5.5	13	20	57	1.0	◆
AFE51840-080R0,5	8	8,0	7.5	19	25	63	0.5	◆
AFE51840-080R1,0	8	8,0	7.5	19	25	63	1.0	◆
AFE51840-080R1,5	8	8,0	7.5	19	25	63	1.5	◆
AFE51840-080R2,0	8	8,0	7.5	19	25	63	2.0	◆
AFE51840-100R0,5	10	10,0	9.2	22	30	72	0.5	◆
AFE51840-100R1,0	10	10,0	9.2	22	30	72	1.0	◆
AFE51840-100R1,5	10	10,0	9.2	22	30	72	1.5	◆
AFE51840-100R2,0	10	10,0	9.2	22	30	72	2.0	◆
AFE51840-120R0,5	12	12,0	11.0	26	35	83	0.5	◆
AFE51840-120R1,0	12	12,0	11.0	26	35	83	1.0	◆
AFE51840-120R1,5	12	12,0	11.0	26	35	83	1.5	◆
AFE51840-120R2,0	12	12,0	11.0	26	35	83	2.0	◆
AFE51840-120R3,0	12	12,0	11.0	26	35	83	3.0	◆
AFE51840-140R1,0	14	14,0	13.0	26	35	83	1.0	◆
AFE51840-140R2,0	14	14,0	13.0	26	35	83	2.0	◆
AFE51840-160R1,0	16	16,0	15.0	35	43	92	1.0	◆
AFE51840-160R1,5	16	16,0	15.0	35	43	92	1.5	◆
AFE51840-160R2,0	16	16,0	15.0	35	43	92	2.0	◆
AFE51840-160R3,0	16	16,0	15.0	35	43	92	3.0	◆
AFE51840-160R4,0	16	16,0	15.0	35	43	92	4.0	◆
AFE51840-200R1,0	20	20,0	19.0	44	56	110	1.0	◆
AFE51840-200R1,5	20	20,0	19.0	44	56	110	1.5	◆
AFE51840-200R2,0	20	20,0	19.0	44	56	110	2.0	◆
AFE51840-200R3,0	20	20,0	19.0	44	56	110	3.0	◆
AFE51840-200R3,5	20	20,0	19.0	44	56	110	3.5	◆
AFE51840-200R4,0	20	20,0	19.0	44	56	110	4.0	◆
AFE51840-250R1,0	25	25,0	24.0	55	70	130	1.0	◆

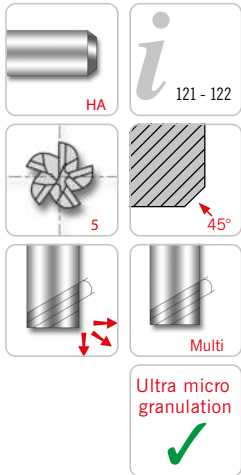
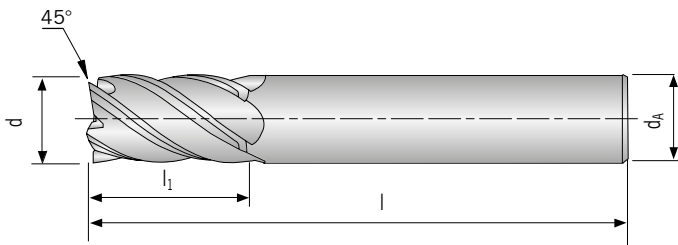
Shank DIN 6535HA	d -0,03	d _A h6	d ₃	l ₁	l ₂	l	R	HC
								E200
AFE51840-250R1,5	25	25,0	24.0	55	70	130	1.5	◆
AFE51840-250R2,0	25	25,0	24.0	55	70	130	2.0	◆
AFE51840-250R3,0	25	25,0	24.0	55	70	130	3.0	◆
AFE51840-250R4,0	25	25,0	24.0	55	70	130	4.0	◆

HC = Carbide coated

P	○
M	●
K	○
N	
S	●
H	

- Main application
○ Secondary application

AFE51850-...
5 flutes, short design



Shank DIN 6535HA	d -0,03	d _A h6	l ₁	l	Chamfer	HC
						E200
AFE51850-060	6	6,0	10	54	0,2x45°	◆
AFE51850-080	8	8,0	12	58	0,2x45°	◆
AFE51850-100	10	10,0	14	66	0,3x45°	◆
AFE51850-120	12	12,0	16	73	0,35x45°	◆
AFE51850-160	16	16,0	22	82	0,4x45°	◆
AFE51850-200	20	20,0	26	92	0,5x45°	◆
AFE51850-250	25	25,0	29	100	0,5x45°	◆

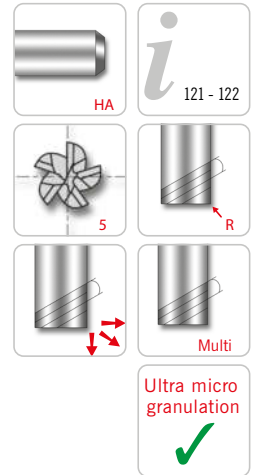
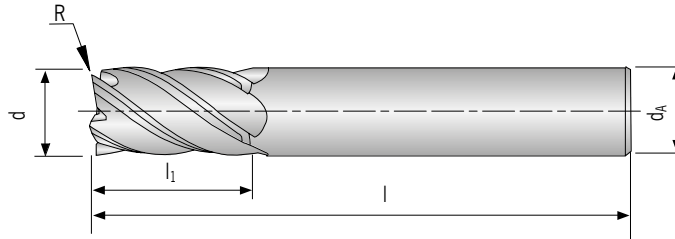
HC = Carbide coated

P	○
M	●
K	○
N	
S	●
H	

● Main application
○ Secondary application

AFE51850-...R...

5 flutes, short design with corner radius



AFE

Shank DIN 6535HA	d -0,03	d _A h6	l ₁	l	R	HC
						E200
AFE51850-060R0,5	6	6,0	10	54	0.5	◆
AFE51850-080R0,5	8	8,0	12	58	0.5	◆
AFE51850-100R0,5	10	10,0	14	66	0.5	◆
AFE51850-120R0,5	12	12,0	16	73	0.5	◆
AFE51850-160R1,0	16	16,0	22	82	1.0	◆
AFE51850-200R1,0	20	20,0	26	92	1.0	◆
AFE51850-250R1,0	25	25,0	29	100	1.0	◆

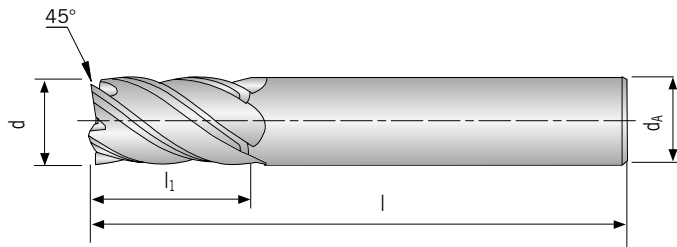
HC = Carbide coated

P	○
M	●
K	○
N	
S	●
H	

● Main application
○ Secondary application

AFE51851-...

5 flutes, long design



121 - 122

45°

Multi
Ultra micro granulation

Shank DIN 6535HA	d -0,03	d _A h6	l ₁	l	Chamfer	HC
						E200
AFE51851-060	6	6,0	13	57	0,2x45°	◆
AFE51851-080	8	8,0	19	63	0,2x45°	◆
AFE51851-100	10	10,0	22	72	0,3x45°	◆
AFE51851-120	12	12,0	26	83	0,35x45°	◆
AFE51851-160	16	16,0	36	92	0,4x45°	◆
AFE51851-200	20	20,0	44	104	0,5x45°	◆
AFE51851-250	25	25,0	54	121	0,5x45°	◆

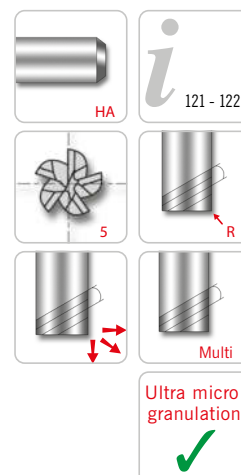
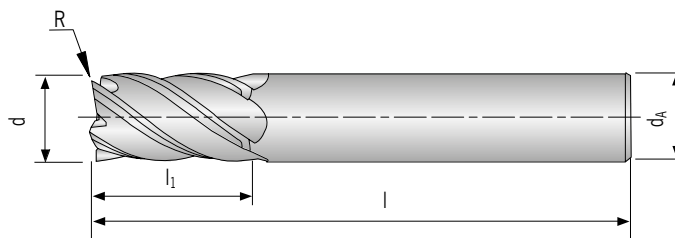
HC = Carbide coated

P	○
M	●
K	○
N	
S	●
H	

● Main application
○ Secondary application

AFE51851-...R...

5 flutes, long design with corner radius



AFE

Shank DIN 6535HA	d -0,03	d _A h6	l ₁	l	R	HC
						E200
AFE51851-060R0,3	6	6,0	13	57	0.3	◆
AFE51851-060R0,5	6	6,0	13	57	0.5	◆
AFE51851-060R1,0	6	6,0	13	57	1.0	◆
AFE51851-080R0,5	8	8,0	19	63	0.5	◆
AFE51851-080R1,0	8	8,0	19	63	1.0	◆
AFE51851-080R1,5	8	8,0	19	63	1.5	◆
AFE51851-080R2,0	8	8,0	19	63	2.0	◆
AFE51851-100R0,5	10	10,0	22	72	0.5	◆
AFE51851-100R1,0	10	10,0	22	72	1.0	◆
AFE51851-100R1,5	10	10,0	22	72	1.5	◆
AFE51851-100R2,0	10	10,0	22	72	2.0	◆
AFE51851-120R0,5	12	12,0	26	83	0.5	◆
AFE51851-120R1,0	12	12,0	26	83	1.0	◆
AFE51851-120R1,5	12	12,0	26	83	1.5	◆
AFE51851-120R2,0	12	12,0	26	83	2.0	◆
AFE51851-120R2,5	12	12,0	26	83	2.5	◆
AFE51851-120R3,0	12	12,0	26	83	3.0	◆
AFE51851-160R1,0	16	16,0	36	92	1.0	◆
AFE51851-160R1,5	16	16,0	36	92	1.5	◆
AFE51851-160R2,0	16	16,0	36	92	2.0	◆
AFE51851-160R2,5	16	16,0	36	92	2.5	◆
AFE51851-160R3,0	16	16,0	36	92	3.0	◆
AFE51851-160R4,0	16	16,0	36	92	4.0	◆
AFE51851-200R1,0	20	20,0	44	104	1.0	◆
AFE51851-200R1,5	20	20,0	44	104	1.5	◆
AFE51851-200R2,0	20	20,0	44	104	2.0	◆
AFE51851-200R2,5	20	20,0	44	104	2.5	◆
AFE51851-200R3,0	20	20,0	44	104	3.0	◆
AFE51851-200R4,0	20	20,0	44	104	4.0	◆
AFE51851-200R5,0	20	20,0	44	104	5.0	◆
AFE51851-250R1,0	25	25,0	54	121	1.0	◆
AFE51851-250R1,5	25	25,0	54	121	1.5	◆
AFE51851-250R2,0	25	25,0	54	121	2.0	◆
AFE51851-250R2,5	25	25,0	54	121	2.5	◆

Shank DIN 6535HA	d -0,03	d _A h6	l ₁	l	R	HC
						E200
AfE51851-250R3,0	25	25,0	54	121	3.0	◆
AfE51851-250R4,0	25	25,0	54	121	4.0	◆
AfE51851-250R5,0	25	25,0	54	121	5.0	◆

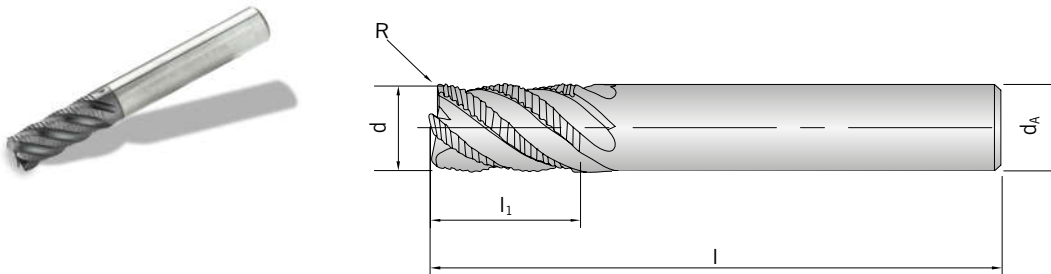
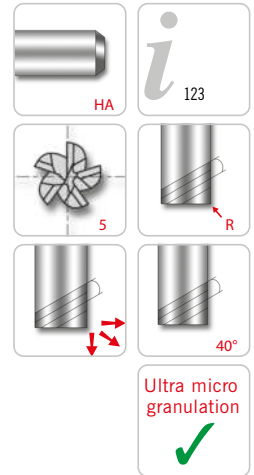
HC = Carbide coated

P	○
M	●
K	○
N	
S	●
H	

● Main application
○ Secondary application

AFE52451-...R...

5 flutes, long design with corner radius



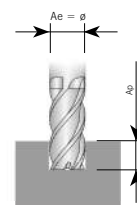
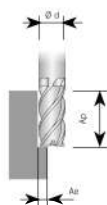
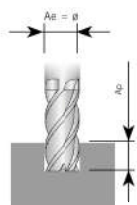
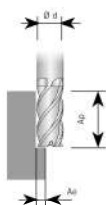
Shank DIN 6535HA	d h10	d _A h6	l ₁	l	R	HC
						TiAlN
AFE52451-060R0,2	6	6,0	16	57	0.2	◆
AFE52451-080R0,2	8	8,0	16	63	0.2	◆
AFE52451-100R0,3	10	10,0	22	72	0.3	◆
AFE52451-120R0,3	12	12,0	26	83	0.3	◆
AFE52451-140R0,3	14	14,0	26	83	0.3	◆
AFE52451-160R0,3	16	16,0	32	92	0.3	◆
AFE52451-200R0,3	20	20,0	38	104	0.3	◆
AFE52451-250R0,3	25	25,0	45	121	0.3	◆

HC = Carbide coated

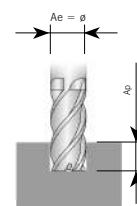
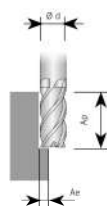
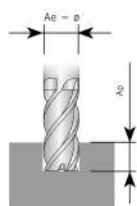
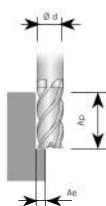
P	
M	●
K	
N	
S	●
H	

● Main application
○ Secondary application

Carbon steel							Carbon steel					
< 300 Brinell							> 300 / < 380 Brinell					
1.1191 (C45) • 1.0726 (35 S 20) • 1.0715 (9 SMn 28) • 1.0718 (9 SMnPb 28)							1.2330 (35 CrMo 4) • 1.6565 (40NiCrMo6) • 1.7033 (34Cr4) • 1.6523 (21 NiCrMo2)					
Side cutting				Slotting			Side cutting			Slotting		
Ap 1 x d / Ae 0,4 x d				Ap 1 x d / Ae 1 x d			Ap 1 x d / Ae 0,4 x d			Ap 1 x d / Ae 1 x d		
Vc = 128 - 160 - 192 m/min				Vc = 100 - 125 - 150 m/min			Vc = 120 - 150 - 180 m/min			Vc = 96 - 120 - 144 m/min		
d	RPM	Fz	FEED	RPM	Fz	FEED	RPM	Fz	FEED	RPM	Fz	FEED
(mm)	(U/min)	(mm/Zahn)	(mm/min)	(U/min)	(mm/Zahn)	(mm/min)	(U/min)	(mm/Zahn)	(mm/min)	(U/min)	(mm/Zahn)	(mm/min)
6	8488	0,027	917	6631	0,025	663	7958	0,025	796	6366	0,025	637
8	6366	0,035	891	4974	0,034	676	5968	0,035	836	4775	0,034	649
10	5093	0,042	856	3979	0,042	668	4775	0,042	802	3820	0,042	642
12	4244	0,053	900	3316	0,049	650	3979	0,049	780	3183	0,049	624
14	3638	0,058	844	2842	0,056	637	3410	0,056	764	2728	0,056	611
16	3183	0,063	802	2487	0,063	627	2984	0,063	752	2387	0,063	602
20	2546	0,077	784	1989	0,07	557	2387	0,070	668	1910	0,07	535
25	2037	0,084	684	1592	0,084	535	1910	0,084	642	1528	0,077	471

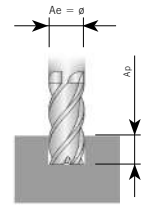
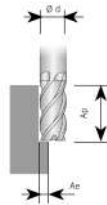
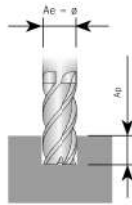
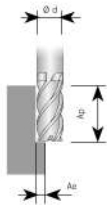


Tool steels							Cast iron					
> 380 Brinell							< 280 Brinell					
1.2363 (X100 CrMoV 5 1) • 1.2379 (X155 CrVMo 12 1) • 1.2344 (X40 CrMoV 5 1) • 1.3243 (S 6-5-2-5)							0.6020 (GG20) • 0.8145 (GTS-45-06) • 0.7060 (GGG-60)					
Side cutting				Slotting			Side cutting			Slotting		
Ap 1 x d / Ae 0,4 x d				Ap 1 x d / Ae 1 x d			Ap 1 x d / Ae 0,4 x d			Ap 1 x d / Ae 1 x d		
Vc = 120 - 150 - 180 m/min				Vc = 96 - 120 - 144 m/min			Vc = 140 - 175 - 210 m/min			Vc = 112 - 140 - 168 m/min		
d	RPM	Fz	FEED	RPM	Fz	FEED	RPM	Fz	FEED	RPM	Fz	FEED
(mm)	(U/min)	(mm/Zahn)	(mm/min)	(U/min)	(mm/Zahn)	(mm/min)	(U/min)	(mm/Zahn)	(mm/min)	(U/min)	(mm/Zahn)	(mm/min)
6	7958	0,027	859	6366	0,027	688	9284	0,021	780	7427	0,021	624
8	5968	0,035	836	4775	0,035	668	6963	0,028	780	5570	0,028	624
10	4775	0,046	879	3820	0,042	642	5570	0,035	780	4456	0,035	624
12	3979	0,053	844	3183	0,053	675	4642	0,042	780	3714	0,042	624
14	3410	0,06	819	2728	0,058	633	3979	0,048	764	3183	0,048	611
16	2984	0,067	800	2387	0,063	602	3482	0,053	738	2785	0,053	590
20	2387	0,077	735	1910	0,077	588	2785	0,06	668	2228	0,06	535
25	1910	0,084	642	1528	0,084	513	2228	0,07	624	1783	0,067	478

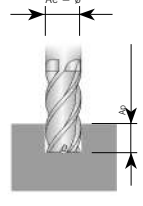
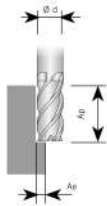
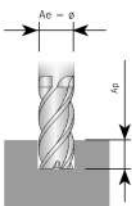
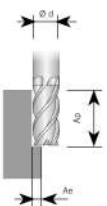


The recommended cutting data are only approximate values. It may be necessary to adjust them to each individual machining application. Finish cuts typically require reduced feed rates and/or higher spindle speed, with radial width of 2% x d1 or less. Reduce speed and feed recommendations for materials harder than listed.

Stainless steel 300							Stainless steel 400					
1.4301(X5 CrNi 18 10) • 1.4436(X3 CrNiMo 17 13 3) • 1.4306(X2 CrNi 19 11) • 1.4435(X2 CrNiMo 18 14 3)							1.4005(X12 CrS 13) • 1.4104(X14 CrMoS 17)					
Side cutting			Slotting				Side cutting			Slotting		
Ap 1 x d / Ae 0,4 x d			Ap 1 x d / Ae 1 x d				Ap 1 x d / Ae 0,4 x d			Ap 1 x d / Ae 1 x d		
Vc = 84 - 105 - 126 m/min			Vc = 68 - 85 - 102 m/min				Vc = 124 - 155 - 186 m/min			Vc = 100 - 125 - 150 m/min		
d	RPM	Fz	FEED	RPM	Fz	FEED	RPM	Fz	FEED	RPM	Fz	FEED
(mm)	(U/min)	(mm/Zahn)	(mm/min)	(U/min)	(mm/Zahn)	(mm/min)	(U/min)	(mm/Zahn)	(mm/min)	(U/min)	(mm/Zahn)	(mm/min)
6	5570	0,025	550	4509	0,025	446	8223	0,034	1125	6631	0,034	907
8	4178	0,034	572	3382	0,034	463	6167	0,046	1125	4974	0,046	907
10	3342	0,042	559	2706	0,042	452	4934	0,057	1125	3979	0,057	907
12	2785	0,048	529	2255	0,048	428	4112	0,067	1094	3316	0,067	882
14	2387	0,055	525	1933	0,056	425	3524	0,076	1071	2842	0,074	841
16	2089	0,062	516	1691	0,062	418	3084	0,086	1055	2487	0,081	803
20	1671	0,071	476	1353	0,071	386	2467	0,095	937	1989	0,095	756
25	1337	0,081	432	1082	0,081	350	1974	0,114	900	1592	0,105	665



Stainless steel PH							Titanium					
1.4594(27 CNU 1505)							Ti6Al4V • Ti5Al5V5Mo • Ti7Al4Mo					
Side cutting			Slotting				Side cutting			Slotting		
Ap 1 x d / Ae 0,4 x d			Ap 1 x d / Ae 1 x d				Ap 1 x d / Ae 0,4 x d			Ap 1 x d / Ae 1 x d		
Vc = 35 - 44 - 53 m/min			Vc = 29 - 36 - 43 m/min				Vc = 56 - 70 - 84 m/min			Vc = 44 - 55 - 66 m/min		
d	RPM	Fz	FEED	RPM	Fz	FEED	RPM	Fz	FEED	RPM	Fz	FEED
(mm)	(U/min)	(mm/Zahn)	(mm/min)	(U/min)	(mm/Zahn)	(mm/min)	(U/min)	(mm/Zahn)	(mm/min)	(U/min)	(mm/Zahn)	(mm/min)
6	2334	0,016	151	1910	0,016	123	3714	0,034	508	2918	0,034	399
8	1751	0,021	146	1432	0,021	120	2785	0,048	529	2188	0,046	399
10	1401	0,027	149	1146	0,027	122	2228	0,057	508	1751	0,057	399
12	1167	0,032	151	955	0,032	123	1857	0,067	494	1459	0,067	388
14	1000	0,036	144	819	0,036	118	1592	0,076	484	1251	0,076	380
16	875	0,04	140	716	0,04	114	1393	0,086	476	1094	0,086	374
20	700	0,046	128	573	0,046	105	1114	0,095	423	875	0,095	333
25	560	0,052	117	458	0,052	96	891	0,114	406	700	0,105	293



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High Temperature Alloys

RENE • INCONEL • WASPALOY • HASTELLOY

Side cutting

Ap 0,6 x d / Ae 0,3 x d

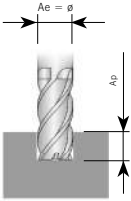
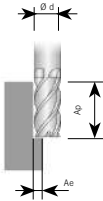
Vc = 26 - 32 - 38 m/min

Slotting

Ap 0,4 x d / Ae 1 x d

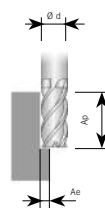
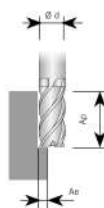
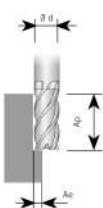
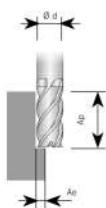
Vc = 20 - 55 - 30 m/min

d (mm)	RPM (U/min)	Fz (mm/Zahn)	FEED (mm/min)	RPM (U/min)	Fz (mm/Zahn)	FEED (mm/min)
6	1698	0,02	136	1326	0,018	95
8	1273	0,026	132	995	0,024	95
10	1019	0,032	130	796	0,03	95
12	849	0,038	129	663	0,036	95
14	728	0,044	128	568	0,04	91
16	637	0,048	122	497	0,044	88
20	509	0,055	112	398	0,05	80
25	407	0,065	106	318	0,055	70

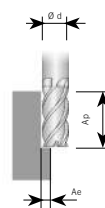
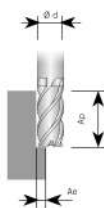
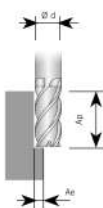
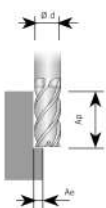


The recommended cutting data are only approximate values. It may be necessary to adjust them to each individual machining application. Finish cuts typically require reduced feed rates and/or higher spindle speed, with radial width of 2% x d1 or less. Reduce speed and feed recommendations for materials harder than listed.

Carbon steel < 300 Brinell • 1.1191 (C45) • 1.0726 (35 S 20) • 1.0715 (9 SMn 28) • 1.0718 (9 SMnPb 28)				Carbon steel > 300 / < 380 Brinell • 1.2330 (35 CrMo 4) • 1.6565 (40NiCrMo6) • 1.7033 (34Cr4) • 1.6523 (21 NiCrMo2)				Tool steels > 380 Brinell • 1.2363 (X100 CrMoV 5 1) • 1.2379 (X155 CrMo 12 1) • 1.2344 (X40 CrMoV 5 1) • 1.3243 (S 6-5-2-5)				Cast iron < 260 Brinell 0.6020 (GG20) 0.8145 (GTS-45-06) 0.7060 (GGG-60)			
Side cutting Ap 1,5 x d / Ae 0,3 x d Vc = 115 - 144 - 173 m/min				Side cutting Ap 1,5 x d / Ae 0,3 x d Vc = 81 - 101 - 121 m/min				Side cutting Ap 1,5 x d / Ae 0,3 x d Vc = 48 - 60 - 72 m/min				Side cutting Ap 1,5 x d / Ae 0,3 x d Vc = 85 - 106 - 127 m/min			
d (mm)	RPM (U/min)	Fz (mm/Zahn)	FEED (mm/min)	d (mm)	RPM (U/min)	Fz (mm/Zahn)	FEED (mm/min)	d (mm)	RPM (U/min)	Fz (mm/Zahn)	FEED (mm/min)	d (mm)	RPM (U/min)	Fz (mm/Zahn)	FEED (mm/min)
6	7639	0,034	1299	6	5358	0,034	911	6	3183	0,024	382	6	5623	0,043	1209
8	5730	0,038	1089	8	4019	0,038	764	8	2387	0,027	322	8	4218	0,048	1012
10	4584	0,050	1146	10	3215	0,050	804	10	1910	0,035	334	10	3374	0,063	1063
12	3820	0,063	1203	12	2679	0,063	844	12	1592	0,044	350	12	2812	0,079	1111
14	3274	0,069	1130	14	2296	0,069	792	14	1364	0,049	334	14	2410	0,087	1048
16	2865	0,076	1089	16	2009	0,076	764	16	1194	0,054	322	16	2109	0,096	1012
18	2546	0,083	1057	18	1786	0,083	741	18	1061	0,058	308	18	1874	0,103	965
20	2292	0,089	1020	20	1607	0,089	715	20	955	0,062	296	20	1687	0,111	936
25	1833	0,101	926	25	1286	0,101	649	25	764	0,071	271	25	1350	0,126	850



Stainless steel 300 • 1.4301(X5 CrNi 18 10) • 1.4436(X3 CrNiMo 17 13 3) • 1.4306(X2 CrNi 19 11) • 1.4435(X2 CrNiMo 18 14 3)				Stainless steel 400 • 1.4005(X12 CrS 13) • 1.4104(X14 CrMoS 17)				Stainless steel PH • 1.4594(27 CNU 1505)				Titanium • Ti6Al4V • Ti5Al5V5Mo • Ti7Al4Mo			
Side cutting Ap 1,5 x d / Ae 0,3 x d Vc = 66 - 82 - 98 m/min				Side cutting Ap 1,5 x d / Ae 0,3 x d Vc = 94 - 117 - 140 m/min				Side cutting Ap 1,5 x d / Ae 0,3 x d Vc = 47 - 59 - 71 m/min				Side cutting Ap 1,5 x d / Ae 0,3 x d Vc = 55 - 69 - 83 m/min			
d (mm)	RPM (U/min)	Fz (mm/Zahn)	FEED (mm/min)	d (mm)	RPM (U/min)	Fz (mm/Zahn)	FEED (mm/min)	d (mm)	RPM (U/min)	Fz (mm/Zahn)	FEED (mm/min)	d (mm)	RPM (U/min)	Fz (mm/Zahn)	FEED (mm/min)
6	4350	0,030	653	6	6207	0,024	745	6	3130	0,03	470	6	3661	0,027	494
8	3263	0,032	522	8	4655	0,025	582	8	2348	0,032	376	8	2745	0,029	398
10	2610	0,038	496	10	3724	0,03	559	10	1878	0,038	357	10	2196	0,034	373
12	2175	0,063	685	12	3104	0,046	714	12	1565	0,063	493	12	1830	0,057	522
14	1864	0,065	606	14	2660	0,051	678	14	1341	0,065	436	14	1569	0,059	463
16	1631	0,069	563	16	2328	0,054	628	16	1174	0,069	405	16	1373	0,062	426
18	1450	0,070	508	18	2069	0,057	590	18	1043	0,07	365	18	1220	0,063	384
20	1305	0,076	496	20	1862	0,061	568	20	939	0,076	357	20	1098	0,069	379
25	1044	0,088	459	25	1490	0,071	529	25	751	0,088	331	25	879	0,079	347



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High Temperature Alloys

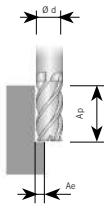
- RENE
- INCONEL
- WASTALOY
- HASTELLOY

Side cutting

$A_p 1,5 \times d / A_e 0,1 \times d$

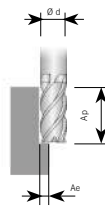
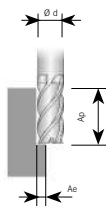
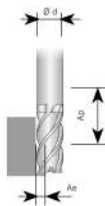
$V_c = 25 - 31 - 37 \text{ m/min}$

d (mm)	RPM (U/min)	Fz (mm/Zahn)	FEED (mm/min)
6	1645	0,021	173
8	1233	0,022	136
10	987	0,027	133
12	822	0,044	181
14	705	0,046	162
16	617	0,048	148
18	548	0,049	134
20	493	0,053	131
25	395	0,062	122



The recommended cutting data are only approximate values. It may be necessary to adjust them to each individual machining application. Finish cuts typically require reduced feed rates and/or higher spindle speed, with radial width of $2\% \times d1$ or less. Reduce speed and feed recommendations for materials harder than listed.

Stainless steel				Titanium			High Temperature Alloys		
1.4005(X12 CrS 13) 1.4104(X14 CrMoS 17)				Ti6Al4V • Ti5Al5V5Mo • Ti7Al4Mo			Inconel		
Side cutting				Side cutting			Side cutting		
Ap: 1,5 x d				Ap: 1 x d			Ap 1 x d		
Ae: ø6 - ø10: 0,15 x d ø12 - ø16: 0,10 x d ø20 - ø25: 0,05 x d				Ae: ø6 - ø10: 0,15 x d ø12 - ø16: 0,10 x d ø20 - ø25: 0,05 x d			Ae: 0,05 x d		
Vc = 64 - 80 - 96 m/min				Vc = 52 - 65 - 78 m/min			Vc = 32 - 40 - 48 m/min		
d	RPM	Fz	FEED	RPM	Fz	FEED	RPM	Fz	FEED
(mm)	(U/min)	(mm/Zahn)	(mm/min)	(U/min)	(mm/Zahn)	(mm/min)	(U/min)	(mm/Zahn)	(mm/min)
6	4244	0,025	531	3448	0,022	379	2122	0,020	212
8	3183	0,034	541	2586	0,031	401	1592	0,025	199
10	2546	0,041	522	2069	0,038	393	1273	0,037	236
12	2122	0,051	541	1724	0,046	397	1061	0,040	212
14	1819	0,057	518	1478	0,052	384	909	0,046	209
16	1592	0,063	501	1293	0,058	375	796	0,052	207
20	1273	0,081	516	1035	0,074	383	637	0,061	194
25	1019	0,091	463	828	0,084	348	509	0,068	173



The recommended cutting data are only approximate values. It may be necessary to adjust them to each individual machining application. Finish cuts typically require reduced feed rates and/or higher spindle speed, with radial width of 2% x d1 or less. Reduce speed and feed recommendations for materials harder than listed.