

**NEW**

# Type C - Finishing

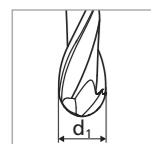
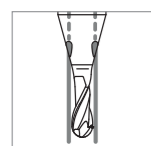
V<sub>c</sub> [m/min] | [SFM]  
f<sub>z</sub> [mm] | [IPT]

RECOMMENDATION FOR USE  
● Excellent | ● Good | ○ Acceptable | ⊗ Not recommended



## MILLING WITH INTEGRATED COOLING | CUTTING DATA OVERVIEW

Inclination 15°  
  
 ■ a<sub>p</sub> = 0.1 x d,  
 ■ a<sub>e</sub> = 0.05 - 0.1 x d,  
 n<sub>max</sub> = 60'000 rpm



Materials group	Material	Mat. no.	DIN	AISI/ASTM/UNS	1.0 mm   .039"		1.2 mm   .047"		1/16"		Ød1		3/32"		1/8"		5/32"		3/16"		7/32 - 1/4"			
					v <sub>c</sub>	f <sub>z</sub>	v <sub>c</sub>	f <sub>z</sub>	v <sub>c</sub>	f <sub>z</sub>	v <sub>c</sub>	f <sub>z</sub>	v <sub>c</sub>	f <sub>z</sub>	v <sub>c</sub>	f <sub>z</sub>	v <sub>c</sub>	f <sub>z</sub>	v <sub>c</sub>	f <sub>z</sub>	v <sub>c</sub>	f <sub>z</sub>	v <sub>c</sub>	f <sub>z</sub>
P	Unalloyed carbon steel Rm < 800 N/mm²	1.0301	C10	AISI 1010																				
		1.0401	C15	AISI 1015																				
		1.1191	C45E/CK45	AISI 1045	140	0.015	140	0.017	200	0.024	200	0.026	220	0.034	220	0.036	240	0.035	260	0.044	260	0.044	260	0.047
		1.0044	S275JR	AISI 1020	459	.00059	459	.00067	656	.00094	656	.00102	722	.00134	722	.00142	787	.00139	853	.00173	853	.00173	853	.00184
		1.0715	11SMn30	AISI 1215																				
	Low alloyed steel Rm > 900 N/mm²	1.5752	15NiCr13	ASTM 3415 / AISI 3310																				
		1.7131	16MnCr5	AISI 5115	140	0.014	140	0.016	200	0.022	200	0.024	220	0.032	220	0.034	240	0.033	260	0.042	260	0.042	260	0.045
		1.3505	100Cr6	AISI 52100	459	.00055	459	.00063	656	.00087	656	.00094	722	.00126	722	.00134	787	.00132	853	.00166	853	.00166	853	.00177
		1.7225	42CrMo4	AISI 4140																				
		1.2842	90MnCrV8	AISI O2																				
High alloyed tool steel Rm < 1200 N/mm²	1.2379	X153CrMoV12	AISI D2	140	0.011	140	0.013	200	0.020	200	0.022	220	0.030	220	0.032	240	0.031	260	0.039	260	0.037	260	0.041	
	1.2436	X210CrW12	AISI D4/D6	459	.00043	459	.00051	656	.00079	656	.00087	722	.00118	722	.00126	787	.00121	853	.00152	853	.00146	853	.00162	
	1.3343	HS6-5-2C	AISI M2 / UNS T11302																					
	1.3355	HS18-0-1	AISI T1 / UNS T12001																					
M	Stainless steel ferritic	1.4016	X6Cr17	AISI 430 / UNS S43000	140	0.016	140	0.018	200	0.024	200	0.026	220	0.034	220	0.036	240	0.035	260	0.042	260	0.042	260	0.045
		1.4105	X6CrMoS17	AISI 430F	459	.00063	459	.00071	656	.00094	656	.00102	722	.00134	722	.00142	787	.00139	853	.00166	853	.00166	853	.00177
	Stainless steel martensitic	1.4034	X46Cr13	AISI 420C	140	0.015	140	0.017	200	0.022	200	0.024	220	0.032	220	0.034	240	0.032	260	0.040	260	0.040	260	0.043
		1.4112	X90CrMoV18	AISI 440B	459	.00059	459	.00067	656	.00087	656	.00094	722	.00126	722	.00134	787	.00125	853	.00159	853	.00159	853	.00169
	Stainless steel martensitic - PH	1.4542	X5CrNiCuNb16-4	AISI 630 / ASTM 17-4 PH	140	0.015	140	0.017	200	0.022	200	0.024	220	0.032	220	0.034	240	0.032	260	0.040	260	0.040	260	0.043
		1.4545	X5CrNiCuNb15-5	ASTM 15-5 PH	459	.00059	459	.00067	656	.00087	656	.00094	722	.00126	722	.00134	787	.00125	853	.00159	853	.00159	853	.00169
	Stainless steel austenitic	1.4301	X5CrNi18-10	AISI 304																				
		1.4435	X2CrNiMo18-14-3	AISI 316L	140	0.012	140	0.014	200	0.016	200	0.018	220	0.030	220	0.032	240	0.030	260	0.039	260	0.039	260	0.041
1.4441		X2CrNiMo18-15-3	AISI 316LM	459	.00047	459	.00055	656	.00063	656	.00071	722	.00118	722	.00126	787	.00118	853	.00152	853	.00152	853	.00162	
1.4539	X1NiCrMoCu25-20-5	AISI 904L																						
K	Cast iron	0.6020	GG20	ASTM 30																				
		0.6030	GG30	ASTM 40B	120	0.011	120	0.022	140	0.024	140	0.026	160	0.028	160	0.036	180	0.037	200	0.046	200	0.046	200	0.049
		0.7040	GGG40	ASTM 60-40-18	394	.00043	394	.00087	459	.00094	459	.00102	525	.00110	525	.00142	591	.00146	656	.00180	656	.00180	656	.00191
		0.7060	GGG60	ASTM 80-60-03																				
N	Aluminium alloy wrought	3.2315	AlMgSi1	ASTM 6351	140	0.018	140	0.020	200	0.026	200	0.028	220	0.036	220	0.040	240	0.051	260	0.048	260	0.053	260	0.051
		3.4365	AlZnMgCu1.5	ASTM 7075	459	.00071	459	.00079	656	.00102	656	.00110	722	.00142	722	.00157	787	.00201	853	.00191	853	.00208	853	.00202
	Aluminium alloy cast	3.2163	GD-AlSi9Cu3	ASTM A380	140	0.018	140	0.020	200	0.026	200	0.028	220	0.036	220	0.040	240	0.051	260	0.048	260	0.053	260	0.051
		3.2381	GD-AlSi10Mg	UNS A03590	459	.00071	459	.00079	656	.00102	656	.00110	722	.00142	722	.00157	787	.00201	853	.00191	853	.00208	853	.00202
	Copper	2.0040	Cu-OF / CW008A	UNS C10100	140	0.020	140	0.022	200	0.026	200	0.028	220	0.036	220	0.040	240	0.051	260	0.048	260	0.053	260	0.051
		2.0065	Cu-ETP / CW004A	UNS C11000	459	.00079	459	.00087	656	.00102	656	.00110	722	.00142	722	.00157	787	.00201	853	.00191	853	.00208	853	.00202
	Brass lead free	2.0321	CuZn37 CW508L	UNS C27400	140	0.020	140	0.022	200	0.026	200	0.028	220	0.036	220	0.040	240	0.051	260	0.048	260	0.053	260	0.051
		2.0360	CuZn40 CW509L	UNS C28000	459	.00079	459	.00087	656	.00102	656	.00110	722	.00142	722	.00157	787	.00201	853	.00191	853	.00208	853	.00202
	Brass, Bronze Rm < 400 N/mm²	2.0401	CuZn39Pb3 / CW614N	UNS C38500	140	0.020	140	0.022	200	0.026	200	0.028	220	0.036	220	0.040	240	0.051	260	0.048	260	0.053	260	0.051
		2.1020	CuSn6	UNS C51900	459	.00079	459	.00087	656	.00102	656	.00110	722	.00142	722	.00157	787	.00201	853	.00191	853	.00208	853	.00202
Bronze Rm < 600 N/mm²	2.0966	CuAl10Ni5Fe4	UNS C63000	140	0.018	140	0.020	200	0.026	200	0.028	220	0.036	220	0.040	240	0.051	260	0.048	260	0.053	260	0.051	
	2.0960	CuAl9Mn2	UNS C63200	459	.00071	459	.00079	656	.00102	656	.00110	722	.00142	722	.00157	787	.00201	853	.00191	853	.00208	853	.00202	
S <sub>1</sub>	Super alloys	2.4856		Inconel 625																				
		2.4668		Inconel 718	120	0.007	120	0.008	130	0.009	130	0.010	140	0.010	140	0.012	150	0.013	170	0.018	170	0.018	170	0.019
		2.4617	NiMo28	Hastelloy B-2	394	.00028	394	.00031	427	.00035	427	.00039	459	.00039	459	.00047	492	.00052	558	.00069	558	.00069	558	.00074
		2.4665	NiCr22Fe18Mo	Hastelloy X																				
S <sub>2</sub>	Titanium pure	3.7035	Gr.2	ASTM B348 / F67	120	0.016	120	0.018	130	0.020	130	0.022	140	0.028	140	0.030	150	0.030	170	0.037	170	0.039	170	0.039
		3.7065	Gr.4	ASTM B348 / F68	394	.00063	394	.00071	427	.00079	427	.00087	459	.00110	459	.00118	492	.00118	558	.00146	558	.00152	558	.00155
S <sub>3</sub>	Titanium alloys	3.7165	TiAl6V4	ASTM B348 / F136	120	0.016	120	0.018	130	0.020	130	0.022	140	0.028	140	0.030	150	0.030	170	0.037	170	0.039	170	0.039
		9.9367	TiAl6Nb7	ASTM F1295	394	.00063	394	.00071	427	.00079	427	.00087	459	.00110	459	.00118	492	.00118	558	.00146	558	.00152	558	.00155
H <sub>1</sub>	Hardened steel < 55 HRC	2.4964	CoCr20W15Ni	Haynes 25	140	0.007	140	0.008	180	0.009	180	0.010	200	0.010	200	0.012	220	0.013	240	0.018	240	0.018	240	0.019
			CrCoMo28	AST																				