

ISO	Finishing / Edge-banding ap: 1.00 x D/ ae: 0.50 x D Materials group	Strength/ Hardness N/mm ²	Material examples	Material number	Cutting speed Vc m/min	Feed fz in mm/tooth in relation to milling cutter diameter range in mm				
						3-4	5 - 6	8-10	12 - 16	18 - 25
P	Unalloyed structural steel	Up to 700	St-52	1.0052	156	0.012	0.035	0.045	0.075	0.12
	Machining steel	Up to 700	9 SMn 28	1.0715	170	0.012	0.035	0.045	0.075	0.12
	Unalloyed tempered steel	500 - 950	Ck45	1.1191	127	0.012	0.035	0.045	0.075	0.12
	Alloyed case-hardened steel	Up to 950	16 MnCr 5	1.7131	99	0.009	0.025	0.032	0.052	0.084
	Tool steel	950 - 1400	X 38 CrMoV 5 1	1.2343	85	0.009	0.025	0.032	0.052	0.084
	Cast steel	Up to 950	GS 40	1.0416	105	0.012	0.035	0.045	0.075	0.12
M	Stainless steel, austenitic	500 - 950	X 5 CrNi 18 10	1.4301	156	0.012	0.035	0.045	0.075	0.12
	Stainless steel, sulphurised	500 - 950	X 12 CrMoS 17	1.4104	53	0.009	0.025	0.032	0.052	0.084
	Stainless steel, martensitic	500 - 950	X 10 Cr 13	1.4006	53	0.009	0.025	0.032	0.052	0.084
K	Grey cast iron	100 - 400	GG 25	0.6025	127	0.012	0.035	0.045	0.075	0.12
	Alloyed grey cast iron	150-250	GGL-NiCr 35 2	0.6678	99	0.012	0.035	0.045	0.075	0.12
	Ductile iron	400 - 800	GGG 60	0.7060	99	0.012	0.035	0.045	0.075	0.12
	Malleable cast iron	350 - 700	GTS 55	0.8155	99	0.012	0.035	0.045	0.075	0.12
S	Titanium alloy	900 - 1400	TiAl6Sn 2	3.7174	25	0.007	0.015	0.025	0.032	0.07
	Nickel-based alloy	900 - 1400	NiCr19Fe19NbMo	Inconel 718	25	0.007	0.015	0.025	0.032	0.07



VAN HOORN CARBIDE End milling cutter VHSW Z4



• Please adjust these guideline values according to clamping operation and machine set-up!

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ISO	Roughing / Grooving fz for ae = 1.0 x D and ap = 1.0 x D Materials group	Strength/ Hardness N/mm ²	Material example chemical	Material number	Cutting speed Vc m/min	Feed fz in mm/tooth in relation to milling cutter diameter in mm										
						3	4	5	6	8	10	12	14	16	20	25
P	Machining steel	Up to 700	9 SMn 28	1.0715	200	0.01	0.015	0.02	0.025	0.035	0.04	0.05	0.055	0.065	0.08	0.110
	Unalloyed structural steel	Up to 700	St-52	1.0052	200	0.01	0.015	0.02	0.025	0.035	0.04	0.05	0.055	0.065	0.08	0.110
	Structural steel	700 - 950	Ck45	1.1191	200	0.01	0.015	0.02	0.025	0.035	0.04	0.05	0.055	0.065	0.08	0.110
	Cast steel	Up to 950	GS 40	1.0416	130	0.01	0.015	0.02	0.025	0.035	0.04	0.05	0.055	0.065	0.08	0.110
	Case-hardened steel	Up to 1200	16 MnCr 5	1.7131	180	0.01	0.015	0.02	0.025	0.035	0.04	0.05	0.055	0.065	0.08	0.110
	Tool steel	950 - 1400	X 38 CrMoV 5 1	1.2343	130	0.01	0.015	0.02	0.025	0.035	0.04	0.05	0.055	0.065	0.08	0.110
M	Stainless steel, ferr./marten.	500 - 950	X10Cr13	1.4006	80	0.01	0.015	0.02	0.025	0.035	0.04	0.05	0.055	0.065	0.08	0.110
	Stainless steel, austenitic	500 - 950	X 5 CrNi 18 10	1.4301	90	0.01	0.015	0.02	0.025	0.035	0.04	0.05	0.055	0.065	0.08	0.110
	Duplex	700 - 950	x 2 CrNiMoN 22-5-3	1.4462	100	0.01	0.015	0.02	0.025	0.035	0.04	0.05	0.055	0.065	0.08	0.110
K	Grey cast iron	Up to 260 HB	GG 25	0.6025	180	0.01	0.015	0.02	0.025	0.035	0.04	0.05	0.055	0.065	0.08	0.110
	Alloyed grey cast iron	Up to 310 HB	GGL-NiCr 35 2	0.6678	160	0.01	0.015	0.02	0.025	0.035	0.04	0.05	0.055	0.065	0.08	0.110
	Ductile iron	Up to 280 HB	GGG 60	0.7060	100	0.01	0.015	0.02	0.025	0.035	0.04	0.05	0.055	0.065	0.08	0.110
	Malleable cast iron	Up to 280 HB	GTS 55	0.8155	100	0.01	0.015	0.02	0.025	0.035	0.04	0.05	0.055	0.065	0.08	0.110
S	Titanium alloys	Up to 1300	TiAl6Sn 2	3.7174	50	0.01	0.015	0.02	0.025	0.035	0.04	0.05	0.055	0.065	0.08	0.110
	Nickel-based alloys	Up to 1300	NiCr19Fe19NbMo	Inconel 718	30	0.01	0.015	0.02	0.025	0.035	0.04	0.05	0.055	0.065	0.08	0.110
H	Hardened materials up to 55 HRC		X40Cr14	1.2083	100	0.01	0.015	0.02	0.025	0.035	0.04	0.05	0.055	0.065	0.08	0.110

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						3	4	5	6	8	10	12	14	16	20	25
P	Machining steel	Up to 700	9 SMn 28	1.0715	225	0.02	0.025	0.03	0.035	0.045	0.055	0.065	0.07	0.08	0.1	0.125
	Unalloyed structural steel	Up to 700	St-52	1.0052	225	0.02	0.025	0.03	0.035	0.045	0.055	0.065	0.07	0.08	0.1	0.125
	Structural steel	700 - 950	Ck45	1.1191	225	0.02	0.025	0.03	0.035	0.045	0.055	0.065	0.07	0.08	0.1	0.125
	Cast steel	Up to 950	GS 40	1.0416	150	0.02	0.025	0.03	0.035	0.045	0.055	0.065	0.07	0.08	0.1	0.125
	Case-hardened steel	Up to 1200	16 MnCr 5	1.7131	200	0.02	0.025	0.03	0.035	0.045	0.055	0.065	0.07	0.08	0.1	0.125
	Tool steel	950 - 1400	X 38 CrMoV 5 1	1.2343	150	0.02	0.025	0.03	0.035	0.045	0.055	0.065	0.07	0.08	0.1	0.125
M	Stainless steel, ferr./marten.	500 - 950	X10Cr13	1.4006	110	0.02	0.025	0.03	0.035	0.045	0.055	0.065	0.07	0.08	0.1	0.125
	Stainless steel, austenitic	500 - 950	X 5 CrNi 18 10	1.4301	120	0.02	0.025	0.03	0.035	0.045	0.055	0.065	0.07	0.08	0.1	0.125
	Duplex	700 - 950	x 2 CrNiMoN 22-5-3	1.4462	130	0.02	0.025	0.03	0.035	0.045	0.055	0.065	0.07	0.08	0.1	0.125
K	Grey cast iron	Up to 260 HB	GG 25	0.6025	200	0.02	0.025	0.03	0.035	0.045	0.055	0.065	0.07	0.08	0.1	0.125
	Alloyed grey cast iron	Up to 310 HB	GGL-NiCr 35 2	0.6678	180	0.02	0.025	0.03	0.035	0.045	0.055	0.065	0.07	0.08	0.1	0.125
	Ductile iron	Up to 280 HB	GGG 60	0.7060	120	0.02	0.025	0.03	0.035	0.045	0.055	0.065	0.07	0.08	0.1	0.125
	Malleable cast iron	Up to 280 HB	GTS 55	0.8155	120	0.02	0.025	0.03	0.035	0.045	0.055	0.065	0.07	0.08	0.1	0.125
S	Titanium alloys	Up to 1300	TiAl6Sn 2	3.7174	60	0.02	0.025	0.03	0.035	0.045	0.055	0.065	0.07	0.08	0.1	0.125
	Nickel-based alloys	Up to 1300	NiCr19Fe19NbMo	Inconel 718	40	0.02	0.025	0.03	0.035	0.045	0.055	0.065	0.07	0.08	0.1	0.125
H	Hardened materials up to 55 HRC		X40Cr14	1.2083	120	0.02	0.025	0.03	0.035	0.045	0.055	0.065	0.07	0.08	0.1	0.125