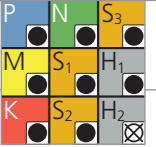


Typ C - Konventionelles Nutfräsen

v_c [m/min]
 f_z [mm]

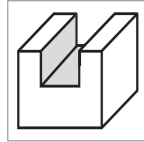
ANWENDUNGSEMPFEHLUNG

● Sehr gut geeignet | ◐ Gut geeignet | ○ bedingt geeignet | ⊗ Nicht empfohlen

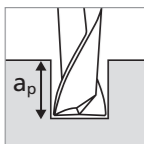
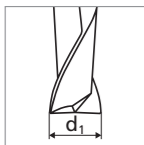
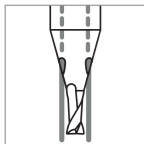


FRÄSEN MIT INTEGRIERTER KÜHLUNG | SCHNITTDATENÜBERSICHT

Konventionelles
Nutfräsen



■ $a_p = 1 \times d_1$
■ $a_p = 0.5 \times d_1$
für Gruppe S₁ und S₃



Werkstoffgruppe	Werkstoff	Wr.Nr.	DIN	AISI/ASTM/UNS	0.3 mm–0.4 mm 1/64"		0.5 mm–0.8 mm 1/32"		1.0 mm–1.2 mm		1.5 mm–1.8 mm 1/16"		2.0 mm–2.5 mm 3/32"		3.0 mm 1/8"		4.0 mm–6.0 mm 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	v_c	f_z															
P	Stähle unlegiert Rm < 800 N/mm ²	1.0301	C10	AISI 1010	60	0.004 – 0.006	100	0.008 – 0.012	140	0.013 – 0.015	180	0.022 – 0.024	200	0.030 – 0.032	220	0.034	260	0.048															
		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																													
	Stähle niedriglegiert Rm > 900 N/mm ²	1.7131	16MnCr5	AISI 5115	60	0.003 – 0.005	100	0.007 – 0.010	140	0.012 – 0.014	180	0.020 – 0.022	200	0.028 – 0.030	220	0.032	260	0.046															
		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																													
M	Werkzeugstähle hochlegiert Rm < 1200 N/mm ²	1.3343	HS6-5-2C	AISI M2 / UNS T11302	60	0.003 – 0.005	100	0.006 – 0.009	140	0.009 – 0.011	180	0.018 – 0.020	200	0.026 – 0.028	220	0.028	260	0.042															
		1.3355	HS18-0-1	AISI T1 / UNS T12001																													
		Rostfreie Stähle- ferritisch	1.4016	X6Cr17															AISI 430 / UNS S43000	60	0.004 – 0.006	100	0.008 – 0.012	140	0.014 – 0.016	180	0.022 – 0.024	200	0.030 – 0.032	220	0.034	260	0.046
			1.4105	X6CrMoS17															AISI 430F														
			1.4034	X46Cr13															AISI 420C														
		Rostfreie Stähle- martensitisch	1.4112	X90CrMoV18															AISI 440B	60	0.003 – 0.005	100	0.007 – 0.010	140	0.013 – 0.015	180	0.020 – 0.022	200	0.028 – 0.030	220	0.032	260	0.044
	1.4542		X5CrNiCuNb 16-4	AISI 630 / ASTM 17-4 PH																													
	1.4545		X5CrNiCuNb 15-5	ASTM 15-5 PH																													
	Rostfreie Stähle- martensitisch – PH	1.4301	X5CrNi 18-10	AISI 304	60	0.003 – 0.005	100	0.007 – 0.010	140	0.013 – 0.015	180	0.020 – 0.022	200	0.028 – 0.030	220	0.032	260	0.044															
		1.4435	X2CrNiMo 18-14-3	AISI 316L																													
		1.4441	X2CrNiMo 18-15-3	AISI 316LM																													
	Rostfreie Stähle- austenitisch	1.4539	X1NiCrMoCu 25-20-5	AISI 904L	60	0.003 – 0.005	100	0.006 – 0.009	140	0.010 – 0.012	180	0.016 – 0.018	200	0.026 – 0.028	220	0.030	260	0.042															
K		Gusseisen	0.6020	GG20															ASTM 30	60	0.002 – 0.004	100	0.005 – 0.008	120	0.010 – 0.020	140	0.022 – 0.025	160	0.026 – 0.035	180	0.040	200	0.050
			0.6030	GG30															ASTM 40B														
	0.7040		GGG40	ASTM 60-40-18																													
	0.7060		GGG60	ASTM 80-60-03																													
N	Aluminium Knetlegierungen	3.2315	AlMgSi1	ASTM 6351	60	0.005 – 0.007	100	0.010 – 0.014	140	0.015 – 0.017	180	0.024 – 0.026	200	0.032 – 0.034	220	0.052	260	0.050															
		3.4365	AlZnMgCu1.5	ASTM 7075																													
	Aluminium Druckgusslegierungen	3.2163	GD-AlSi9Cu3	ASTM A380	60	0.005 – 0.007	100	0.010 – 0.014	140	0.015 – 0.017	180	0.024 – 0.026	200	0.032 – 0.034	220	0.050	260	0.050															
		3.2381	GD-AlSi10Mg	UNS A03590																													
	Kupfer	2.004	Cu-OF / CW008A	UNS C10100	60	0.005 – 0.007	100	0.012 – 0.016	140	0.018 – 0.020	180	0.024 – 0.026	200	0.032 – 0.034	220	0.052	260	0.050															
		2.0065	Cu-ETP / CW004A	UNS C11000																													
	Messing bleifrei	2.0321	CuZn37 CW508L	UNS C27400	60	0.005 – 0.007	100	0.012 – 0.016	140	0.018 – 0.020	180	0.024 – 0.026	200	0.032 – 0.034	220	0.052	260	0.050															
		2.036	CuZn40 CW509L	UNS C28000																													
	Messing, Bronze Rm < 400 N/mm ²	2.0401	CuZn39Pb3 / CW614N	UNS C38500	60	0.005 – 0.007	100	0.012 – 0.016	140	0.018 – 0.020	180	0.024 – 0.026	200	0.032 – 0.034	220	0.052	260	0.050															
		2.102	CuSn6	UNS C51900																													
	Bronze Rm < 600 N/mm ²	2.0966	CuAl10Ni5Fe4	UNS C63000	60	0.005 – 0.007	100	0.010 – 0.014	140	0.016 – 0.018	180	0.024 – 0.026	200	0.032 – 0.034	220	0.052	260	0.050															
		2.096	CuAl9Mn2	UNS C63200																													
S ₁	Hitzebeständige Stähle	2.4856		Inconel 625	60	0.002 – 0.003	100	0.004 – 0.006	120	0.007 – 0.008	130	0.009 – 0.010	140	0.010 – 0.012	150	0.015	170	0.020															
		2.4668		Inconel 718																													
		2.4617	NiMo28	Hastelloy B-2																													
		2.4665	NiCr22Fe18Mo	Hastelloy X																													
S ₂	Titan rein	3.7035	Gr.2	ASTM B348 / F67	60	0.003 – 0.005	100	0.006 – 0.009	120	0.014 – 0.016	130	0.018 – 0.020	140	0.026 – 0.028	150	0.030	170	0.040															
		3.7065	Gr.4	ASTM B348 / F68																													
S ₃	Titan Legierungen	3.7165	TiAl6V4	ASTM B348 / F136	60	0.003 – 0.005	100	0.006 – 0.009	120	0.014 – 0.016	130	0.018 – 0.020	140	0.026 – 0.028	150	0.030	170	0.040															
		9.9367	TiAl6Nb7	ASTM F1295																													
H ₁	Stähle gehärtet < 55 HRC	2.4964	CoCr20W15Ni	Haynes 25	60	0.002 – 0.003	100	0.004 – 0.006	140	0.007 – 0.008	160	0.009 – 0.010	180	0.010 – 0.012	200	0.015	220	0.020															
			CrCoMo28	ASTM F1537																													
H ₂	Stähle gehärtet ≥ 55 HRC	1.2510	100MnCrMoW4	AISI O1	60	0.003 – 0.005	80	0.006 – 0.007	100	0.008 – 0.010	140	0.012 – 0.016	180	0.018 – 0.024	200	0.028	240	0.030															
		1.2379	X153CrMoV12	AISI D2																													