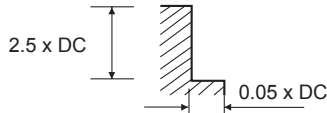
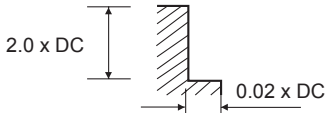


## CUTTING DATA

111370 (4 Flute Standard Length)														
VDI MATERIAL GROUP	MATERIAL	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
<b>P</b>	1-5 Non-alloy Steel	<25	$v_c$ (m/min)	60	65	70	75	80	80	85	80	85	90	85
			$n$	9550	6900	5570	4775	4240	3180	2705	2120	1930	1790	1350
			$f_z$	0.006	0.009	0.014	0.021	0.029	0.041	0.049	0.047	0.048	0.05	0.049
			$f$ (mm/min)	230	250	310	400	490	520	530	400	370	355	265
	6-9 Low alloy Steel	25-35	$v_c$ (m/min)	35	40	40	45	45	45	50	50	50	50	50
			$n$	5570	4240	3180	2865	2385	1790	1590	1325	1135	995	795
			$f_z$	0.004	0.007	0.01	0.014	0.021	0.028	0.033	0.035	0.035	0.035	0.033
			$f$ (mm/min)	90	120	125	160	200	200	210	185	160	140	105
	10-11 High alloy Steel, Tool Steel	35-45	$v_c$ (m/min)	35	40	40	45	45	45	50	50	50	50	50
			$n$	5570	4240	3180	2865	2385	1790	1590	1325	1135	995	795
			$f_z$	0.004	0.007	0.01	0.014	0.021	0.028	0.033	0.035	0.035	0.035	0.033
			$f$ (mm/min)	90	120	125	160	200	200	210	185	160	140	105
<b>K</b>	15-20 Cast Iron	$v_c$ (m/min)	60	65	70	75	80	80	85	80	85	90	85	
		$n$	9550	6900	5570	4775	4240	3180	2705	2120	1930	1790	1350	
		$f_z$	0.006	0.009	0.014	0.021	0.029	0.041	0.049	0.047	0.048	0.05	0.049	
		$f$ (mm/min)	230	250	310	400	490	520	530	400	370	355	265	
<b>H</b>	38 Hardened Steel	45-55	$v_c$ (m/min)	20	25	25	30	30	30	30	30	30	30	30
			$n$	3180	2650	1990	1910	1590	1190	955	795	680	595	475
			$f_z$	0.004	0.006	0.008	0.011	0.016	0.021	0.027	0.026	0.026	0.026	0.027
			$f$ (mm/min)	50	65	65	85	100	100	100	80	70	60	50
MATERIAL GROUP P, K						MATERIAL GROUP H								
														

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