



 			ØD 2 / CR 0.5				ØD 3 / CR 0.8			
										
			Side	Slotting	Z-Constant	2D/3D HSC	Side	Slotting	Z-Constant	2D/3D HSC
I	Cast Iron Carbon Steels Alloy Steels (150 ~ 250HB)	V _c (m/min)	110	70	85	250	110	70	85	250
		n (min ⁻¹)	17,500	11,100	13,500	39,800	11,700	7,400	9,000	26,500
		f _z (mm/tooth)	0.014	0.009	0.112	0.024	0.023	0.015	0.193	0.04
		V _r (mm/min)	470	190	3.020	1.910	540	220	3.480	2.190
		a _p (mm)	3.00	2.00	0.10	0.25	4.50	3.00	0.15	0.25
		a _e (mm)	0.30	2.00	0.80	0.25	0.45	3.00	1.20	0.25
II	Stainless Steels (25 ~ 35HRC)	V _c (m/min)	77	49	60	175	77	49	60	175
		n (min ⁻¹)	12,300	7,800	9,500	27,900	8,200	5,200	6,300	18,600
		f _z (mm/tooth)	0.011	0.007	0.095	0.020	0.020	0.013	0.164	0.035
		V _r (mm/min)	280	120	1,810	1,140	320	130	2,070	1,310
		a _p (mm)	3.00	1.00	0.10	0.25	4.50	1.50	0.15	0.25
		a _e (mm)	0.20	2.00	0.80	0.25	0.30	3.00	1.20	0.25
III	Tool Steels (25 ~ 35HRC)	V _c (m/min)	110	70	85	250	110	70	85	250
		n (min ⁻¹)	17,500	11,100	13,500	39,800	11,700	7,400	9,000	26,500
		f _z (mm/tooth)	0.011	0.007	0.095	0.020	0.020	0.013	0.164	0.035
		V _r (mm/min)	400	160	2,570	1,620	460	190	2,960	1,870
		a _p (mm)	3.00	1.00	0.10	0.25	4.50	1.50	0.15	0.25
		a _e (mm)	0.20	2.00	0.80	0.25	0.30	3.00	1.20	0.25
IV	Tool Steels (35 ~ 45HRC)	V _c (m/min)	99	63	77	225	99	63	77	225
		n (min ⁻¹)	15,800	10,000	12,200	35,800	10,500	6,700	8,100	23,900
		f _z (mm/tooth)	0.010	0.007	0.084	0.018	0.017	0.011	0.145	0.031
		V _r (mm/min)	320	130	2,050	1,290	370	150	2,350	1,480
		a _p (mm)	3.00	0.80	0.08	0.25	4.50	1.20	0.12	0.25
		a _e (mm)	0.14	2.00	0.80	0.25	0.21	3.00	1.20	0.25
V	Tool Steels Hardened Steels (45 ~ 55HRC)	V _c (m/min)	88	56	68	200	88	56	68	200
		n (min ⁻¹)	14,000	8,900	10,800	31,800	9,300	5,900	7,200	21,200
		f _z (mm/tooth)	0.009	0.006	0.078	0.017	0.016	0.011	0.135	0.029
		V _r (mm/min)	260	110	1,690	1,070	300	120	1,950	1,230
		a _p (mm)	2.00	0.40	0.06	0.20	3.00	0.60	0.09	0.20
		a _e (mm)	0.10	2.00	0.80	0.20	0.15	3.00	1.20	0.20
VI	Hardened Steels (55~65HRC)	V _c (m/min)	66		51	150	66		51	150
		n (min ⁻¹)	10,500		8,100	23,900	7,000		5,400	15,900
		f _z (mm/tooth)	0.005		0.039	0.008	0.008		0.068	0.014
		V _r (mm/min)	100		640	400	110		730	460
		a _p (mm)	2.00		0.04	0.20	3.00		0.06	0.20
		a _e (mm)	0.06		0.80	0.20	0.09		1.20	0.20



			ØD 6 / CR 1.5				ØD 8 / CR 2.0			
										
			Side	Slotting	Z-Constant	2D/3D HSC	Side	Slotting	Z-Constant	2D/3D HSC
I	Cast Iron	V _c (m/min)	110	70	85	250	110	70	85	250
		n (min ⁻¹)	5,800	3,700	4,500	13,300	4,400	2,800	3,400	9,900
	Carbon Steels	f _z (mm/tooth)	0.057	0.037	0.470	0.101	0.081	0.052	0.672	0.144
		V _r (mm/min)	660	270	4,230	2,680	710	290	4,570	2,850
	Alloy Steels	a _p (mm)	9.00	6.00	0.30	0.50	12.00	8.00	0.40	0.50
		a _e (mm)	0.90	6.00	2.40	0.50	1.20	8.00	3.20	0.50
II	Stainless Steels (25 ~ 35HRC)	V _c (m/min)	77	49	60	175	77	49	60	175
		n (min ⁻¹)	4,100	2,600	3,200	9,300	3,100	1,900	2,400	7,000
		f _z (mm/tooth)	0.048	0.031	0.400	0.086	0.069	0.044	0.571	0.122
		V _r (mm/min)	400	160	2,560	1,590	430	170	2,740	1,710
		a _p (mm)	9.00	3.00	0.30	0.50	12.00	4.00	0.40	0.50
		a _e (mm)	0.60	6.00	2.40	0.50	0.80	8.00	3.20	0.50
III	Tool Steels (25 ~ 35HRC)	V _c (m/min)	110	70	85	250	110	70	85	250
		n (min ⁻¹)	5,800	3,700	4,500	13,300	4,400	2,800	3,400	9,900
		f _z (mm/tooth)	0.048	0.031	0.400	0.086	0.069	0.044	0.571	0.122
		V _r (mm/min)	560	230	3,600	2,280	610	250	3,880	2,420
		a _p (mm)	9.00	3.00	0.30	0.50	12.00	4.00	0.40	0.50
		a _e (mm)	0.60	6.00	2.40	0.50	0.80	8.00	3.20	0.50
IV	Tool Steels (35 ~ 45HRC)	V _c (m/min)	99	63	77	225	99	63	77	225
		n (min ⁻¹)	5,300	3,300	4,100	11,900	3,900	2,500	3,000	9,000
		f _z (mm/tooth)	0.043	0.027	0.353	0.076	0.061	0.039	0.504	0.108
		V _r (mm/min)	450	180	2,890	1,800	470	200	3,020	1,940
		a _p (mm)	9.00	2.40	0.24	0.40	12.00	3.20	0.32	0.40
		a _e (mm)	0.42	6.00	2.40	0.40	0.56	8.00	3.20	0.40
V	Tool Steels Hardened Steels (45 ~ 55HRC)	V _c (m/min)	88	56	68	200	88	56	68	200
		n (min ⁻¹)	4,700	3,000	3,600	10,600	3,500	2,200	2,700	8,000
		f _z (mm/tooth)	0.040	0.026	0.329	0.071	0.057	0.037	0.470	0.101
		V _r (mm/min)	370	150	2,370	1,500	400	160	2,540	1,610
		a _p (mm)	6.00	1.20	0.18	0.40	8.00	1.60	0.24	0.40
		a _e (mm)	0.30	6.00	2.40	0.40	0.40	8.00	3.20	0.40
VI	Hardened Steels (55-65HRC)	V _c (m/min)	66		51	150	66		51	150
		n (min ⁻¹)	3,500		2,700	8,000	2,600		2,000	6,000
		f _z (mm/tooth)	0.020		0.165	0.035	0.028		0.235	0.050
		V _r (mm/min)	140		890	560	150		940	600
		a _p (mm)	6.00		0.12	0.40	8.00		0.16	0.40
		a _e (mm)	0.18		2.40	0.40	0.24		3.20	0.40



			ØD 4 / CR 1.0				ØD 5 / CR 1.2			
			Side	Slotting	Z-Constant	2D/3D HSC	Side	Slotting	Z-Constant	2D/3D HSC
I	Cast Iron Carbon Steels Alloy Steels (150 ~ 250HB)	V _c (m/min)	110	70	85	250	110	70	85	250
		n (min ⁻¹)	8,800	5,600	6,800	19,900	7,000	4,500	5,400	15,900
		f _z (mm/tooth)	0.032	0.021	0.269	0.058	0.046	0.029	0.378	0.081
		V _f (mm/min)	570	230	3,660	2,290	640	260	4,080	2,580
		a _p (mm)	6.00	4.00	0.20	0.25	7.50	5.00	0.25	0.25
		a _e (mm)	0.60	4.00	1.60	0.25	0.75	5.00	2.00	0.25
II	Stainless Steels (25 ~ 35HRC)	V _c (m/min)	77	49	60	175	77	49	60	175
		n (min ⁻¹)	6,100	3,900	4,700	13,900	4,900	3,100	3,800	11,100
		f _z (mm/tooth)	0.028	0.018	0.228	0.049	0.039	0.025	0.321	0.069
		V _f (mm/min)	340	140	2,150	1,360	380	150	2,440	1,530
		a _p (mm)	6.00	2.00	0.20	0.25	7.50	2.50	0.25	0.25
		a _e (mm)	0.40	4.00	1.60	0.25	0.50	5.00	2.00	0.25
III	Tool Steels (25 ~ 35HRC)	V _c (m/min)	110	70	85	250	110	70	85	250
		n (min ⁻¹)	8,800	5,600	6,800	19,900	7,000	4,500	5,400	15,900
		f _z (mm/tooth)	0.028	0.018	0.228	0.049	0.039	0.025	0.321	0.069
		V _f (mm/min)	480	200	3,110	1,950	540	220	3,470	2,190
		a _p (mm)	6.00	2.00	0.20	0.25	7.50	2.50	0.25	0.25
		a _e (mm)	0.40	4.00	1.60	0.25	0.50	5.00	2.00	0.25
IV	Tool Steels (35 ~ 45HRC)	V _c (m/min)	99	63	77	225	99	63	77	225
		n (min ⁻¹)	7,900	5,000	6,100	17,900	6,300	4,000	4,900	14,300
		f _z (mm/tooth)	0.024	0.016	0.202	0.043	0.034	0.022	0.284	0.061
		V _f (mm/min)	380	160	2,460	1,550	430	180	2,780	1,740
		a _p (mm)	6.00	1.60	0.16	0.25	7.50	2.00	0.20	0.25
		a _e (mm)	0.28	4.00	1.60	0.25	0.35	5.00	2.00	0.25
V	Tool Steels Hardened Steels (45 ~ 55HRC)	V _c (m/min)	88	56	68	200	88	56	68	200
		n (min ⁻¹)	7,000	4,500	5,400	15,900	5,600	3,600	4,300	12,700
		f _z (mm/tooth)	0.023	0.015	0.188	0.040	0.032	0.021	0.265	0.057
		V _f (mm/min)	320	130	2,030	1,280	360	150	2,280	1,440
		a _p (mm)	4.00	0.80	0.12	0.20	5.00	1.00	0.15	0.20
		a _e (mm)	0.20	4.00	1.60	0.20	0.25	5.00	2.00	0.20
VI	Hardened Steels (55 ~ 65HRC)	V _c (m/min)	66	51	150	150	66	51	150	150
		n (min ⁻¹)	5,300	4,100	11,900	11,900	4,200	3,200	9,500	9,500
		f _z (mm/tooth)	0.011	0.094	0.020	0.020	0.016	0.132	0.028	0.028
		V _f (mm/min)	120	770	480	480	130	850	540	540
		a _p (mm)	4.00	0.08	0.20	0.20	5.00	0.10	0.20	0.20
		a _e (mm)	0.12	1.60	0.20	0.20	0.15	2.00	0.20	0.20



			ØD 10 / CR 2.0				ØD 12 / CR 2.0			
			Side	Slotting	Z-Constant	2D/3D HSC	Side	Slotting	Z-Constant	2D/3D HSC
I	Cast Iron Carbon Steels Alloy Steels (150 ~ 250HB)	V _c (m/min)	110	70	85	250	110	70	85	250
		n (min ⁻¹)	3,500	2,200	2,700	8,000	2,900	1,900	2,300	6,600
		f _z (mm/tooth)	0.095	0.061	0.784	0.168	0.105	0.068	0.874	0.187
		V _f (mm/min)	660	270	4,230	2,690	610	260	4,020	2,470
		a _p (mm)	15.00	10.00	0.50	0.50	18.00	12.00	0.60	0.50
		a _e (mm)	1.50	10.00	4.00	0.50	1.80	12.00	4.80	0.50
II	Stainless Steels (25 ~ 35HRC)	V _c (m/min)	77	49	60	175	77	49	60	175
		n (min ⁻¹)	2,500	1,600	1,900	5,600	2,000	1,300	1,600	4,600
		f _z (mm/tooth)	0.080	0.052	0.666	0.143	0.090	0.058	0.743	0.159
		V _f (mm/min)	400	170	2,530	1,600	360	150	2,380	1,460
		a _p (mm)	15.00	5.00	0.50	0.50	18.00	6.00	0.60	0.50
		a _e (mm)	1.00	10.00	4.00	0.50	1.20	12.00	4.80	0.50
III	Tool Steels (25 ~ 35HRC)	V _c (m/min)	110	70	85	250	110	70	85	250
		n (min ⁻¹)	3,500	2,200	2,700	8,000	2,900	1,900	2,300	6,600
		f _z (mm/tooth)	0.080	0.052	0.666	0.143	0.090	0.058	0.743	0.159
		V _f (mm/min)	560	230	3,600	2,280	520	220	3,420	2,100
		a _p (mm)	15.00	5.00	0.50	0.50	18.00	6.00	0.60	0.50
		a _e (mm)	1.00	10.00	4.00	0.50	1.20	12.00	4.80	0.50
IV	Tool Steels (35 ~ 45HRC)	V _c (m/min)	99	63	77	225	99	63	77	225
		n (min ⁻¹)	3,200	2,000	2,400	7,200	2,600	1,700	2,000	6,000
		f _z (mm/tooth)	0.071	0.046	0.588	0.126	0.079	0.051	0.655	0.140
		V _f (mm/min)	450	180	2,820	1,810	410	170	2,620	1,680
		a _p (mm)	15.00	4.00	0.40	0.40	18.00	4.80	0.48	0.40
		a _e (mm)	0.70	10.00	4.00	0.40	0.84	12.00	4.80	0.40
V	Tool Steels Hardened Steels (45 ~ 55HRC)	V _c (m/min)	88	56	68	200	88	56	68	200
		n (min ⁻¹)	2,800	1,800	2,200	6,400	2,300	1,500	1,800	5,300
		f _z (mm/tooth)	0.066	0.043	0.549	0.118	0.074	0.048	0.612	0.131
		V _f (mm/min)	370	150	2,410	1,510	340	140	2,200	1,390
		a _p (mm)	10.00	2.00	0.30	0.40	12.00	2.40	0.36	0.40
		a _e (mm)	0.50	10.00	4.00	0.40	0.60	12.00	4.80	0.40
VI	Hardened Steels (55 ~ 65HRC)	V _c (m/min)	66	51	150	150	66	51	150	150
		n (min ⁻¹)	2,100	1,600	4,800	4,800	1,800	1,400	4,000	4,000
		f _z (mm/tooth)	0.033	0.274	0.059	0.037	0.037	0.306	0.066	0.066
		V _f (mm/min)	140	880	560	560	130	860	520	520
		a _p (mm)	10.00	0.20	0.40	0.40	12.00	0.24	0.40	0.40
		a _e (mm)	0.30	4.00	0.40	0.40	0.36	4.80	0.40	0.40

 BEMERKUNG

1. Nutzen Sie die Maschine und Werkzeugspannung mit der höchstmöglichen Präzision und Stabilität, insbesondere bei maximalem Vorschub!
2. Die in der Tabelle angegebenen Schnittbedingungen stellen eine allgemeine Empfehlung dar. Die Werte sollten immer an die jeweilige

Bearbeitung, deren Form und die verwendete Maschine angepasst werden.

3. Sollte die Ihnen verfügbare Drehzahl niedriger als der in der Tabelle angegebene Wert sein, sollte der Vorschub im gleichen Verhältnis reduziert werden.