

E454 Series Cutting Data

4 Flute Carbide End Mill Cutting Data

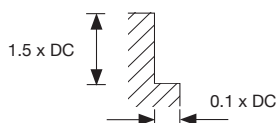


STÄRKE

eco
MILL

The feed rate for long, long reach and uncoated tools should be reduced by up to 50%

E454 SERIES															
VDI Material Group			HRc		Size (mm)										
					3.0	4.0	5.0	6.0	8.0	10.0	12.0	16.0	20.0	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	1400	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



All recommendations are based on ideal machining conditions.

Adjustments may need to be made according to your set-up.

The recommendations for speeds, feeds and other parameters presented in this chart are nominal recommendations and should be considered only as good starting points.

v_c - cutting speed (m/min)
 n - RPM (rev/min)
 f_z - feed per tooth (mm)
 f - feed rate (mm/min)
 z - No. of Teeth
 a_p - axial depth of cut
 a_e - radial depth of cut

To calculate RPM from cutting speed: $n = \frac{v_c \cdot 1000}{\pi \cdot \phi}$

To calculate cutting speed from RPM: $v_c = \frac{n \cdot \pi \cdot \phi}{1000}$