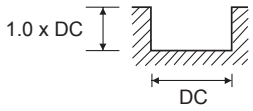
CUTTING DATA

304303, 304323, 305303, 305323 (3 Flute)

VDI MATERIAL GROUP			HRc	SLOTTING	Size (mm)										
					2.0	**3.0**	**4.0**	**5.0**	**6.0**	**8.0**	**10.0**	**12.0**	**14.0**	**16.0**	**20.0**
P	1-5	Non-alloy Steel	**<25**	v_c (m/min)	50	55	65	70	70	70	70	70	75	75	70
				n	7960	5835	5170	4455	3715	2785	2230	1855	1705	1490	1115
				f_z	0.005	0.007	0.012	0.015	0.018	0.027	0.03	0.031	0.029	0.029	0.029
				f (mm/min)	120	120	185	200	200	225	200	170	150	130	95
	6-9	Low alloy Steel	**25-35**	v_c (m/min)	50	55	65	70	70	70	70	70	75	75	70
				n	7960	5835	5170	4455	3715	2785	2230	1855	1705	1490	1115
				f_z	0.005	0.007	0.012	0.015	0.018	0.027	0.03	0.031	0.029	0.029	0.029
				f (mm/min)	120	120	185	200	200	225	200	170	150	130	95
M	12-13	Ferritic/ Martensitic Stainless Steel		v_c (m/min)	25	30	35	35	35	35	35	35	35	35	35
				n	3980	3180	2785	2230	1855	1390	1115	930	795	695	555
				f_z	0.004	0.007	0.011	0.015	0.019	0.025	0.028	0.026	0.027	0.031	0.03
				f (mm/min)	45	65	90	100	105	105	95	70	65	65	50
K	15-20	Cast Iron		v_c (m/min)	60	55	60	55	55	55	60	55	55	55	55
				n	9550	5835	4775	3500	2920	2190	1910	1460	1250	1095	875
				f_z	0.007	0.011	0.013	0.018	0.026	0.036	0.046	0.063	0.073	0.086	0.115
				f (mm/min)	200	190	185	190	230	235	265	275	275	280	300
N	21-24	Aluminium/ Aluminium Alloys		v_c (m/min)	140	145	140	145	145	145	145	140	145	145	140
				n	22280	15385	11140	9230	7690	5770	4615	3715	3300	2885	2230
				f_z	0.006	0.009	0.013	0.015	0.019	0.026	0.032	0.038	0.043	0.05	0.065
				f (mm/min)	400	415	435	415	435	450	440	420	425	430	435
	26-27	Copper/ Copper Alloys		v_c (m/min)	105	105	110	105	105	110	105	105	105	110	105
				n	16710	11140	8755	6685	5570	4375	3340	2785	2385	2190	1670
				f_z	0.006	0.009	0.012	0.015	0.005	0.025	0.032	0.039	0.046	0.05	0.065
				f (mm/min)	300	300	315	300	335	330	320	325	330	325	325



▸ The feed rate for long, long reach and uncoated tools should be reduced by up to 50%

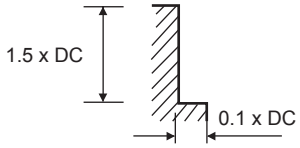
Recommended cutting depths are **maximum** depths, and **speeds and feeds are a starting point** based on these depths.
All recommendations are based on ideal machining conditions. Adjustments may need to be made according to your set-up.
For long series and long necked tools it may be necessary to reduce feed rate by up to 50%.

v_c - cutting speed (m/min)
n - RPM (rev/min)
f_z - feed per tooth (mm)
f - feed rate (mm/min)
a_p - axial depth of cut
a_e - radial depth of cut

CUTTING DATA

304303, 304323, 305303, 305323 (3 Flute)

VDI MATERIAL GROUP			HRc	SIDE CUTTING	Size (mm)										
					2.0	3.0	4.0	5.0	6.0	8.0	10.0	12.0	14.0	16.0	20.0
P	1-5	Non-alloy Steel	<25	v_c (m/min)	60	70	80	85	90	90	85	90	90	95	90
				n	9550	7425	6365	5410	4775	3580	2705	2385	2045	1890	1430
				f_z	0.006	0.009	0.019	0.024	0.03	0.042	0.047	0.047	0.047	0.048	0.047
				f (mm/min)	170	200	360	390	430	450	380	335	290	270	200
	6-9	Low alloy Steel	25-35	v_c (m/min)	60	70	80	85	90	90	85	90	90	95	90
				n	9550	7425	6365	5410	4775	3580	2705	2385	2045	1890	1430
				f_z	0.006	0.009	0.019	0.024	0.03	0.042	0.047	0.047	0.047	0.048	0.047
				f (mm/min)	170	200	360	390	430	450	380	335	290	270	200
M	12-13	Ferritic/ Martensitic Stainless Steel		v_c (m/min)	35	35	40	40	45	45	45	45	45	45	45
				n	5570	3715	3180	2545	2385	1790	1430	1195	1020	895	715
				f_z	0.006	0.009	0.018	0.027	0.03	0.042	0.045	0.045	0.044	0.048	0.048
				f (mm/min)	100	100	170	180	215	225	190	160	135	130	105
K	15-20	Cast Iron		v_c (m/min)	60	55	60	55	55	55	60	55	55	55	55
				n	9550	5835	4775	3500	2920	2190	1910	1460	1250	1095	875
				f_z	0.017	0.026	0.035	0.044	0.064	0.093	0.115	0.154	0.181	0.22	0.285
				f (mm/min)	485	455	500	460	560	610	660	675	680	720	750
N	21-24	Aluminium/ Aluminium Alloys		v_c (m/min)	140	145	140	145	145	145	145	140	145	145	140
				n	22280	15385	11140	9230	7690	5770	4615	3715	3295	2885	2230
				f_z	0.016	0.021	0.031	0.037	0.048	0.064	0.08	0.098	0.444	0.129	0.167
				f (mm/min)	1070	970	1035	1025	1110	1105	1105	1090	1100	1115	1115
	26-27	Copper/ Copper Alloys		v_c (m/min)	105	105	110	105	105	110	105	105	105	110	105
				n	16710	11140	8755	6685	5570	4375	3340	2785	2385	2190	1670
				f_z	0.016	0.023	0.029	0.037	0.048	0.063	0.081	0.096	0.115	0.125	0.162
				f (mm/min)	800	770	760	740	800	825	810	800	825	820	810



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n - RPM (rev/min)
f_z - feed per tooth (mm)
f - feed rate (mm/min)
a_p - axial depth of cut
a_e - radial depth of cut