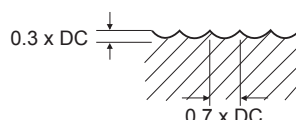


CUTTING DATA

315303, 315323, 316303, 316323 (4 Flute, Ball Nose)															
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)	85	110	110	125	135	155	170	190	200	205	225
				n	13530	11670	8755	7960	7160	6165	5410	5040	4545	4080	3580
				f _z	0.013	0.019	0.027	0.033	0.046	0.068	0.089	0.112	0.124	0.136	0.15
				f (mm/min)	700	885	945	1050	1320	1675	1925	2260	2255	2220	2150
	6-9	Low alloy Steel	25-35	v _c (m/min)	85	110	110	125	135	155	170	190	200	205	225
				n	13530	11670	8755	7960	7160	6165	5410	5040	4545	4080	3580
				f _z	0.013	0.019	0.027	0.033	0.046	0.068	0.089	0.112	0.124	0.136	0.15
				f (mm/min)	700	885	945	1050	1320	1675	1925	2260	2255	2220	2150
K	15-20	Cast Iron		v _c (m/min)	65	65	65	65	65	65	65	65	60	65	65
				n	10345	6895	5170	4140	3450	2585	2070	1725	1365	1295	1035
				f _z	0.008	0.012	0.021	0.03	0.04	0.068	0.083	0.097	0.125	0.135	0.15
				f (mm/min)	330	330	435	495	550	700	685	670	680	695	620
N	21-24	Aluminium/ Aluminium Alloys		v _c (m/min)	195	195	195	190	195	200	195	195	190	195	185
				n	31035	20690	15520	12095	10345	7960	6205	5170	4320	3880	2945
				f _z	0.005	0.007	0.01	0.015	0.017	0.026	0.033	0.046	0.055	0.053	0.069
				f (mm/min)	620	580	620	725	700	830	820	950	950	820	815

The diagram illustrates the chip formation process during turning. It shows a workpiece with a wavy surface profile. Two vertical dimension lines are used to indicate chip thickness: one labeled '0.3 x DC' pointing to the first peak, and another labeled '0.7 x DC' pointing to the second peak. The area under the profile is shaded with diagonal lines.



► 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