

# Type B - Conventional slot milling

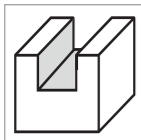
$V_c$  [m/min] | [SFM]  
 $f_z$  [mm] | [IPT]

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



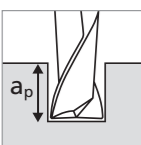
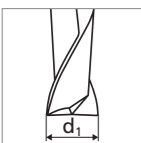
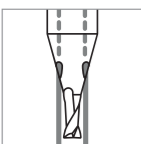
## MILLING WITH INTEGRATED COOLING | CUTTING DATA OVERVIEW

Conventional slot milling



■  $a_p = 1 \times d_1$

■  $a_p = 0.5 \times d_1$  for group S<sub>1</sub> and S<sub>3</sub>



Materials group	Material	Mat. no.	DIN	AISI/ASTM/UNS	1/64"		1/32"		1/16"		3/32"		1/8"		5/32-3/16-7/32-1/4"																		
					$V_c$	$f_z$	$V_c$	$f_z$	$V_c$	$f_z$	$V_c$	$f_z$	$V_c$	$f_z$	$V_c$	$f_z$																	
P	Unalloyed carbon steel Rm < 800 N/mm <sup>2</sup>	1.0301	C10	AISI 1010	60   197	0.004-0.006 .00016-.00024	100   328	0.008-0.012 .00031-.00047	140   459	0.013-0.015 .00051-.00059	180   591	0.022-0.024 .00087-.00094	200   656	0.030-0.032 .00118-.00126	220   722	0.044 .00173	260   853	0.048 .00189															
		1.0401	C15	AISI 1015																													
		1.1191	C45E/CK45	AISI 1045																													
		1.0044	S275JR	AISI 1020																													
		1.0715	11SMn30	AISI 1215																													
		1.5752	15NiCr13	ASTM 3415 / AISI 3310																													
	Low alloyed steel Rm > 900 N/mm <sup>2</sup>	1.7131	16MnCr5	AISI 5115	60   197	0.003-0.005 .00012-.00020	100   328	0.007-0.010 .00028-.00039	140   459	0.012-0.014 .00047-.00055	180   591	0.020-0.022 .00079-.00087	200   656	0.028-0.030 .00110-.00118	220   722	0.042 .00165	260   853	0.046 .00181															
		1.3505	100Cr6	AISI 52100																													
		1.7225	42CrMo4	AISI 4140																													
		1.2842	90MnCrV8	AISI O2																													
		1.2379	X153CrMoV12	AISI D2																													
		1.2436	X210CrW12	AISI D4/D6																													
High alloyed tool steel Rm < 1200 N/mm <sup>2</sup>	1.3343	HS6-5-2C	AISI M2 / UNS T11302	60   197	0.003-0.005 .00012-.00020	100   328	0.006-0.009 .00024-.00035	140   459	0.009-0.011 .00035-.00043	180   591	0.018-0.020 .00071-.00079	200   656	0.026-0.028 .00102-.00110	220   722	0.038 .00150	260   853	0.040 .00157																
	1.3355	HS18-0-1	AISI T1 / UNS T12001																														
	M	Stainless steel ferritic	1.4016															X6Cr17	AISI 430 / UNS S43000	60   197	0.004-0.006 .00016-.00024	100   328	0.008-0.012 .00031-.00047	140   459	0.014-0.016 .00055-.00063	180   591	0.022-0.024 .00087-.00094	200   656	0.030-0.032 .00118-.00126	220   722	0.042 .00165	260   853	0.046 .00181
			1.4105															X6CrMoS17	AISI 430F														
			1.4034															X46Cr13	AISI 420C														
		Stainless steel martensitic	1.4112															X90CrMoV18	AISI 440B														
1.4542			X5CrNiCuNb 16-4	AISI 630 / ASTM 17-4 PH																													
1.4545			X5CrNiCuNb 15-5	ASTM 15-5 PH																													
Stainless steel martensitic - PH	1.4301	X5CrNi 18-10	AISI 304	60   197	0.003-0.005 .00012-.00020	100   328	0.007-0.010 .00028-.00039	140   459	0.013-0.015 .00051-.00059	180   591	0.020-0.022 .00079-.00087	200   656	0.028-0.030 .00110-.00118	220   722	0.040 .00157	260   853	0.044 .00173																
	1.4435	X2CrNiMo 18-14-3	AISI 316L																														
	1.4441	X2CrNiMo 18-15-3	AISI 316LM																														
Stainless steel austenitic	1.4539	X1NiCrMoCu 25-20-5	AISI 904L	60   197	0.003-0.005 .00012-.00020	100   328	0.006-0.009 .00024-.00035	140   459	0.010-0.012 .00039-.00047	180   591	0.016-0.018 .00063-.00071	200   656	0.026-0.028 .00102-.00110	220   722	0.038 .00150	260   853	0.042 .00165																
	K	Cast iron	0.6020															GG20	ASTM 30	60   197	0.002-0.004 .00008-.00016	100   328	0.005-0.008 .00020-.00031	120   394	0.010-0.020 .00039-.00079	140   459	0.022-0.025 .00087-.00098	160   525	0.026-0.035 .00102-.00138	180   591	0.038-0.045 .00150-.00177	200   656	0.048-0.052 .00189-.00205
			0.6030															GG30	ASTM 40B														
0.7040			GGG40	ASTM 60-40-18																													
0.7060			GGG60	ASTM 80-60-03																													
N	Aluminium alloy wrought	3.2315	AlMgSi1	ASTM 6351	60   197	0.005-0.007 .00020-.00028	100   328	0.010-0.014 .00039-.00055	140   459	0.015-0.017 .00059-.00067	180   591	0.024-0.026 .00094-.00102	200   656	0.032-0.034 .00126-.00134	220   722	0.050 .00197	260   853	0.055 .00217															
		3.4365	AlZnMgCu1.5	ASTM 7075																													
	Aluminium alloy cast	3.2163	GD-AlSi9Cu3	ASTM A380															60   197	0.005-0.007 .00020-.00028	100   328	0.010-0.014 .00039-.00055	140   459	0.015-0.017 .00059-.00067	180   591	0.024-0.026 .00094-.00102	200   656	0.032-0.034 .00126-.00134	220   722	0.048 .00189	260   853	0.053 .00209	
		3.2381	GD-AlSi10Mg	UNS A03590																													
	Copper	2.004	Cu-OF / CW008A	UNS C10100															60   197	0.005-0.007 .00020-.00028	100   328	0.012-0.016 .00047-.00063	140   459	0.018-0.020 .00071-.00079	180   591	0.024-0.026 .00094-.00102	200   656	0.032-0.034 .00126-.00134	220   722	0.050 .00197	260   853	0.055 .00217	
		2.0065	Cu-ETP / CW004A	UNS C11000																													
	Brass lead free	2.0321	CuZn37 CW508L	UNS C27400															60   197	0.005-0.007 .00020-.00028	100   328	0.012-0.016 .00047-.00063	140   459	0.018-0.020 .00071-.00079	180   591	0.024-0.026 .00094-.00102	200   656	0.032-0.034 .00126-.00134	220   722	0.050 .00197	260   853	0.055 .00217	
		2.036	CuZn40 CW509L	UNS C28000																													
	Brass, Bronze Rm < 400 N/mm <sup>2</sup>	2.0401	CuZn39Pb3 / CW614N	UNS C38500															60   197	0.005-0.007 .00020-.00028	100   328	0.012-0.016 .00047-.00063	140   459	0.018-0.020 .00071-.00079	180   591	0.024-0.026 .00094-.00102	200   656	0.032-0.034 .00126-.00134	220   722	0.050 .00197	260   853	0.055 .00217	
		2.102	CuSn6	UNS C51900																													
	Bronze Rm < 600 N/mm <sup>2</sup>	2.0966	CuAl10Ni5Fe4	UNS C63000															60   197	0.005-0.007 .00020-.00028	100   328	0.010-0.014 .00039-.00055	140   459	0.016-0.018 .00063-.00071	180   591	0.024-0.026 .00094-.00102	200   656	0.032-0.034 .00126-.00134	220   722	0.050 .00197	260   853	0.055 .00217	
		2.096	CuAl9Mn2	UNS C63200																													
S <sub>1</sub>	Super alloys	2.4856		Inconel 625	60   197	0.002-0.003 .00008-.00012	100   328	0.004-0.006 .00016-.00024	120   394	0.007-0.008 .00028-.00031	130   427	0.009-0.010 .00035-.00039	140   459	0.010-0.012 .00039-.00047	150   492	0.015 .00059	170   558	0.020 .00079															
		2.4668		Inconel 718																													
		2.4617	NiMo28	Hastelloy B-2																													
		2.4665	NiCr22Fe18Mo	Hastelloy X																													
S <sub>2</sub>	Titanium pure	3.7035	Gr.2	ASTM B348 / F67	60   197	0.003-0.005 .00012-.00020	100   328	0.006-0.009 .00024-.00035	120   394	0.014-0.016 .00055-.00063	130   427	0.018-0.020 .00071-.00079	140   459	0.026-0.028 .00102-.00110	150   492	0.040 .00157	170   558	0.042 .00165															
		3.7065	Gr.4	ASTM B348 / F68																													
S <sub>2</sub>	Titanium alloys	3.7165	TiAl6V4	ASTM B348 / F136	60   197	0.003-0.005 .00012-.00020	100   328	0.006-0.009 .00024-.00035	120   394	0.014-0.016 .00055-.00063	130   427	0.018-0.020 .00071-.00079	140   459	0.026-0.028 .00102-.00110	150   492	0.040 .00157	170   558	0.042 .00165															
		9.9367	TiAl6Nb7	ASTM F1295																													
S <sub>3</sub>	CrCo alloys	2.4964	CoCr20W15Ni	Haynes 25	60   197	0.002-0.003 .00008-.00012	100   328	0.004-0.006 .00016-.00024	140   459	0.007-0.008 .00028-.00031	160   525	0.009-0.010 .00035-.00039	180   591	0.010-0.012 .00039-.00047	200   656	0.015 .00059	220   722	0.020 .00079															
			CrCoMo28	ASTM F1537																													
H <sub>1</sub>	Hardened steel < 55 HRC	1.2510	100MnCrMoW4	AISI O1	60   197	0.003-0.005 .00012-.00020	80   262	0.006-0.007 .00024-.00028	100   328	0.008-0.010 .00031-.00039	140   459	0.012-0.016 .00047-.00063	180   591	0.018-0.024 .00071-.00094	200   656	0.030 .00118	240   787	0.035 .00138															
		1.2379	X153CrMoV12	AISI D2																													