

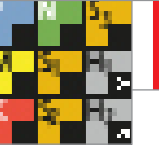
**NEW**

# Typ C - Z3 - Nutfräsen

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

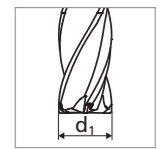
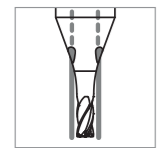
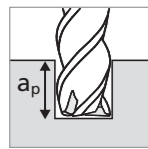
ANWENDUNGSEMPFEHLUNG

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



## FRÄSEN MIT INTEGRIERTER KÜHLUNG | SCHNITTDATENÜBERSICHT

Nutfräsen



Werkstoffgruppe	Werkstoff	Wr.Nr.	DIN	AISI/ASTM/UNS	Schneidengeometrie	$a_p$	$\varnothing d_1$																		
							0.2 mm		0.3 mm		0.4 mm 1/64"		0.5 mm		0.6 mm		0.7 mm		0.8 mm 1/32"		0.9 - 1.0 mm				
							$v_c$	$f_z$	$v_c$	$f_z$	$v_c$	$f_z$	$v_c$	$f_z$	$v_c$	$f_z$	$v_c$	$f_z$	$v_c$	$f_z$	$v_c$	$f_z$			
<b>P</b>	Stähle unlegiert $R_m < 800 \text{ N/mm}^2$	1.0301	C10	AISI 1010	<b>GEOMETRIE S</b>	$0.2 \times d_1$	15 - 25	0.003	20 - 40	0.005	25 - 50	0.007	30 - 65	0.010	40 - 75	0.012	45 - 90	0.014	50 - 100	0.016	55 - 115	0.018			
		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 $R_m > 900 \text{ N/mm}^2$	1.7131	16MnCr5	AISI 5115						15 - 25	0.003	20 - 40	0.005	25 - 50	0.007	30 - 65	0.010	40 - 75	0.012	45 - 90	0.014	50 - 100	0.016	55 - 115	0.018
		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																					
Werkzeugstähle hochlegiert $R_m < 1200 \text{ N/mm}^2$	1.3343	HS6-5-2C	AISI M2 / UNS T11302				15 - 25	0.002	20 - 40	0.004	25 - 50	0.006	30 - 65	0.008	40 - 75	0.009	45 - 90	0.011	50 - 100	0.013	55 - 115	0.015			
	1.3355	HS18-0-1	AISI T1 / UNS T12001																						
	<b>M</b>	Rostfreie Stähle- ferritisch	1.4016	X6Cr17	AISI 430 / UNS S43000	<b>GEOMETRIE S</b>	$0.2 \times d_1$	15 - 25	0.003	20 - 40	0.005	25 - 50	0.007	30 - 65	0.010	40 - 75	0.012	45 - 90	0.014	50 - 100	0.016	55 - 115	0.018		
			1.4105	X6CrMoS17	AISI 430F																				
			1.4034	X46Cr13	AISI 420C																				
		Rostfreie Stähle- martensitisch	1.4112	X90CrMoV18	AISI 440B						15 - 25	0.003	20 - 40	0.005	25 - 50	0.007	30 - 65	0.010	40 - 75	0.012	45 - 90	0.014	50 - 100	0.016	55 - 115
1.4542			X5CrNiCuNb16-4	AISI 630 / ASTM 17-4 PH						15 - 25	0.002	20 - 40	0.004	25 - 50	0.006	30 - 65	0.008	40 - 75	0.009	45 - 90	0.011	50 - 100	0.013	55 - 115	0.015
1.4545			X5CrNiCuNb15-5	ASTM 15-5 PH																					
Rostfreie Stähle- austenitisch	1.4301	X5CrNi18-10	AISI 304				15 - 25	0.002	20 - 40	0.004	25 - 50	0.006	30 - 65	0.008	40 - 75	0.009	45 - 90	0.011	50 - 100	0.013	55 - 115	0.015			
	1.4435	X2CrNiMo18-14-3	AISI 316L																						
	1.4441	X2CrNiMo18-15-3	AISI 316LM																						
<b>K</b>	Gusseisen	0.6020	GG20	ASTM 30	<b>GEOMETRIE S</b>	$0.2 \times d_1$	15 - 25	0.002	20 - 40	0.004	25 - 50	0.006	30 - 65	0.008	40 - 75	0.009	45 - 90	0.011	50 - 100	0.013	55 - 115	0.015			
		0.6030	GG30	ASTM 40B																					
		0.7040	GGG40	ASTM 60-40-18																					
		0.7060	GGG60	ASTM 80-60-03																					
		<b>N</b>	Aluminium Knetlegierungen	3.2315			AlMgSi1	ASTM 6351	<b>GEOMETRIE S</b>	$0.2 \times d_1$	15 - 25	0.004	20 - 40	0.007	25 - 50	0.009	30 - 65	0.012	40 - 75	0.013	45 - 90	0.015	50 - 100	0.016	55 - 115
3.4365	AlZnMgCu1.5			ASTM 7075																					
Aluminium Druckgusslegierungen	3.2163		GD-ALSi9Cu3	ASTM A380				15 - 25			0.004	20 - 40	0.007	25 - 50	0.009	30 - 65	0.012	40 - 75	0.013	45 - 90	0.015	50 - 100	0.016	55 - 115	0.017
	3.2381		GD-ALSi10Mg	UNS A03590																					
Kupfer	2.0040		Cu-OF / CW008A	UNS C10100				15 - 25			0.004	20 - 40	0.007	25 - 50	0.009	30 - 65	0.012	40 - 75	0.013	45 - 90	0.015	50 - 100	0.016	55 - 115	0.017
	2.0065		Cu-ETP / CW004A	UNS C11000																					
Messing bleifrei	2.0321		CuZn37 CW508L	UNS C27400				15 - 25			0.004	20 - 40	0.007	25 - 50	0.009	30 - 65	0.012	40 - 75	0.013	45 - 90	0.015	50 - 100	0.016	55 - 115	0.017
	2.0360		CuZn40 CW509L	UNS C28000																					
Messing, Bronze $R_m < 400 \text{ N/mm}^2$	2.0401		CuZn39Pb3 / CW614N	UNS C38500				15 - 25			0.004	20 - 40	0.007	25 - 50	0.009	30 - 65	0.012	40 - 75	0.013	45 - 90	0.015	50 - 100	0.016	55 - 115	0.017
	2.1020		CuSn6	UNS C51900																					
Bronze $R_m < 600 \text{ N/mm}^2$	2.0966	CuAl10Ni5Fe4	UNS C63000				15 - 25	0.004	20 - 40	0.007	25 - 50	0.009	30 - 65	0.012	40 - 75	0.013	45 - 90	0.015	50 - 100	0.016	55 - 115	0.017			
	2.0960	CuAl9Mn2	UNS C63200																						
<b>S<sub>1</sub></b>	Hitzebeständige Legierungen	2.4856		Inconel 625	<b>GEOMETRIE SX</b>	$0.1 \times d_1$	15 - 25	0.002	20 - 40	0.003	25 - 50	0.004	30 - 65	0.005	40 - 75	0.007	45 - 90	0.008	50 - 100	0.009	55 - 115	0.010			
		2.4668		Inconel 718																					
		2.4617	NiMo28	Hastelloy B-2																					
		2.4665	NiCr22Fe18Mo	Hastelloy X																					
<b>S<sub>2</sub></b>	Reintitan	3.7035	Gr.2	ASTM B348 / F67	<b>GEOMETRIE S</b>	$0.2 \times d_1$	15 - 25	0.002	20 - 40	0.004	25 - 50	0.006	30 - 65	0.008	40 - 75	0.009	45 - 90	0.011	50 - 100	0.013	55 - 115	0.015			
		3.7065	Gr.4	ASTM B348 / F68																					
	Titan-Legierungen	3.7165	TiAl6V4	ASTM B348 / F136			<b>GEOMETRIE S</b>	$0.2 \times d_1$	15 - 25	0.003	20 - 40	0.005	25 - 50	0.007	30 - 65	0.010	40 - 75	0.012	45 - 90	0.014	50 - 100	0.016	55 - 115	0.018	
Titan-Legierungen	9.9367	TiAl6Nb7	ASTM F1295																						
<b>S<sub>3</sub></b>	CoCr-Legierungen	2.4964	CoCr20W15Ni	Haynes 25	<b>GEOMETRIE SX</b>	$0.2 \times d_1$	15 - 25	0.002	20 - 40	0.003	25 - 50	0.004	30 - 65	0.005	40 - 75	0.007	45 - 90	0.008	50 - 100	0.009	55 - 115	0.010			
			CrCoMo28	ASTM F1537																					
<b>H<sub>1</sub></b> <b>H<sub>2</sub></b>	Stähle gehärtet $< 55 \text{ HRC}$	1.2510	100MnCrMoW4	AISI O1																					
		1.2379	X153CrMoV12	AISI D2																					