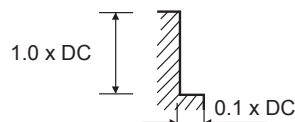


CUTTING DATA

173329, 673329, 174329, 175329, 675329, 176329 (6 Flute VX6 & VX6C)

VDI MATERIAL GROUP	HRc	Size (mm)								
		6.0	8.0	10.0	12.0	16.0	20.0	25.0		
P	1-5 Non-alloy Steel	<25	v_c (m/min)	151	151	151	151	151	151	151
			n	7998	5998	4799	3999	2999	2399	1919
			f_z	0.022	0.035	0.043	0.053	0.061	0.069	0.075
			f (mm/min)	1056	1224	1238	1272	1098	993	864
	6-9 Low alloy Steel	25-35	v_c (m/min)	126	126	126	126	126	126	126
			n	6705	5029	4023	3353	2514	2012	1609
			f_z	0.017	0.028	0.035	0.041	0.049	0.053	0.058
			f (mm/min)	684	845	845	825	739	640	560
	10-11 High alloy Steel, Tool Steel	35-45	v_c (m/min)	70	70	70	70	70	70	70
			n	3716	2787	2230	1858	1394	1115	892
			f_z	0.012	0.019	0.024	0.029	0.033	0.037	0.040
			f (mm/min)	268	318	321	323	276	247	214
M	12 Ferritic/ Martensitic Stainless Steel	v_c (m/min)	131	131	131	131	131	131	131	
		n	6947	5211	4168	3474	2605	2084	1667	
		f_z	0.017	0.028	0.035	0.041	0.049	0.053	0.058	
		f (mm/min)	709	875	875	855	766	663	580	
	13 Martensitic Stainless Steel	v_c (m/min)	93	93	93	93	93	93	93	
		n	4928	3696	2957	2464	1848	1478	1183	
		f_z	0.012	0.021	0.027	0.031	0.038	0.043	0.048	
		f (mm/min)	326	466	479	458	421	381	341	
	14 Austenitic Stainless Steel	v_c (m/min)	85	85	85	85	85	85	85	
		n	4524	3393	2714	2262	1696	1354	1086	
		f_z	0.012	0.021	0.027	0.031	0.038	0.043	0.048	
		f (mm/min)	326	428	440	421	387	350	313	
S	31-35 HRSA Fe & Ni/Co Based	v_c (m/min)	26	26	26	26	26	26	26	
		n	1380	1035	830	690	515	415	330	
		f_z	0.014	0.023	0.029	0.036	0.044	0.048	0.053	
		f (mm/min)	115	140	145	150	135	120	105	
	36-37 Titanium/ Titanium Alloys	v_c (m/min)	93	93	93	93	93	93	93	
		n	4935	3700	2960	2465	1850	1480	1185	
		f_z	0.012	0.021	0.027	0.031	0.038	0.043	0.048	
		f (mm/min)	355	465	480	460	420	380	340	



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 - DYNAMIC 10% RADIAL DoC

4 Flute VXD, 5 Flute VX5 & VX5H, 6 Flute VX6 & VX6C											
VDI MATERIAL GROUP		HRc		Size (mm)							
				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)	240	240	240	240	240	240	240
				f_z	0.05	0.086	0.107	0.128	0.15	0.167	0.172
	6-9	Low alloy Steel	25-35	v_c (m/min)	160	160	160	160	160	160	160
				f_z	0.037	0.063	0.079	0.095	0.111	0.124	0.129
	10-11	High alloy Steel, Tool Steel	35-45	v_c (m/min)	80	80	80	80	80	80	80
				f_z	0.03	0.053	0.065	0.078	0.091	0.102	0.107
M	12	Ferritic/ Martensitic Stainless Steel	v_c (m/min)	170	170	170	170	170	170	170	
			f_z	0.036	0.062	0.077	0.093	0.108	0.12	0.125	
	13	Martensitic Stainless Steel	v_c (m/min)	120	120	120	120	120	120	120	
			f_z	0.03	0.053	0.065	0.078	0.091	0.102	0.106	
	14	Austenitic Stainless Steel	v_c (m/min)	110	110	110	110	110	110	110	
			f_z	0.03	0.053	0.065	0.078	0.091	0.102	0.106	
K	15-20	Cast Iron	v_c (m/min)	110	110	110	110	110	110	110	
			f_z	0.025	0.028	0.037	0.047	0.051	0.056	0.066	
S	31-35	HRSA Fe & Ni/Co Based	v_c (m/min)	30	30	30	30	30	30	30	
			f_z	0.024	0.041	0.052	0.061	0.072	0.083	0.085	
	36-37	Titanium/ Titanium Alloys	v_c (m/min)	90	90	90	90	90	90	90	
			f_z	0.024	0.041	0.052	0.062	0.072	0.084	0.087	

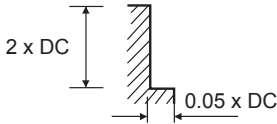
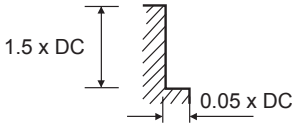
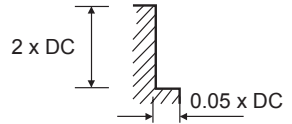
MATERIAL GROUP P, M, K	MATERIAL GROUP S31-35	MATERIAL GROUP S36-37

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 - DYNAMIC 5% RADIAL DoC

4 Flute VXD, 5 Flute VX5 & VX5H, 6 FLUTE VX6 & VX6C											
VDI MATERIAL GROUP	Material	HRc		Size (mm)							
				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)	300	300	300	300	300	300	300
				f_z	0.068	0.116	0.144	0.172	0.202	0.225	0.232
	6-9	Low alloy Steel	25-35	v_c (m/min)	200	200	200	200	200	200	200
				f_z	0.05	0.085	0.106	0.128	0.149	0.167	0.174
	10-11	High alloy Steel, Tool Steel	35-45	v_c (m/min)	100	100	100	100	100	100	100
				f_z	0.041	0.071	0.088	0.105	0.123	0.137	0.144
M	12	Ferritic/ Martensitic Stainless Steel	v_c (m/min)	210	210	210	210	210	210	210	
			f_z	0.049	0.084	0.104	0.125	0.146	0.162	0.168	
	13	Martensitic Stainless Steel	v_c (m/min)	150	150	150	150	150	150	150	
			f_z	0.041	0.071	0.088	0.105	0.123	0.137	0.143	
	14	Austenitic Stainless Steel	v_c (m/min)	130	130	130	130	130	130	130	
			f_z	0.041	0.071	0.088	0.105	0.123	0.137	0.142	
K	15-20	Cast Iron	v_c (m/min)	135	135	135	135	135	135	135	
			f_z	0.034	0.038	0.050	0.063	0.069	0.076	0.089	
S	31-35	HRSA Fe & Ni/Co Based	v_c (m/min)	35	35	35	35	35	35	35	
			f_z	0.033	0.055	0.07	0.082	0.097	0.112	0.115	
	36-37	Titanium/ Titanium Alloys	v_c (m/min)	116	116	116	116	116	116	116	
			f_z	0.033	0.055	0.07	0.083	0.097	0.113	0.117	

<p>MATERIAL GROUP P, M, K</p> 	<p>MATERIAL GROUP S31-35</p> 	<p>MATERIAL GROUP S36-37</p> 
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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 - DYNAMIC 2% RADIAL DoC

4 Flute VXD, 5 Flute VX5 & VX5H, 6 FLUTE VX6 & VX6C											
VDI MATERIAL GROUP		HRc		Size (mm)							
				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)	370	370	370	370	370	370	370
				f_z	0.098	0.167	0.208	0.25	0.292	0.325	0.335
	6-9	Low alloy Steel	25-35	v_c (m/min)	240	240	240	240	240	240	240
				f_z	0.072	0.123	0.153	0.185	0.215	0.241	0.251
	10-11	High alloy Steel, Tool Steel	35-45	v_c (m/min)	120	120	120	120	120	120	120
				f_z	0.059	0.102	0.127	0.152	0.178	0.198	0.208
M	12	Ferritic/ Martensitic Stainless Steel	v_c (m/min)	260	260	260	260	260	260	260	
			f_z	0.071	0.121	0.15	0.18	0.211	0.234	0.242	
	13	Martensitic Stainless Steel	v_c (m/min)	180	180	180	180	180	180	180	
			f_z	0.059	0.102	0.127	0.152	0.178	0.198	0.205	
	14	Austenitic Stainless Steel	v_c (m/min)	160	160	160	160	160	160	160	
			f_z	0.059	0.102	0.127	0.152	0.178	0.198	0.205	
K	15-20	Cast Iron	v_c (m/min)	170	170	170	170	170	170	170	
			f_z	0.049	0.055	0.072	0.091	0.1	0.11	0.128	
S	31-35	HRSA Fe & Ni/Co Based	v_c (m/min)	40	40	40	40	40	40	40	
			f_z	0.048	0.079	0.101	0.118	0.14	0.162	0.166	
	36-37	Titanium/ Titanium Alloys	v_c (m/min)	140	140	140	140	140	140	140	
			f_z	0.048	0.079	0.101	0.120	0.140	0.163	0.169	

MATERIAL GROUP P, M, K	MATERIAL GROUP S31-35	MATERIAL GROUP S36-37

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