CRAZYMILL™ by Mikron Tool Cool

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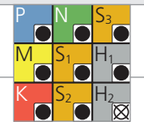
FRESARE
CRAZYMILL COOL SFERICA - Z2

Tipo C - Semi-finitura

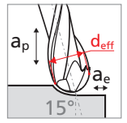
v_c [m/min]
f_z [mm]
d_{eff} [mm]

RACCOMANDAZIONI PER L'USO
● Perfettamente consigliato | ◐ Consigliato | ○ Parzialmente consigliato | ⊠ Non consigliato



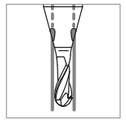
FRESARE CON RAFFREDDAMENTO INTEGRATO | VISTA D'INSIEME DEI DATI DI TAGLIO

Semi-finitura



- $a_p = 0.25 \times d_1$ ($Ød_1 \leq 0.5$ mm)
- $a_p = 0.5 \times d_1$ ($Ød_1 > 0.5$ mm)
- $a_e = 0.1 \times d_1$

Angolo di lavoro = 15°



Gruppo materiali	Materiale	Mat. no.	DIN	AISI/ASTM/UNS	Ød1	0.3 mm			0.4 mm			0.5 mm			0.6 mm		
									1/64"								
						v_c	d_{eff}	f_z	v_c	d_{eff}	f_z	v_c	d_{eff}	f_z	v_c	d_{eff}	f_z
P	Acciai non legati Rm < 800 N/mm²	1.0301	C10	AISI 1010		55	0.29	0.005	73	0.39	0.007	92	0.48	0.010	100	0.60	0.012
		1.0401	C15	AISI 1015													
		1.1191	C45E/CK45	AISI 1045													
		1.0044	S275JR	AISI 1020													
		1.0715	11SMn30	AISI 1215													
	Acciai debolmente legati Rm > 900 N/mm²	1.5752	15NiCr13	ASTM 3415		55	0.29	0.004	73	0.39	0.006	92	0.48	0.009	100	0.60	0.011
		1.7131	16MnCr5	AISI 5115													
		1.3505	100Cr6	AISI 52100													
		1.7225	42CrMo4	AISI 4140													
		1.2842	90MnCrV8	AISI O2													
	Acciai da utensili fortemente legati Rm < 1200 N/mm²	1.2379	X153CrMoV12	AISI D2		55	0.29	0.004	73	0.39	0.006	92	0.48	0.008	100	0.60	0.009
		1.2436	X210CrW12	AISI D4/D6													
		1.3343	HS6-5-2C	AISI M2													
		1.3355	HS18-0-1	AISI T1													
M	Acciai inossidabili ferritici	1.4016	X6Cr17	AISI 430		55	0.29	0.005	73	0.39	0.007	92	0.48	0.010	100	0.60	0.012
		1.4105	X6CrMoS17	AISI 430F													
	Acciai inossidabili martensitici	1.4034	X46Cr13	AISI 420C		55	0.29	0.004	73	0.39	0.006	92	0.48	0.009	100	0.60	0.010
		1.4112	X90CrMoV18	AISI 440B													
	Acciai inossidabili martensitici - PH	1.4542	X5CrNiCuNb 16-4	AISI 630		55	0.29	0.004	73	0.39	0.006	92	0.48	0.009	100	0.60	0.010
		1.4545	X5CrNiCuNb 15-5	ASTM15-5PH													
	Acciai inossidabili austenitici	1.4301	X5CrNi 18-10	AISI 304		55	0.29	0.004	73	0.39	0.006	92	0.48	0.008	100	0.60	0.010
		1.4435	X2CrNiMo 18-14-3	AISI 316L													
		1.4441	X2CrNiMo 18-15-3	AISI 316LM													
		1.4539	X1NiCrMoCu25-20-5	AISI 904L													
K	Ghise	0.6020	GG20	ASTM 30		55	0.29	0.003	73	0.39	0.005	92	0.48	0.006	100	0.60	0.008
		0.6030	GG30	ASTM 40B													
		0.7040	GGG40	ASTM60-40-18													
		0.7060	GGG60	ASTM80-60-03													
N	Leghe d'alluminio battute	3.2315	AlMgSi1	ASTM 6351		55	0.29	0.006	73	0.39	0.008	92	0.48	0.012	100	0.60	0.014
		3.4365	AlZnMgCu1.5	ASTM 7075													
	Leghe d'alluminio pressofuse	3.2163	GD-AlSi9Cu3	ASTM A380		55	0.29	0.006	73	0.39	0.008	92	0.48	0.012	100	0.60	0.014
		3.2381	GD-AlSi10Mg	UNS A03590													
	Rame	2.004	Cu-OF / CW008A	UNS C10100		55	0.29	0.006	73	0.39	0.008	92	0.48	0.014	100	0.60	0.016
		2.0065	Cu-ETP / CW004A	UNS C11000													
	Ottoni senza piombo	2.0321	CuZn37 CW508L	UNS C27400		55	0.29	0.006	73	0.39	0.008	92	0.48	0.014	100	0.60	0.016
		2.036	CuZn40 CW509L	UNS C28000													
	Ottoni, Bronzi Rm < 400 N/mm²	2.0401	CuZn39Pb3	UNS C38500		55	0.29	0.006	73	0.39	0.008	92	0.48	0.014	100	0.60	0.016
		2.102	CuSn6	UNS C51900													
	Bronzi Rm < 600 N/mm²	2.0966	CuAl10Ni5Fe4	UNS C63000		55	0.29	0.006	73	0.39	0.008	92	0.48	0.012	100	0.60	0.014
		2.096	CuAl9Mn2	UNS C63200													
S_1	Superleghe	2.4856		Inconel 625		55	0.29	0.003	73	0.39	0.004	92	0.48	0.004	100	0.60	0.005
		2.4668		Inconel 718													
		2.4617	NiMo28	Hastelloy B-2													
		2.4665	NiCr22Fe18Mo	Hastelloy X													
S_2	Titanio puro	3.7035	Gr.2	ASTM B348		55	0.29	0.004	73	0.39	0.004	92	0.48	0.008	100	0.60	0.009
		3.7065	Gr.4	ASTM B348													
	Leghe di titanio	3.7165	TiAl6V4	ASTM B348		55	0.29	0.004	73	0.39	0.004	92	0.48	0.008	100	0.60	0.009
		9.9367	TiAl6Nb7	ASTM F1295													
S_3	Leghe CrCo	2.4964	CoCr20W15Ni	Haynes 25		55	0.29	0.003	73	0.39	0.003	92	0.48	0.005	100	0.60	0.005
			CrCoMo28	ASTM F1537													
H_1	Acciai temprati < 55 HRC	1.2510	100MnCrMoW4	AISI O1		55	0.29	0.004	73	0.39	0.006	92	0.48	0.007	80	0.60	0.008
H_2	Acciai temprati ≥ 55 HRC	1.2379	X153CrMoV12	AISI D2													

Gruppo materiali	Materiale	Mat. no.	DIN	AISI/ASTM/UNS	Ød1	0.8 mm			1.0 mm			1.2 mm			1.5 mm			1.8 mm			2.0 mm			2.5 mm			3.0 mm			4.0 mm			6.0 mm			8.0 mm		
						1/32"									1/16"									3/32"			1/8"			5/32"			3/16–7/32–1/4"					
						v_c	d_{eff}	f_z	v_c	d_{eff}	f_z	v_c	d_{eff}	f_z	v_c	d_{eff}	f_z	v_c	d_{eff}	f_z	v_c	d_{eff}	f_z	v_c	d_{eff}	f_z	v_c	d_{eff}	f_z	v_c	d_{eff}	f_z	v_c	d_{eff}	f_z	v_c	d_{eff}	f_z
P	Acciai non legati Rm < 800 N/mm²	1.0301	C10	AISI 1010		100	0.80	0.014	140	1.00	0.015	140	1.20	0.017	200	1.50	0.024	200	1.80	0.026	220	2.00	0.034	220	2.50	0.036	240	3.00	0.040	260	4.00	0.050	260	6.00	0.050	260	8.00	0.050
		1.0401	C15	AISI 1015																																	
		1.1191	C45E/CK45	AISI 1045																																	
		1.0044	S275JR	AISI 1020																																	
		1.0715	11SMn30	AISI 1215																																	
	Acciai debolmente legati Rm > 900 N/mm²	1.5752	15NiCr13	ASTM 3415		100	0.80	0.012	140	1.00	0.014	140	1.20	0.016	200	1.50	0.022	200	1.80	0.024	220	2.00	0.032	220	2.50	0.034	240	3.00	0.038	260	4.00	0.048	260	6.00	0.048	260	8.00	0.048
		1.7131	16MnCr5	AISI 5115																																	
		1.3505	100Cr6	AISI 52100																																	
		1.7225	42CrMo4	AISI 4140																																	
		1.2842	90MnCrV8	AISI O2																																	
	Acciai da utensili fortemente legati Rm < 1200 N/mm²	1.2379	X153CrMoV12	AISI D2		100	0.80	0.011	140	1.00	0.011	140	1.20	0.013	200	1.50	0.020	200	1.80	0.022	220	2.00	0.030	220	2.50	0.032	240	3.00	0.035	260	4.00	0.044	260	6.00	0.044	260	8.00	0.044
		1.2436	X210CrW12	AISI D4/D6																																	
		1.3343	HS6-5-2C	AISI M2																																	
		1.3355	HS18-0-1	AISI T1																																	
M	Acciai inossidabili ferritici	1.4016	X6Cr17	AISI 430		100	0.80	0.014	140	1.00	0.016	140	1.20	0.018	200	1.50	0.024	200	1.80	0.026	220	2.00	0.034	220	2.50	0.036	240	3.00	0.040	260	4.00	0.048	260	6.00	0.048	260	8.00	0.048
		1.4105	X6CrMoS17	AISI 430F																																	
	Acciai inossidabili martensitici	1.4034	X46Cr13	AISI 420C		100	0.80	0.012	140	1.00	0.015	140	1.20	0.017	200	1.50	0.022	200	1.80	0.024	220	2.00	0.032	220	2.50	0.034	240	3.00	0.036	260	4.00	0.046	260	6.00	0.046	260	8.00	0.046
		1.4112	X90CrMoV18	AISI 440B																																	
	Acciai inossidabili martensitici - PH	1.4542	X5CrNiCuNb 16-4	AISI 630		100	0.80	0.012	140	1.00	0.015	140	1.20	0.017	200	1.50	0.022	200	1.80	0.024	220	2.00	0.032	220	2.50	0.034	240	3.00	0.036	260	4.00	0.046	260	6.00	0.046	260	8.00	0.046
		1.4545	X5CrNiCuNb 15-5	ASTM15-5PH																																	
	Acciai inossidabili austenitici	1.4301	X5CrNi 18-10	AISI 304		100	0.80	0.011	140	1.00	0.012	140	1.20	0.014	200	1.50	0.016	200	1.80	0.018	220	2.00	0.030	220	2.50	0.032	240	3.00	0.034	260	4.00	0.044	260	6.00	0.044	260	8.00	0.044
		1.4435	X2CrNiMo 18-14-3	AISI 316L																																	
		1.4441	X2CrNiMo 18-15-3	AISI 316LM																																	
		1.4539	X1NiCrMoCu25-20-5	AISI 904L																																	
K	Ghise	0.6020	GG20	ASTM 30		100	0.80	0.009	120	1.00	0.011	120	1.20	0.022	140	1.50	0.024	140	1.80	0.026	160	2.00	0.028	160	2.50	0.036	180	3.00	0.042	200	4.00	0.052	200	6.00	0.052	200	8.00	0.052
		0.6030	GG30	ASTM 40B																																	
		0.7040	GGG40	ASTM60-40-18																																	
		0.7060	GGG60	ASTM80-60-03																																	
N	Leghe d'alluminio battute	3.2315	AlMgSi1	ASTM 6351		100	0.80	0.016	140	1.00	0.018	140	1.20	0.020	200	1.50	0.026	200	1.80	0.028	220	2.00	0.036	220	2.50	0.040	240	3.00	0.058	260	4.00	0.055	260	6.00	0.055	260	8.00	0.055
		3.4365	AlZnMgCu1.5	ASTM 7075																																	
	Leghe d'alluminio pressofuse	3.2163	GD-AlSi9Cu3	ASTM A380		100	0.80	0.016	140	1.00	0.018	140	1.20	0.020	200	1.50	0.026	200	1.80	0.028	220	2.00	0.036	220	2.50	0.040	240	3.00	0.058	260	4.00	0.055	260	6.00	0.055	260	8.00	0.055
		3.2381	GD-AlSi10Mg	UNS A03590																																	
	Rame	2.004	Cu-OF / CW008A	UNS C10100		100	0.80	0.018	140	1.00	0.020	140	1.20	0.022	200	1.50	0.026	200	1.80	0.028	220	2.00	0.036	220	2.50	0.040	240	3.00	0.058	260	4.00	0.055	260	6.00	0.055	260	8.00	0.055
		2.0065	Cu-ETP / CW004A	UNS C11000																																	
	Ottoni senza piombo	2.0321	CuZn37 CW508L	UNS C27400		100	0.80	0.018	140	1.00	0.020	140	1.20	0.022	200	1.50	0.026	200	1.80	0.028	220	2.00	0.036	220	2.50	0.040	240	3.00	0.058	260	4.00	0.055	260	6.00	0.055	260	8.00	0.055
		2.036	CuZn40 CW509L	UNS C28000																																	
	Ottoni, Bronzi Rm < 400 N/mm²	2.0401	CuZn39Pb3	UNS C38500		100	0.80	0.018	140	1.00	0.020	140	1.20	0.022	200	1.50	0.026	200	1.80	0.028	220	2.00	0.036	220	2.50	0.040	240	3.00	0.058	260	4.00	0.055	260	6.00	0.055	260	8.00	0.055
		2.102	CuSn6	UNS C51900																																	
	Bronzi Rm < 600 N/mm²	2.0966	CuAl10Ni5Fe4	UNS C63000		100	0.80	0.016	140	1.00	0.018	140	1.20	0.020	200	1.50	0.026	200	1.80	0.028	220	2.00	0.036	220	2.50	0.040	240	3.00	0.058	260	4.00	0.055	260	6.00	0.055	260	8.00	0.055
		2.096	CuAl9Mn2	UNS C63200																																	
S_1	Superleghe	2.4856		Inconel 625		100	0.80	0.006	120	1.00	0.007	120	1.20	0.008	130	1.50	0.009	130	1.80	0.010	140	2.00	0.010	140	2.50	0.012	150	3.00	0.015	170	4.00	0.020	170	6.00	0.020	170	8.00	0.020
		2.4668		Inconel 718																																	
		2.4617	NiMo28	Hastelloy B-2																																	
		2.4665	NiCr22Fe18Mo	Hastelloy X																																	
S_2	Titanio puro	3.7035	Gr.2	ASTM B348		100	0.80	0.011	120	1.00	0.016	120	1.20	0.018	130	1.50	0.020	130	1.80	0.022	140	2.00	0.028	140	2.50	0.030	150	3.00	0.034	170	4.00	0.042	170	6.00	0.042	170	8.00	0.042
		3.7065	Gr.4	ASTM B348																																	
	Leghe di titanio	3.7165	TiAl6V4	ASTM B348		100	0.80	0.011	120	1.00	0.016	120	1.20	0.018	130	1.50	0.020	130	1.80	0.022	140	2.00	0.028	140	2.50	0.030	150	3.00	0.034	170	4.00	0.042	170	6.00	0.042	170	8.00	0.042
		9.9367	TiAl6Nb7	ASTM F1295																																	
S_3	Leghe CrCo	2.4964	CoCr20W15Ni	Haynes 25		100	0.80	0.006	140	1.00	0.007	140	1.20	0.008	180	1.50	0.009	180	1.80	0.010	200	2.00	0.010	200	2.50	0.012	220	3.00	0.015	240	4.00	0.020	240	6.00	0.020	240	8.00	0.020
			CrCoMo28	ASTM F1537																																	
H_1	Acciai temprati < 55 HRC	1.2510	100MnCrMoW4	AISI O1		80	0.80	0.009	100	1.00	0.010	100	1.20	0.012	140	1.50	0.014	140	1.80	0.018	180	2.00	0.020	180	2.50	0.026	200	3.00	0.030	240	4.00	0.032	240	6.00	0.032	240	8.00	0.032
H_2	Acciai temprati ≥ 55 HRC	1.2379	X153CrMoV12	AISI D2																																	