

NEW

# Tipo N - Lavorazione preliminare

$v_c$  [m/min]  
 $f_z$  [mm]

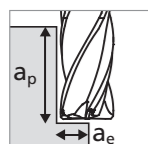
RACCOMANDAZIONI PER L'USO

● Perfettamente consigliato | ● Consigliato | ○ Parzialmente consigliato | ☒ Non consigliato



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

Lavorazione preliminare

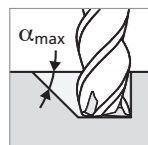


①

■  $a_p = 2 \times d$   
■  $a_e = 0.1 \times d$

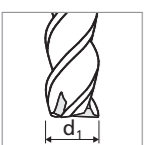
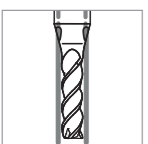
②

■  $a_p = 4 \times d$   
■  $a_e = 0.05 \times d$



Nota:

In caso di fresatura con rampa lineare o interpolazione elicoidale ridurre  $f_z$  del 35%



Gruppo materiali	Materiale	Mat. no.	DIN	AISI/ASTM/UNS	1.0 mm			1.5 mm 1/16"			2.0 mm 3/32"			3.0 mm 1/8"			4.0 mm 5/32"			5.0 mm 3/16" - 7/32"			6.0 mm 1/4"			8.0 mm		
					$v_c$	① $f_z$	② $f_z$	$v_c$	① $f_z$	② $f_z$	$v_c$	① $f_z$	② $f_z$	$v_c$	① $f_z$	② $f_z$	$v_c$	① $f_z$	② $f_z$	$v_c$	① $f_z$	② $f_z$	$v_c$	① $f_z$	② $f_z$	$v_c$	① $f_z$	② $f_z$
P	Acciai non legati Rm < 800 N/mm <sup>2</sup>	1.0301	C10	AISI 1010	140	0.011	0.008	200	0.015	0.012	220	0.024	0.017	240	0.033	0.020	260	0.034	0.025	260	0.035	0.028	260	0.046	0.029	260	0.054	0.033
		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/mm <sup>2</sup>	1.5752	15NiCr13	ASTM 3415 / AISI 3310	140	0.010	0.007	200	0.013	0.011	220	0.022	0.016	240	0.031	0.019	260	0.032	0.024	260	0.033	0.026	260	0.044	0.028	260	0.052	0.031
		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/mm <sup>2</sup>	1.2379	X153CrMoV12	AISI D2	140	0.008	0.006	200	0.011	0.010	220	0.019	0.015	240	0.028	0.018	260	0.029	0.022	260	0.030	0.024	260	0.042	0.026	260	0.050	0.029	
	1.2436	X210CrW12	AISI D4/D6																									
	1.3343	HS6-5-2C	AISI M2 / UNS T11302																									
		1.3355	HS18-0-1	AISI T1 / UNS T12001																								
M	Acciai inossidabili ferritici	1.4016	X6Cr17	AISI 430 / UNS S43000	140	0.012	0.008	180	0.015	0.012	180	0.021	0.017	200	0.030	0.020	220	0.032	0.024	220	0.033	0.026	220	0.040	0.028	260	0.048	0.031
		1.4105	X6CrMoS17	AISI 430F																								
		1.4034	X46Cr13	AISI 420C																								
	Acciai inossidabili martensitici	1.4112	X90CrMoV18	AISI 440B	140	0.011	0.008	180	0.014	0.011	180	0.020	0.016	200	0.028	0.018	220	0.031	0.023	220	0.032	0.025	220	0.037	0.027	260	0.045	0.030
		1.4542	X5CrNiCuNb16-4	AISI 630 / ASTM 17-4 PH																								
	Acciai inossidabili martensitici - PH	1.4545	X5CrNiCuNb15-5	ASTM 15-5 PH	140	0.011	0.008	180	0.014	0.011	180	0.020	0.016	200	0.028	0.018	220	0.031	0.023	220	0.032	0.025	220	0.037	0.027	260	0.045	0.030
		1.4301	X5CrNi18-10	AISI 304																								
Acciai inossidabili austenitici	1.4435	X2CrNiMo18-14-3	AISI 316L	140	0.009	0.006	180	0.012	0.008	180	0.018	0.015	200	0.026	0.017	220	0.030	0.022	220	0.031	0.024	220	0.035	0.026	260	0.042	0.029	
	1.4441	X2CrNiMo18-15-3	AISI 316LM																									
	1.4539	X1NiCrMoCu25-20-5	AISI 904L																									
K	Ghise	0.6020	GG20	ASTM 30	120	0.010	0.006	160	0.014	0.012	200	0.024	0.014	220	0.032	0.021	240	0.038	0.026	240	0.042	0.029	240	0.044	0.030	240	0.052	0.034
		0.6030	GG30	ASTM 40B																								
		0.7040	GGG40	ASTM 60-40-18																								
		0.7060	GGG60	ASTM 80-60-03																								
N	Leghe d'alluminio battute	3.2315	AlMgSi1	ASTM 6351	160	0.013	0.009	200	0.016	0.013	240	0.026	0.018	260	0.040	0.029	300	0.048	0.028	300	0.051	0.030	320	0.052	0.032	350	0.060	0.036
		3.4365	AlZnMgCu1.5	ASTM 7075																								
	Leghe d'alluminio pressofuse	3.2163	GD-AlSi9Cu3	ASTM A380	160	0.013	0.009	220	0.016	0.013	240	0.026	0.018	260	0.040	0.029	300	0.048	0.028	300	0.051	0.030	320	0.052	0.032	350	0.060	0.036
		3.2381	GD-AlSi10Mg	UNS A03590																								
	Rame	2.0040	Cu-OF / CW008A	UNS C10100	160	0.013	0.010	220	0.016	0.013	240	0.026	0.018	260	0.040	0.029	300	0.048	0.028	300	0.051	0.030	320	0.052	0.032	350	0.060	0.036
		2.0065	Cu-ETP / CW004A	UNS C11000																								
	Ottoni senza piombo	2.0321	CuZn37 CW508L	UNS C27400	160	0.013	0.010	220	0.016	0.013	240	0.026	0.018	260	0.040	0.029	300	0.048	0.028	300	0.051	0.030	320	0.052	0.032	350	0.060	0.036
		2.0360	CuZn40 CW509L	UNS C28000																								
	Ottoni, Bronzi Rm < 400 N/mm <sup>2</sup>	2.0401	CuZn39Pb3 / CW614N	UNS C38500	160	0.013	0.010	220	0.016	0.013	240	0.026	0.018	260	0.040	0.029	300	0.048	0.028	300	0.051	0.030	320	0.052	0.032	350	0.060	0.036
		2.1020	CuSn6	UNS C51900																								
Bronzi Rm < 600 N/mm <sup>2</sup>	2.0966	CuAl10Ni5Fe4	UNS C63000	160	0.013	0.009	220	0.016	0.013	240	0.026	0.018	260	0.040	0.029	300	0.048	0.028	300	0.051	0.030	320	0.052	0.032	350	0.060	0.036	
	2.0960	CuAl9Mn2	UNS C63200																									
S <sub>1</sub>	Superleghe	2.4856		Inconel 625	100	0.006	0.004	100	0.008	0.005	100	0.010	0.005	100	0.014	0.008	120	0.016	0.010	120	0.018	0.011	120	0.020	0.012	120	0.025	0.013
		2.4668		Inconel 718																								
		2.4617	NiMo28	Hastelloy B-2																								
		2.4665	NiCr22Fe18Mo	Hastelloy X																								
S <sub>2</sub>	Titanio puro	3.7035	Gr.2	ASTM B348 / F67	120	0.010	0.008	120	0.012	0.010	130	0.017	0.014	130	0.028	0.017	150	0.030	0.021	150	0.031	0.023	150	0.032	0.025	170	0.035	0.027
		3.7065	Gr.4	ASTM B348 / F68																								
S <sub>3</sub>	Leghe di titanio	3.7165	TiAl6V4	ASTM B348 / F136	120	0.010	0.008	120	0.012	0.010	130	0.017	0.014	130	0.028	0.017	150	0.030	0.021	150	0.031	0.023	150	0.032	0.025	170	0.035	0.027
		9.9367	TiAl6Nb7	ASTM F1295																								
H <sub>1</sub>	Acciai temprati < 55 HRC	2.4964	CoCr20W15Ni CrCoMo28	Haynes 25 ASTM F1537	100	0.006	0.004	100	0.008	0.005	100	0.010	0.005	100	0.014	0.008	120	0.016	0.010	120	0.018	0.011	120	0.020	0.012	120	0.025	0.013
H <sub>2</sub>	Acciai temprati ≥ 55 HRC	1.2510	100MnCrMoW4	AISI O1																								
		1.2379	X153CrMoV12	AISI D2																								