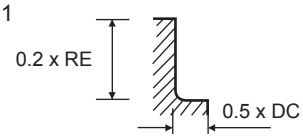
CUTTING DATA

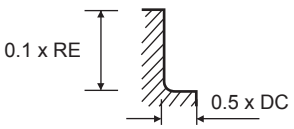
110350, 111350 (4 Flute High Feed)

VDI MATERIAL GROUP		MATERIAL	HRc	NORMAL SPEED	Size (mm)								
					2.0	**3.0**	**4.0**	**5.0**	**6.0**	**8.0**	**10.0**	**12.0**	**16.0**
P	10-11	High alloy Steel, Tool Steel	**35-45**	v_c (m/min)	60	65	70	75	75	75	75	75	80
				n	9550	6900	5570	4775	3980	2985	2385	1990	1590
				f_z	0.099	0.15	0.2	0.25	0.3	0.4	0.5	0.598	0.79
				f (mm/min)	3780	4140	4455	4775	4775	4775	4775	4760	5030
H	38	Hardened Steel	**40-50**	v_c (m/min)	60	65	70	75	75	75	75	75	80
				n	9550	6900	5570	4775	3980	2985	2385	1990	1590
				f_z	0.099	0.15	0.2	0.25	0.3	0.4	0.5	0.598	0.79
				f (mm/min)	3780	4140	4455	4775	4775	4775	4775	4760	5030
		Hardened Steel	**50-55**	v_c (m/min)	35	45	50	55	55	55	55	55	55
				n	5570	4775	3980	3500	2915	2185	1750	1460	1095
				f_z	0.1	0.15	0.2	0.235	0.302	0.398	0.5	0.603	0.795
				f (mm/min)	2225	2865	3185	3290	3525	3485	3500	3520	3480
	39	Hardened Steel	**55-65**	v_c (m/min)	20	25	30	35	35	35	35	35	35
				n	3185	2650	2385	2225	1855	1390	1115	925	695
				f_z	0.078	0.101	0.132	0.182	0.25	0.33	0.42	0.5	0.61
				f (mm/min)	990	1070	1260	1620	1855	1835	1870	1855	1700
		Hardened Steel	**65-70**	v_c (m/min)	15	20	20	25	25	25	25	25	25
				n	2385	2120	1590	1590	1325	995	795	660	495
				f_z	0.063	0.08	0.1	0.117	0.147	0.2	0.25	0.299	0.398
				f (mm/min)	600	675	635	745	780	795	795	790	790
	40	Chilled Cast Iron		v_c (m/min)	85	90	100	100	110	110	110	110	110
				n	13530	9550	7960	6365	5835	4375	3500	2915	2185
				f_z	0.12	0.14	0.22	0.28	0.33	0.44	0.546	0.659	0.869
				f (mm/min)	6495	5350	7000	7130	7700	7700	7650	7695	7610
	41	Hardened Cast Iron		v_c (m/min)	60	65	70	75	75	75	75	75	80
				n	9554	6900	5570	4775	3980	2985	2385	1990	1590
				f_z	0.099	0.15	0.2	0.25	0.3	0.4	0.5	0.598	0.79
				f (mm/min)	3780	4140	4455	4775	4775	4775	4775	4760	5030

MATERIAL GROUP
P, H38, H40-41



MATERIAL GROUP
H39



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%.

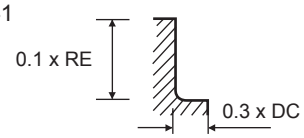
v_c - cutting speed (m/min)
n - RPM (rev/min)
f_z - feed per tooth (mm)
f - feed rate (mm/min)
a_p - axial depth of cut
a_e - radial depth of cut

CUTTING DATA

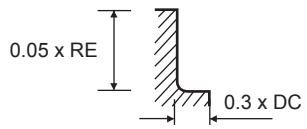
110350, 111350 (4 Flute High Feed)

VDI MATERIAL GROUP		MATERIAL	HRc	HIGH SPEED	Size (mm)								
					2.0	**3.0**	**4.0**	**5.0**	**6.0**	**8.0**	**10.0**	**12.0**	**16.0**
P	10-11	High alloy Steel, Tool Steel	**35-45**	v_c (m/min)	140	160	165	175	200	200	200	200	195
				n	22290	16985	13135	11145	10615	7960	6365	5305	3880
				f_z	0.111	0.147	0.231	0.284	0.329	0.438	0.547	0.66	0.897
				f (mm/min)	9895	9985	12135	12660	13970	13945	13935	14010	13925
H	38	Hardened Steel	**40-50**	v_c (m/min)	140	160	165	175	200	200	200	200	195
				n	22290	16985	13135	11145	10615	7960	6365	5305	3880
				f_z	0.111	0.147	0.231	0.284	0.329	0.438	0.547	0.66	0.897
				f (mm/min)	9895	9985	12135	12660	13970	13945	13935	14010	13925
		Hardened Steel	**50-55**	v_c (m/min)	95	200	140	155	170	170	170	170	165
				n	15125	21230	11145	9870	9020	6765	5410	4510	3280
				f_z	0.131	0.16	0.209	0.25	0.306	0.404	0.509	0.611	0.833
				f (mm/min)	7925	13585	9315	9870	11045	10935	11020	11025	10940
	39	Hardened Steel	**55-65**	v_c (m/min)	70	90	100	110	120	120	120	120	120
				n	11145	9550	7960	7005	6365	4775	3820	3185	2385
				f_z	0.101	0.121	0.172	0.214	0.25	0.349	0.447	0.547	0.729
				f (mm/min)	4500	4620	5475	5995	6365	6665	6830	6965	6965
		Hardened Steel	**65-70**	v_c (m/min)	55	65	70	75	85	85	85	85	85
				n	8755	6900	5570	4775	4510	3380	2705	2255	1690
				f_z	0.07	0.091	0.129	0.158	0.2	0.301	0.352	0.4	0.5
				f (mm/min)	2450	2510	2875	3015	3605	4070	3810	3605	3380
	40	Chilled Cast Iron		v_c (m/min)	180	205	215	235	255	250	250	250	250
				n	28660	21760	17110	14965	13530	9950	7960	6635	4975
				f_z	0.129	0.182	0.257	0.3	0.343	0.463	0.578	0.701	0.925
				f (mm/min)	14790	15840	17595	17960	18570	18430	18405	18600	18410
	41	Hardened Cast Iron		v_c (m/min)	140	160	165	175	200	200	200	200	195
				n	22290	16985	13135	11145	10615	7960	6365	5305	3880
				f_z	0.111	0.147	0.231	0.284	0.329	0.438	0.547	0.66	0.897
				f (mm/min)	9895	9985	12135	12660	13970	13945	13935	14010	13925

MATERIAL GROUP
P, H38, H40-41



MATERIAL GROUP
H39



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v_c - cutting speed (m/min)
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