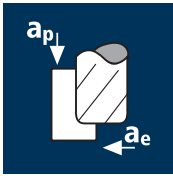




## Application



## Material

Steel  
< 850 N/mm<sup>2</sup>



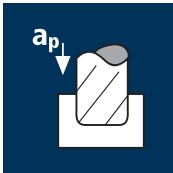
Steel  
850 - 1100 N/mm<sup>2</sup>



Inox normal  
[Cr-Ni/1.4301]  
[Cr-Ni-Mo/1.4571]



Cast iron  
(lamellar / spheroidal)



Steel  
< 850 N/mm<sup>2</sup>



Steel  
850 - 1100 N/mm<sup>2</sup>



Inox normal  
[Cr-Ni/1.4301]  
[Cr-Ni-Mo/1.4571]



Cast iron  
(lamellar / spheroidal)



d1 [mm]	z	v <sub>r</sub> [m/min]	f <sub>s</sub> [mm]	a <sub>p</sub> [mm]	a <sub>e</sub> [mm]	n [min <sup>-1</sup> ]	v <sub>r</sub> [mm/min]	Q [cm <sup>3</sup> /min]
3.00	4	170	0.015	4.500	1.200	18040	1080	5.8
4.00	4	170	0.020	6.000	1.600	13530	1080	10.4
5.00	4	170	0.025	7.500	2.000	10825	1080	16.2
6.00	4	170	0.030	9.000	2.400	9020	1080	23.4
8.00	4	170	0.040	12.000	3.200	6765	1080	41.6
10.00	4	170	0.050	15.000	4.000	5410	1080	64.9
12.00	4	170	0.060	18.000	4.800	4510	1080	93.5
16.00	4	170	0.075	24.000	6.400	3380	1015	155.8
20.00	4	170	0.095	30.000	8.000	2705	1030	246.8
3.00	4	120	0.015	4.500	1.200	12730	765	4.1
4.00	4	120	0.020	6.000	1.600	9550	765	7.3
5.00	4	120	0.025	7.500	2.000	7640	765	11.5
6.00	4	120	0.030	9.000	2.400	6365	765	16.5
8.00	4	120	0.040	12.000	3.200	4775	765	29.3
10.00	4	120	0.050	15.000	4.000	3820	765	45.8
12.00	4	120	0.060	18.000	4.800	3185	765	66.0
16.00	4	120	0.075	24.000	6.400	2385	715	110.0
20.00	4	120	0.095	30.000	8.000	1910	725	174.2
3.00	4	80	0.010	4.500	1.200	8490	340	1.8
4.00	4	80	0.015	6.000	1.600	6365	380	3.7
5.00	4	80	0.020	7.500	2.000	5095	405	6.1
6.00	4	80	0.025	9.000	2.400	4245	425	9.2
8.00	4	80	0.030	12.000	3.200	3185	380	14.7
10.00	4	80	0.040	15.000	4.000	2545	405	24.4
12.00	4	80	0.050	18.000	4.800	2120	425	36.7
16.00	4	80	0.060	24.000	6.400	1590	380	58.7
20.00	4	80	0.075	30.000	8.000	1275	380	91.7
3.00	4	150	0.015	4.500	1.200	15915	955	5.2
4.00	4	150	0.020	6.000	1.600	11935	955	9.2
5.00	4	150	0.030	7.500	2.000	9550	1145	17.2
6.00	4	150	0.035	9.000	2.400	7960	1115	24.1
8.00	4	150	0.045	12.000	3.200	5970	1075	41.3
10.00	4	150	0.055	15.000	4.000	4775	1050	63.0
12.00	4	150	0.065	18.000	4.800	3980	1035	89.4
16.00	4	150	0.085	24.000	6.400	2985	1015	155.8
20.00	4	150	0.105	30.000	8.000	2385	1005	240.6
3.00	4	135	0.010	3.000	3.000	14325	575	5.2
4.00	4	135	0.015	4.000	4.000	10745	645	10.3
5.00	4	135	0.020	5.000	5.000	8595	690	17.2
6.00	4	135	0.025	6.000	6.000	7160	715	25.8
8.00	4	135	0.030	8.000	8.000	5370	645	41.3
10.00	4	135	0.040	10.000	10.000	4295	690	68.8
12.00	4	135	0.045	12.000	12.000	3580	645	92.8
16.00	4	135	0.055	8.000	16.000	2685	590	75.6
20.00	4	135	0.070	10.000	20.000	2150	600	120.3
3.00	4	95	0.010	3.000	3.000	10080	405	3.6
4.00	4	95	0.015	4.000	4.000	7560	455	7.3
5.00	4	95	0.020	5.000	5.000	6050	485	12.1
6.00	4	95	0.025	6.000	6.000	5040	505	18.1
8.00	4	95	0.030	8.000	8.000	3780	455	29.0
10.00	4	95	0.040	10.000	10.000	3025	485	48.4
12.00	4	95	0.045	12.000	12.000	2520	455	65.3
16.00	4	95	0.055	8.000	16.000	1890	415	53.2
20.00	4	95	0.070	10.000	20.000	1510	425	84.7
3.00	4	65	0.010	2.100	3.000	6895	275	1.7
4.00	4	65	0.010	2.800	4.000	5175	205	2.3
5.00	4	65	0.015	3.500	5.000	4140	250	4.3
6.00	4	65	0.020	4.200	6.000	3450	275	7.0
8.00	4	65	0.025	8.000	8.000	2585	260	16.6
10.00	4	65	0.030	10.000	10.000	2070	250	24.8
12.00	4	65	0.040	12.000	12.000	1725	275	39.7
16.00	4	65	0.045	8.000	16.000	1295	235	29.8
20.00	4	65	0.055	10.000	20.000	1035	230	45.5
3.00	4	125	0.010	3.000	3.000	13265	530	4.8
4.00	4	125	0.015	4.000	4.000	9945	595	9.5
5.00	4	125	0.025	5.000	5.000	7960	795	19.9
6.00	4	125	0.025	6.000	6.000	6630	665	23.9
8.00	4	125	0.035	8.000	8.000	4975	695	44.6
10.00	4	125	0.040	10.000	10.000	3980	635	63.7
12.00	4	125	0.050	12.000	12.000	3315	665	95.5
16.00	4	125	0.065	8.000	16.000	2485	645	82.8
20.00	4	125	0.080	10.000	20.000	1990	635	127.3

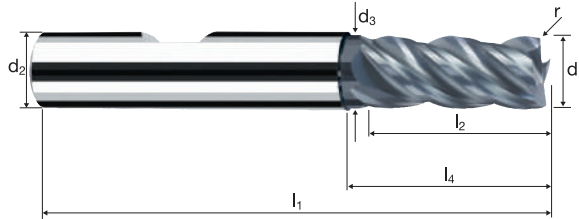
# Corner radius end mills

Smooth-edged, normal version, short neck



HM  
MG10

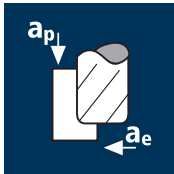
$\lambda$  40°  
 $\gamma$  6°



Rm < 850	Rm 850-1100	Rm 1100-1300						Inox Stainless	Ti Titanium	GG(G) Tool Steel Nickel-Alloys
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Ø Code	d <sub>1</sub> e8	d <sub>2</sub> h6	d <sub>3</sub>	l <sub>1</sub>	l <sub>2</sub>	l <sub>3</sub>	l <sub>4</sub>	r 0/+0.03	α	z	POLYCHROM	
											Example: Order-N°.	Coating P
301	6.00	6.00	5.50	57	13.00	19.34	20.00	0.800	0.0°	4		●
389	8.00	8.00	7.40	63	19.00	25.29	26.00	0.800	0.0°	4		●
449	10.00	10.00	9.20	72	22.00	30.20	31.00	0.800	0.0°	4		●
499	12.00	12.00	11.00	83	26.00	36.13	37.00	0.800	0.0°	4		●
302	6.00	6.00	5.50	57	13.00	19.34	20.00	1.000	0.0°	4		●
391	8.00	8.00	7.40	63	19.00	25.29	26.00	1.000	0.0°	4		●
450	10.00	10.00	9.20	72	22.00	30.20	31.00	1.000	0.0°	4		●
501	12.00	12.00	11.00	83	26.00	36.13	37.00	1.000	0.0°	4		●
608	16.00	16.00	15.00	92	32.00	42.13	43.00	1.000	0.0°	4		●
680	20.00	20.00	19.00	104	38.00	52.13	53.00	1.000	0.0°	4		●
304	6.00	6.00	5.50	57	13.00	19.34	20.00	1.500	0.0°	4		●
393	8.00	8.00	7.40	63	19.00	25.29	26.00	1.500	0.0°	4		●
453	10.00	10.00	9.20	72	22.00	30.20	31.00	1.500	0.0°	4		●
503	12.00	12.00	11.00	83	26.00	36.13	37.00	1.500	0.0°	4		●
610	16.00	16.00	15.00	92	32.00	42.13	43.00	1.500	0.0°	4		●

## Application



## Material

Steel  
< 850 N/mm<sup>2</sup>



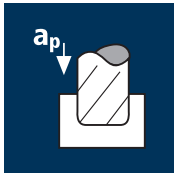
Steel  
850 - 1100 N/mm<sup>2</sup>



Inox normal  
[Cr-Ni/1.4301]  
[Cr-Ni-Mo/1.4571]



Cast iron  
(lamellar / spheroidal)



Steel  
< 850 N/mm<sup>2</sup>



Steel  
850 - 1100 N/mm<sup>2</sup>



Inox normal  
[Cr-Ni/1.4301]  
[Cr-Ni-Mo/1.4571]



Cast iron  
(lamellar / spheroidal)



d1 [mm]	z	v <sub>c</sub> [m/min]	f <sub>z</sub> [mm]	a <sub>p</sub> [mm]	a <sub>e</sub> [mm]	n [min <sup>-1</sup> ]	v <sub>r</sub> [mm/min]	Q [cm <sup>3</sup> /min]
6.00	4	170	0.030	9.000	2.400	9020	1080	23.4
8.00	4	170	0.040	12.000	3.200	6765	1080	41.6
10.00	4	170	0.050	15.000	4.000	5410	1080	64.9
12.00	4	170	0.060	18.000	4.800	4510	1080	93.5
16.00	4	170	0.075	24.000	6.400	3380	1015	155.8
20.00	4	170	0.095	30.000	8.000	2705	1030	246.8

6.00	4	120	0.030	9.000	2.400	6365	765	16.5
8.00	4	120	0.040	12.000	3.200	4775	765	29.3
10.00	4	120	0.050	15.000	4.000	3820	765	45.8
12.00	4	120	0.060	18.000	4.800	3185	765	66.0
16.00	4	120	0.075	24.000	6.400	2385	715	110.0
20.00	4	120	0.095	30.000	8.000	1910	725	174.2

6.00	4	80	0.025	9.000	2.400	4245	425	9.2
8.00	4	80	0.030	12.000	3.200	3185	380	14.7
10.00	4	80	0.040	15.000	4.000	2545	405	24.4
12.00	4	80	0.050	18.000	4.800	2120	425	36.7
16.00	4	80	0.060	24.000	6.400	1590	380	58.7
20.00	4	80	0.075	30.000	8.000	1275	380	91.7

6.00	4	150	0.035	9.000	2.400	7960	1115	24.1
8.00	4	150	0.045	12.000	3.200	5970	1075	41.3
10.00	4	150	0.055	15.000	4.000	4775	1050	63.0
12.00	4	150	0.065	18.000	4.800	3980	1035	89.4
16.00	4	150	0.085	24.000	6.400	2985	1015	155.8
20.00	4	150	0.105	30.000	8.000	2385	1005	240.6

6.00	4	135	0.025	6.000	6.000	7160	715	25.8
8.00	4	135	0.030	8.000	8.000	5370	645	41.3
10.00	4	135	0.040	10.000	10.000	4295	690	68.8
12.00	4	135	0.045	12.000	12.000	3580	645	92.8
16.00	4	135	0.055	8.000	16.000	2685	590	75.6
20.00	4	135	0.070	10.000	20.000	2150	600	120.3

6.00	4	95	0.025	6.000	6.000	5040	505	18.1
8.00	4	95	0.030	8.000	8.000	3780	455	29.0
10.00	4	95	0.040	10.000	10.000	3025	485	48.4
12.00	4	95	0.045	12.000	12.000	2520	455	65.3
16.00	4	95	0.055	8.000	16.000	1890	415	53.2
20.00	4	95	0.070	10.000	20.000	1510	425	84.7

6.00	4	65	0.020	4.200	6.000	3450	275	7.0
8.00	4	65	0.025	8.000	8.000	2585	260	16.6
10.00	4	65	0.030	10.000	10.000	2070	250	24.8
12.00	4	65	0.040	12.000	12.000	1725	275	39.7
16.00	4	65	0.045	8.000	16.000	1295	235	29.8
20.00	4	65	0.055	10.000	20.000	1035	230	45.5

6.00	4	125	0.025	6.000	6.000	6630	665	23.9
8.00	4	125	0.035	8.000	8.000	4975	695	44.6
10.00	4	125	0.040	10.000	10.000	3980	635	63.7
12.00	4	125	0.050	12.000	12.000	3315	665	95.5
16.00	4	125	0.065	8.000	16.000	2485	645	82.8
20.00	4	125	0.080	10.000	20.000	1990	635	127.3

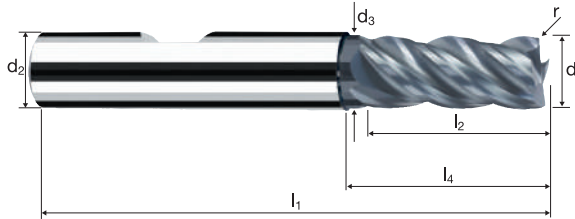
# Corner radius end mills

Smooth-edged, normal version, short neck



HM  
MG10

$\lambda$  40°  
 $\gamma$  6°



Roughing

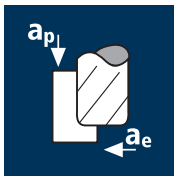
Finishing



Rm < 850	Rm 850-1100	Rm 1100-1300						Inox Stainless	Ti Titanium	GG(G) Tool Steel Nickel-Alloys
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Ø Code	d <sub>1</sub> e8	d <sub>2</sub> h6	d <sub>3</sub>	l <sub>1</sub>	l <sub>2</sub>	l <sub>3</sub>	l <sub>4</sub>	r 0/+0.03	α	z	POLYCHROM	
Example: Order-N°: <b>P 45319 306</b>												
												<b>P45319</b>
												<b>P45219</b>
306	6.00	6.00	5.50	57	13.00	19.34	20.00	2.000	0.0°	4		●
395	8.00	8.00	7.40	63	19.00	25.29	26.00	2.000	0.0°	4		●
455	10.00	10.00	9.20	72	22.00	30.20	31.00	2.000	0.0°	4		●
505	12.00	12.00	11.00	83	26.00	36.13	37.00	2.000	0.0°	4		●
611	16.00	16.00	15.00	92	32.00	42.13	43.00	2.000	0.0°	4		●
683	20.00	20.00	19.00	104	38.00	52.13	53.00	2.000	0.0°	4		●
457	10.00	10.00	9.20	72	22.00	30.20	31.00	2.500	0.0°	4		●
506	12.00	12.00	11.00	83	26.00	36.13	37.00	2.500	0.0°	4		●
612	16.00	16.00	15.00	92	32.00	42.13	43.00	2.500	0.0°	4		●
684	20.00	20.00	19.00	104	38.00	52.13	53.00	2.500	0.0°	4		●
508	12.00	12.00	11.00	83	26.00	36.13	37.00	4.000	0.0°	4		●
614	16.00	16.00	15.00	92	32.00	42.13	43.00	4.000	0.0°	4		●
686	20.00	20.00	19.00	104	38.00	52.13	53.00	4.000	0.0°	4		●

## Application



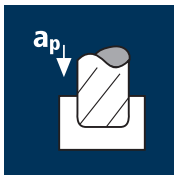
## Material

Steel  
< 850 N/mm<sup>2</sup>

Steel  
850 - 1100 N/mm<sup>2</sup>

Inox normal  
[Cr-Ni/1.4301]  
[Cr-Ni-Mo/1.4571]

Cast iron  
(lamellar / spheroidal)



Steel  
< 850 N/mm<sup>2</sup>

Steel  
850 - 1100 N/mm<sup>2</sup>

Inox normal  
[Cr-Ni/1.4301]  
[Cr-Ni-Mo/1.4571]

Cast iron  
(lamellar / spheroidal)

d1 [mm]	z	v <sub>c</sub> [m/min]	f <sub>s</sub> [mm]	a <sub>p</sub> [mm]	a <sub>e</sub> [mm]	n [min <sup>-1</sup> ]	v <sub>r</sub> [mm/min]	Q [cm <sup>3</sup> /min]
10.00	4	170	0.050	15.000	4.000	5410	1080	64.9
12.00	4	170	0.060	18.000	4.800	4510	1080	93.5
16.00	4	170	0.075	24.000	6.400	3380	1015	155.8
20.00	4	170	0.095	30.000	8.000	2705	1030	246.8
10.00	4	120	0.050	15.000	4.000	3820	765	45.8
12.00	4	120	0.060	18.000	4.800	3185	765	66.0
16.00	4	120	0.075	24.000	6.400	2385	715	110.0
20.00	4	120	0.095	30.000	8.000	1910	725	174.2
10.00	4	80	0.040	15.000	4.000	2545	405	24.4
12.00	4	80	0.050	18.000	4.800	2120	425	36.7
16.00	4	80	0.060	24.000	6.400	1590	380	58.7
20.00	4	80	0.075	30.000	8.000	1275	380	91.7
10.00	4	150	0.055	15.000	4.000	4775	1050	63.0
12.00	4	150	0.065	18.000	4.800	3980	1035	89.4
16.00	4	150	0.085	24.000	6.400	2985	1015	155.8
20.00	4	150	0.105	30.000	8.000	2385	1005	240.6
10.00	4	135	0.040	10.000	10.000	4295	690	68.8
12.00	4	135	0.045	12.000	12.000	3580	645	92.8
16.00	4	135	0.055	8.000	16.000	2685	590	75.6
20.00	4	135	0.070	10.000	20.000	2150	600	120.3
10.00	4	95	0.040	10.000	10.000	3025	485	48.4
12.00	4	95	0.045	12.000	12.000	2520	455	65.3
16.00	4	95	0.055	8.000	16.000	1890	415	53.2
20.00	4	95	0.070	10.000	20.000	1510	425	84.7
10.00	4	65	0.030	10.000	10.000	2070	250	24.8
12.00	4	65	0.040	12.000	12.000	1725	275	39.7
16.00	4	65	0.045	8.000	16.000	1295	235	29.8
20.00	4	65	0.055	10.000	20.000	1035	230	45.5
10.00	4	125	0.040	10.000	10.000	3980	635	63.7
12.00	4	125	0.050	12.000	12.000	3315	665	95.5
16.00	4	125	0.065	8.000	16.000	2485	645	82.8
20.00	4	125	0.080	10.000	20.000	1990	635	127.3