Cylindrical end mills

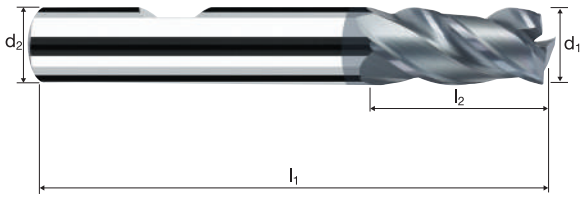
Smooth-edged, normal version

HM MG10

λ 40°
γ 0°

45°

Vario



Roughing

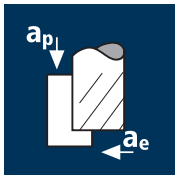
Finishing

ToolSchool P45233 / P45333

Rm < 850	Rm 850-1100	Rm 1100-1300	Rm 1300-1500				Inox Stainless	Ti Titanium	GG(G) Tool Steel

Example: **Order-N°.** Coating **P** Article-N°. **15333** ø-Code **180**

Ø Code	d_1 e8	d_2 h6	l_1	l_2	l_4	45°	α	z	POLYCHROM P15333	POLYCHROM P15233
180	3.00	6.00	57	7.00	14.96	0.10	6.0°	3		●
220	4.00	6.00	57	8.00	14.59	0.10	4.5°	3		●
260	5.00	6.00	57	10.00	14.72	0.15	2.5°	3		●
300	6.00	6.00	57	10.00	-	0.15	0.0°	3		●
391	8.00	8.00	63	16.00	-	0.15	0.0°	3		●
450	10.00	10.00	72	19.00	-	0.20	0.0°	3		●
501	12.00	12.00	83	22.00	-	0.20	0.0°	3		●
610	16.00	16.00	92	26.00	-	0.20	0.0°	3		●
682	20.00	20.00	104	32.00	-	0.20	0.0°	3		●

Application	Material	d1 [mm]	z	v_c [m/min]	f_z [mm]	a_p [mm]	a_e [mm]	n [min^{-1}]	v_f [mm/min]	Q [cm^3/min]
	Steel < 850 N/mm²	3.00	3	190	0.015	4.500	1.400	20160	905	5.7
		4.00	3	190	0.015	6.000	1.800	15120	680	7.3
		5.00	3	190	0.020	7.500	2.250	12095	725	12.2
		6.00	3	190	0.040	9.000	2.700	10080	1210	29.4
		8.00	3	190	0.050	12.000	3.600	7560	1135	49.0
		10.00	3	190	0.065	15.000	4.500	6050	1180	79.6
		12.00	3	190	0.075	18.000	5.400	5040	1135	110.2
		16.00	3	190	0.100	24.000	7.200	3780	1135	196.0
		20.00	3	190	0.125	30.000	9.000	3025	1135	306.2
	Steel 850 - 1100 N/mm²	3.00	3	140	0.015	4.500	1.400	14855	670	4.2
		4.00	3	140	0.015	6.000	1.800	11140	500	5.4
		5.00	3	140	0.020	7.500	2.250	8915	535	9.0
		6.00	3	140	0.040	9.000	2.700	7425	890	21.7
		8.00	3	140	0.050	12.000	3.600	5570	835	36.1
		10.00	3	140	0.065	15.000	4.500	4455	870	58.7
		12.00	3	140	0.075	18.000	5.400	3715	835	81.2
		16.00	3	140	0.100	24.000	7.200	2785	835	144.4
		20.00	3	140	0.125	30.000	9.000	2230	835	225.6
	Cold work tool steel (12% Cr), high alloyed [1.2379]	3.00	3	70	0.010	4.500	1.350	7425	225	1.4
		4.00	3	70	0.015	6.000	1.800	5570	250	2.7
		5.00	3	70	0.015	7.500	2.250	4455	200	3.4
		6.00	3	70	0.035	9.000	2.700	3715	390	9.5
		8.00	3	70	0.045	12.000	3.600	2785	375	16.2
		10.00	3	70	0.055	15.000	4.500	2230	370	24.8
		12.00	3	70	0.065	18.000	5.400	1855	360	35.2
		16.00	3	70	0.085	24.000	7.200	1395	355	61.4
		20.00	3	70	0.110	30.000	9.000	1115	370	99.3
	Inox normal [Cr-Ni/1.4301] [Cr-Ni-Mo/1.4571]	3.00	3	90	0.005	4.500	1.350	9550	145	0.9
		4.00	3	90	0.010	6.000	1.800	7160	215	2.3
		5.00	3	90	0.010	7.500	2.250	5730	170	2.9
		6.00	3	90	0.025	9.000	2.700	4775	360	8.7
		8.00	3	90	0.030	12.000	3.600	3580	320	13.9
		10.00	3	90	0.040	15.000	4.500	2865	345	23.2
		12.00	3	90	0.045	18.000	5.400	2385	320	31.3
		16.00	3	90	0.060	24.000	7.200	1790	320	55.7
		20.00	3	90	0.080	30.000	9.000	1430	345	92.8
	Steel < 850 N/mm²	3.00	3	155	0.015	4.500	3.000	16445	740	10.0
		4.00	3	155	0.015	6.000	4.000	12335	555	13.3
		5.00	3	155	0.025	7.500	5.000	9870	740	27.8
		6.00	3	155	0.030	9.000	6.000	8225	740	40.0
		8.00	3	155	0.040	12.000	8.000	6165	740	71.0
		10.00	3	155	0.050	15.000	10.000	4935	740	111.0
		12.00	3	155	0.060	18.000	12.000	4110	740	159.9
		16.00	3	155	0.080	16.000	16.000	3085	740	189.5
		20.00	3	155	0.100	20.000	20.000	2465	740	296.0
	Steel 850 - 1100 N/mm²	3.00	3	105	0.015	4.500	3.000	11140	500	6.8
		4.00	3	105	0.015	6.000	4.000	8355	375	9.0
		5.00	3	105	0.025	7.500	5.000	6685	500	18.8
		6.00	3	105	0.030	9.000	6.000	5570	500	27.1
		8.00	3	105	0.040	12.000	8.000	4180	500	48.1
		10.00	3	105	0.050	15.000	10.000	3340	500	75.2
		12.00	3	105	0.060	18.000	12.000	2785	500	108.3
		16.00	3	105	0.080	16.000	16.000	2090	500	128.3
		20.00	3	105	0.100	20.000	20.000	1670	500	200.5
	Cold work tool steel (12% Cr), high alloyed [1.2379]	3.00	3	55	0.010	4.500	3.000	5835	175	2.4
		4.00	3	55	0.015	6.000	4.000	4375	195	4.7
		5.00	3	55	0.015	7.500	5.000	3500	160	5.9
		6.00	3	55	0.030	9.000	6.000	2920	265	14.2
		8.00	3	55	0.040	12.000	8.000	2190	265	25.2
		10.00	3	55	0.050	15.000	10.000	1750	265	39.4
		12.00	3	55	0.060	18.000	12.000	1460	265	56.7
		16.00	3	55	0.080	16.000	16.000	1095	265	67.2
		20.00	3	55	0.100	20.000	20.000	875	265	105.0
	Inox normal [Cr-Ni/1.4301] [Cr-Ni-Mo/1.4571]	3.00	3	75	0.010	1.500	3.000	7960	240	1.1
		4.00	3	75	0.015	2.000	4.000	5970	270	2.1
		5.00	3	75	0.015	2.500	5.000	4775	215	2.7
		6.00	3	75	0.025	3.000	6.000	3980	300	5.4
		8.00	3	75	0.035	4.000	8.000	2985	315	10.0
		10.00	3	75	0.045	5.000	10.000	2385	320	16.1
		12.00	3	75	0.050	6.000	12.000	1990	300	21.5
		16.00	3	75	0.070	8.000	16.000	1490	315	40.1
		20.00	3	75	0.085	10.000	20.000	1195	305	60.9