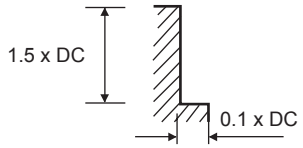
CUTTING DATA

310303, 310323, 311303, 311323 (4 Flute)

VDI MATERIAL GROUP			HRc		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	0.029	0.043	0.047	0.047	0.047	0.047	0.047
				f (mm/min)	230	265	485	520	555	615	510	450	385	355	270
	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	0.029	0.043	0.047	0.047	0.047	0.047	0.047
				f (mm/min)	230	265	485	520	555	615	510	450	385	355	270
M	12-13	Ferritic/ Martensitic Stainless Steel		v_c (m/min)	35	35	40	40	45	45	45	45	45	50	45
				n	5570	3715	3180	2545	2385	1790	1430	1195	1020	995	715
				f_z	0.006	0.009	0.018	0.024	0.029	0.042	0.044	0.045	0.045	0.045	0.046
				f (mm/min)	135	135	230	245	275	300	250	215	185	180	130
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	0.065	0.044	0.065	0.093	0.116	0.155	0.182	0.22	0.288
				f (mm/min)	650	605	665	615	760	815	885	905	910	960	1010
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	0.015	0.021	0.03	0.036	0.047	0.063	0.078	0.095	0.108	0.125	0.163
				f (mm/min)	1335	1290	1335	1330	1445	1455	1440	1410	1425	1440	1450
	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	0.024	0.029	0.038	0.048	0.063	0.081	0.096	0.115	0.125	0.162
				f (mm/min)	1070	1070	1015	1015	1070	1100	1080	1070	1100	1095	1080



▸ 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