CRAZYMILL by Mikron Tool Cool

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MILLING TOOLS
CRAZYMILL COOL P&S

NEW Type A - Keyways - Plunge - Slot milling

v_c [m/min] | **[SFM]** a_p [mm] | **[inch]**
$f_{z,p}$ [mm] | **[IPT]** $f_{z,s}$ [mm] | **[IPT]**

RECOMMENDATION FOR USE
● Excellent | ◐ Good | ○ Acceptable | ⊠ Not recommended

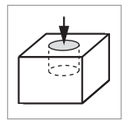
P ● N ● S_3 ●
M ● S_1 ● H_1 ⊠
K ● S_2 ● H_2 ⊠

MILLING WITH INTEGRATED COOLING | CUTTING DATA OVERVIEW

Keyway slot milling

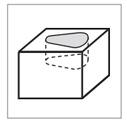
- $f_{z,p}$: for plunge milling
- $f_{z,s}$: for slot milling

Plunge milling

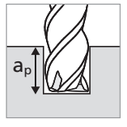


- $f_{z,p}$: for plunge milling

Slot milling



- $f_{z,p}$: for plunge milling
- $f_{z,s}$: for slot milling



Materials group	Material	Mat. no.	DIN	AISI/ASTM/UNS	1.0 mm | .039" v_c	$f_{z,p}$	$f_{z,s}$	a_p	Ød$_1$ 1/16" 1.5 mm | .059" v_c	$f_{z,p}$	$f_{z,s}$	a_p	3/32" 2.0 mm | .079" v_c	$f_{z,p}$	$f_{z,s}$	a_p	1/8" 3.0 mm | .118" v_c	$f_{z,p}$	$f_{z,s}$	a_p	5/32" 4.0 mm | .157" v_c	$f_{z,p}$	$f_{z,s}$	a_p	3/16" - 7/32" 5.0 mm | .197" v_c	$f_{z,p}$	$f_{z,s}$	a_p	1/4" 6.0 mm - 8.0 mm | .236" - .315" v_c	$f_{z,p}$	$f_{z,s}$	a_p
P	Unalloyed carbon steel Rm < 800 N/mm²	1.0301	C10	AISI 1010	100	0.0013	0.0046	1xd1	120	0.0020	0.0065	1xd1	120	0.0026	0.0091	1xd1	140	0.004	0.013	1xd1	140	0.005	0.020	1xd1	150	0.005	0.026	1xd1	160	0.006	0.033	1xd1
		1.0401	C15	AISI 1015	328	.00005	.00018		394	.00008	.00026		394	.00010	.00036		459	.00014	.00051		459	.00020	.00077		492	.00020	.00102		525	.00024	.00128	
		1.1191	C45E/CK45	AISI 1045																												
		1.0044	S275JR	AISI 1020																												
		1.0715	11SMn30	AISI 1215																												
	Low alloyed steel Rm > 900 N/mm²	1.5752	15NiCr13	ASTM 3415 / AISI 3310	100	0.0014	0.0049	1xd1	120	0.0021	0.0070	1xd1	120	0.0028	0.0098	1xd1	140	0.004	0.014	1xd1	140	0.005	0.021	1xd1	150	0.006	0.027	1xd1	160	0.006	0.034	1xd1
		1.7131	16MnCr5	AISI 5115	328	.00006	.00019		394	.00008	.00028		394	.00011	.00039		459	.00014	.00055		459	.00020	.00083		492	.00022	.00106		525	.00024	.00133	
		1.3505	100Cr6	AISI 52100																												
		1.7225	42CrMo4	AISI 4140																												
		1.2842	90MnCrV8	AISI O2																												
	High alloyed tool steel Rm < 1200 N/mm²	1.2379	X153CrMoV12	AISI D2	100	0.0012	0.0042	0.5xd1	120	0.0018	0.0060	0.5xd1	120	0.0024	0.0084	0.5xd1	140	0.003	0.012	0.5xd1	140	0.004	0.017	0.5xd1	150	0.004	0.022	0.5xd1	160	0.005	0.028	0.5xd1
		1.2436	X210CrW12	AISI D4/D6	328	.00005	.00017		394	.00007	.00024		394	.00009	.00033		459	.00012	.00047		459	.00016	.00068		492	.00016	.00087		525	.00020	.00108	
		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	100	0.0010	0.0035	1xd1	120	0.0015	0.0050	1xd1	120	0.0020	0.0070	1xd1	140	0.003	0.010	1xd1	140	0.004	0.015	1xd1	150	0.004	0.020	1xd1	160	0.005	0.025	1xd1
		1.4105	X6CrMoS17	AISI 430F	328	.00004	.00014		394	.00006	.00020		394	.00008	.00028		459	.00012	.00039		459	.00016	.00059		492	.00016	.00079		525	.00020	.00098	
	Stainless steel martensitic	1.4034	X46Cr13	AISI 420C	100	0.0010	0.0035	0.5xd1	120	0.0015	0.0050	0.5xd1	120	0.0020	0.0070	0.5xd1	140	0.003	0.010	0.5xd1	140	0.004	0.015	0.5xd1	150	0.004	0.020	0.5xd1	160	0.005	0.025	0.5xd1
		1.4112	X90CrMoV18	AISI 440B	328	.00004	.00014		394	.00006	.00020		394	.00008	.00028		459	.00012	.00039		459	.00016	.00059		492	.00016	.00079		525	.00020	.00098	
	Stainless steel martensitic – PH	1.4542	X5CrNiCuNb16-4	AISI 630 / ASTM 17-4 PH	100	0.0010	0.0035	0.5xd1	120	0.0015	0.0050	0.5xd1	120	0.0020	0.0070	0.5xd1	140	0.003	0.010	0.5xd1	140	0.004	0.015	0.5xd1	150	0.004	0.020	0.5xd1	160	0.005	0.025	0.5xd1
		1.4545	X5CrNiCuNb15-5	ASTM 15-5 PH	328	.00004	.00014		394	.00006	.00020		394	.00008	.00028		459	.00012	.00039		459	.00016	.00059		492	.00016	.00079		525	.00020	.00098	
	Stainless steel austenitic	1.4301	X5CrNi18-10	AISI 304	100	0.0010	0.0035	1xd1	120	0.0015	0.0050	1xd1	120	0.0020	0.0070	1xd1	140	0.003	0.010	1xd1	140	0.004	0.015	1xd1	150	0.004	0.020	1xd1	160	0.005	0.025	1xd1
		1.4435	X2CrNiMo18-14-3	AISI 316L	328	.00004	.00014		394	.00006	.00020		394	.00008	.00028		459	.00012	.00039		459	.00016	.00059		492	.00016	.00079		525	.00020	.00098	
		1.4441	X2CrNiMo18-15-3	AISI 316LM																												
		1.4539	X1NiCrMoCu25-20-5	AISI 904L																												
K	Cast iron	0.6020	GG20	ASTM 30	100	0.0013	0.0042	1xd1	120	0.0019	0.0060	1xd1	120	0.0024	0.0084	1xd1	140	0.004	0.012	1xd1	140	0.004	0.017	1xd1	150	0.005	0.022	1xd1	160	0.005	0.028	1xd1
		0.6030	GG30	ASTM 40B	328	.00005	.00017		394	.00007	.00024		394	.00009	.00033		459	.00014	.00047		459	.00016	.00068		492	.00019	.00087		525	.00020	.00108	
		0.7040	GGG40	ASTM 60-40-18																												
		0.7060	GGG60	ASTM 80-60-03																												
N	Aluminium alloy wrought	3.2315	AlMgSi1	ASTM 6351	100	0.0012	0.0100	1xd1	120	0.0018	0.0160	1xd1	120	0.0024	0.0210	1xd1	150	0.004	0.034	1xd1	160	0.004	0.035	1xd1	170	0.005	0.036	1xd1	180	0.005	0.037	1xd1
		3.4365	AlZnMgCu1.5	ASTM 7075	328	.00005	.00039		394	.00007	.00063		394	.00009	.00083		492	.00014	.00134		525	.00016	.00138		558	.00019	.00142		591	.00020	.00146	
	Aluminium alloy cast	3.2163	GD-AlSi9Cu3	ASTM A380	100	0.0012	0.0100	1xd1	120	0.0018	0.0160	1xd1	120	0.0024	0.0210	1xd1	150	0.004	0.034	1xd1	160	0.004	0.035	1xd1	170	0.005	0.036	1xd1	180	0.005	0.037	1xd1
		3.2381	GD-AlSi10Mg	UNS A03590	328	.00005	.00039		394	.00007	.00063		394	.00009	.00083		492	.00014	.00134		525	.00016	.00138		558	.00019	.00142		591	.00020	.00146	
	Copper	2.0040	Cu-OF / CW008A	UNS C10100	100	0.0012	0.0100	1xd1	120	0.0018	0.0160	1xd1	120	0.0024	0.0210	1xd1	150	0.004	0.034	1xd1	160	0.004	0.035	1xd1	170	0.005	0.036	1xd1	180	0.005	0.037	1xd1
		2.0065	Cu-ETP / CW004A	UNS C11000	328	.00005	.00039		394	.00007	.00063		394	.00009	.00083		492	.00014	.00134		525	.00016	.00138		558	.00019	.00142		591	.00020	.00146	
	Brass lead free	2.0321	CuZn37 CW508L	UNS C27400	100	0.0012	0.0100	1xd1	120	0.0018	0.0160	1xd1	120	0.0024	0.0210	1xd1	150	0.004	0.034	1xd1	160	0.004	0.035	1xd1	170	0.005	0.036	1xd1	180	0.005	0.037	1xd1
		2.0360	CuZn40 CW509L	UNS C28000	328	.00005	.00039		394	.00007	.00063		394	.00009	.00083		492	.00014	.00134		525	.00016	.00138		558	.00019	.00142		591	.00020	.00146	
	Brass, Bronze Rm < 400 N/mm²	2.0401	CuZn39Pb3 / CW614N	UNS C38500	100	0.0012	0.0100	1xd1	120	0.0018	0.0160	1xd1	120	0.0024	0.0210	1xd1	150	0.004	0.034	1xd1	160	0.004	0.035	1xd1	170	0.005	0.036	1xd1	180	0.005	0.037	1xd1
		2.1020	CuSn6	UNS C51900	328	.00005	.00039		394	.00007	.00063		394	.00009	.00083		492	.00014	.00134		525	.00016	.00138		558	.00019	.00142		591	.00020	.00146	
	Bronze Rm < 600 N/mm²	2.0966	CuAl10Ni5Fe4	UNS C63000	100	0.0012	0.0100	1xd1	120	0.0018	0.0160	1xd1	120	0.0024	0.0210	1xd1	150	0.004	0.034	1xd1	160	0.004	0.035	1xd1	170	0.005	0.036	1xd1	180	0.005	0.037	1xd1
		2.0960	CuAl9Mn2	UNS C63200	328	.00005	.00039		394	.00007	.00063		394	.00009	.00083		492	.00014	.00134		525	.00016	.00138		558	.00019	.00142		591	.00020	.00146	
S_1	Super alloys	2.4856		Inconel 625	40	0.0010	0.0035	0.25xd1	40	0.0015	0.0050	0.25xd1	50	0.0020	0.0070	0.25xd1	50	0.003	0.010	0.25xd1	60	0.004	0.014	0.25xd1	80	0.004	0.018	0.25xd1	80	0.005	0.021	0.25xd1
		2.4668		Inconel 718	131	.00004	.00014		131	.00006	.00020		164	.00008	.00028		164	.00012	.00039		197	.00016	.00053		262	.00016	.00071		262	.00020	.00084	
		2.4617	NiMo28	Hastelloy B-2																												
		2.4665	NiCr22Fe18Mo	Hastelloy X																												
S_2	Titanium pure	3.7035	Gr.2	ASTM B348 / F67	80	0.0010	0.0032	0.25xd1	90	0.0014	0.0045	0.25xd1	100	0.0018	0.0063	0.25xd1	110	0.003	0.010	0.25xd1	120	0.004	0.013	0.25xd1	120	0.004	0.016	0.25xd1	120	0.005	0.019	0.25xd1
		3.7065	Gr.4	ASTM B348 / F68	262	.00004	.00012		295	.00005	.00018		328	.00007	.00025		361	.00012	.00039		394	.00016	.00050		394	.00016	.00064		394	.00020	.00075	
	Titanium alloys	3.7165	TiAl6V4	ASTM B348 / F136	80	0.0010	0.0032	0.25xd1	90	0.0014	0.0045	0.25xd1	100	0.0018	0.0063	0.25xd1	110	0.003	0.010	0.25xd1	120	0.004	0.013	0.25xd1	120	0.004	0.016	0.25xd1	120	0.005	0.019	0.25xd1
		9.9367	TiAl6Nb7	ASTM F1295	262	.00004	.00012		295	.00005	.00018		328	.00007	.00025		361	.00012	.00039		394	.00016	.00050		394	.00016	.00064		394	.00020	.00075	
S_3	CrCo alloys	2.4964	CoCr20W15Ni	Haynes 25	60	0.0010	0.0035	0.5xd1	60	0.0015	0.0050	0.5xd1	80	0.0020	0.0070	0.5xd1	80	0.003	0.010	0.5xd1	100	0.004	0.014	0.5xd1	100	0.004	0.018	0.5xd1	120	0.005	0.021	0.5xd1
			CrCoMo28	ASTM F1537	197	.00004	.00014		197	.00006	.00020		262	.00008	.00028		262	.00012	.00039		328	.00016	.00053		328	.00016	.00071		394	.00020	.00084	
H_1	Hardened steel < 55 HRC	1.2510	100MnCrMoW4	AISI O1																												
H_2	Hardened steel ≥ 55 HRC	1.2379	X153CrMoV12	AISI D2																												