New tools 2012 / II
Milling

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Milling

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End milling tools for steel, stainless steel and titanium

Smooth-edged, with corner radius

N° 15226 / 15326 d1 3 – 20 r 0.5, 1.0, 1.5, 2.0, 2.5, 4.0		X-Generation X	HM MG10	r	Rm <850-1300			5
N° 15268 / 15368 d1 4 – 20 r 0.5, 1.0, 1.5, 2.0, 2.5, 4.0		X-Generation X	HM MG10	r	Rm 850-1500	HRC 48-56	Ti Titanium	9
N° 45219 / 45319 d1 3 – 20 r 0.2, 0.5, 0.8, 1.0, 1.5, 2.0, 2.5, 4.0		Favora® F	HM	r	Rm <850-1100	Inox Stainless		13

Profiled, cylindrical

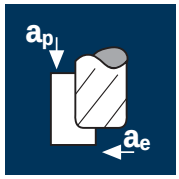
N° 15236 / 15336 d1 3 – 20		Base-X B	HM MG10	45°	Rm <850-1100	Inox Stainless		19
N° 45371 d1 3 – 20		Favora® F	HM	45°	Rm <850-1100			21

End milling tools for aluminium and copper

Profiled, with corner radius

N° 15277 / 15377 new! d1 16 – 20 r 2.5, 4.0		X-Generation X	HM MG10	r	Al Aluminium Alloy	Cu Copper		23

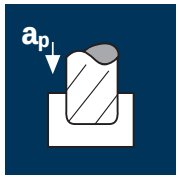
Application



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 [cm³/min]
Steel < 850 N/mm²								
3	4	200	0.020	4.5	1.2	21220	1700	9.0
4	4	200	0.025	6.0	1.6	15915	1590	15.5
5	4	200	0.035	7.5	2.0	12735	1785	27.0
6	4	200	0.040	9.0	2.4	10610	1700	36.5
8	4	200	0.055	12.0	3.2	7960	1750	67.0
10	4	200	0.070	15.0	4.0	6365	1780	107.0
12	4	200	0.075	18.0	4.8	5305	1590	137.5
16	4	200	0.100	24.0	6.4	3980	1590	244.0
20	4	200	0.130	30.0	8.0	3185	1655	397.0
Steel 850 - 1100 N/mm²								
3	4	150	0.020	4.5	1.2	15915	1275	7.0
4	4	150	0.025	6.0	1.6	11935	1195	11.5
5	4	150	0.035	7.5	2.0	9550	1335	20.0
6	4	150	0.040	9.0	2.4	7960	1275	27.5
8	4	150	0.055	12.0	3.2	5970	1315	50.5
10	4	150	0.070	15.0	4.0	4775	1335	80.0
12	4	150	0.075	18.0	4.8	3980	1195	103.0
16	4	150	0.100	24.0	6.4	2985	1195	183.5
20	4	150	0.130	30.0	8.0	2385	1240	297.5
Cold work tool steel (12% Cr) high alloyed [1.2379]								
3	4	80	0.020	4.5	1.2	8490	680	3.5
4	4	80	0.025	6.0	1.6	6365	635	6.0
5	4	80	0.030	7.5	2.0	5095	610	9.0
6	4	80	0.040	9.0	2.4	4245	680	14.5
8	4	80	0.050	12.0	3.2	3185	635	24.5
10	4	80	0.065	15.0	4.0	2545	660	39.5
12	4	80	0.075	18.0	4.8	2120	635	55.0
16	4	80	0.095	24.0	6.4	1590	605	93.0
20	4	80	0.120	30.0	8.0	1275	610	146.5
Stainless steel [Cr-Ni/1.4301]								
3	4	70	0.015	4.5	1.2	7425	445	2.5
4	4	70	0.020	6.0	1.6	5570	445	4.5
5	4	70	0.020	7.5	2.0	4455	355	5.5
6	4	70	0.030	9.0	2.4	3715	445	9.5
8	4	70	0.035	12.0	3.2	2785	390	15.0
10	4	70	0.045	15.0	4.0	2230	400	24.0
12	4	70	0.055	18.0	4.8	1855	410	35.5
16	4	70	0.065	24.0	6.4	1395	365	56.0
20	4	70	0.085	30.0	8.0	1115	380	91.0

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 [cm³/min]
Steel < 850 N/mm²								
3	4	180	0.015	3	3	19100	1145	10.5
4	4	180	0.020	4	4	14325	1145	18.5
5	4	180	0.030	5	5	11460	1375	34.5
6	4	180	0.035	6	6	9550	1335	48.0
8	4	180	0.045	8	8	7160	1290	82.5
10	4	180	0.055	10	10	5730	1260	126.0
12	4	180	0.060	12	12	4775	1145	165.0
16	4	180	0.075	8	16	3580	1075	137.5
20	4	180	0.095	10	20	2865	1090	218.0
Steel 850 - 1100 N/mm²								
3	4	120	0.015	3	3	12735	765	7.0
4	4	120	0.020	4	4	9550	765	12.0
5	4	120	0.030	5	5	7640	915	23.0
6	4	120	0.035	6	6	6365	890	32.0
8	4	120	0.045	8	8	4775	860	55.0
10	4	120	0.055	10	10	3820	840	84.0
12	4	120	0.060	12	12	3185	765	110.0
16	4	120	0.075	8	16	2385	715	91.5
20	4	120	0.095	10	20	1910	725	145.0
Cold work tool steel (12% Cr) high alloyed [1.2379]								
3	4	60	0.015	3	3	6365	380	3.5
4	4	60	0.020	4	4	4775	380	6.0
5	4	60	0.030	5	5	3820	460	11.5
6	4	60	0.035	6	6	3185	445	16.0
8	4	60	0.045	8	8	2385	430	27.5
10	4	60	0.055	10	10	1910	420	42.0
12	4	60	0.060	12	12	1590	380	54.5
16	4	60	0.075	8	16	1195	360	46.0
20	4	60	0.095	10	20	955	365	73.0
Stainless steel [Cr-Ni/1.4301]								
3	4	50	0.010	3	3	5305	210	2.0
4	4	50	0.015	4	4	3980	240	4.0
5	4	50	0.025	5	5	3185	320	8.0
6	4	50	0.030	6	6	2655	320	11.5
8	4	50	0.035	8	8	1990	280	18.0
10	4	50	0.045	10	10	1590	285	28.5
12	4	50	0.050	12	12	1325	265	38.0
16	4	50	0.060	8	16	995	240	30.5
20	4	50	0.075	10	20	795	240	48.0

Corner radius end mills NX-RNV

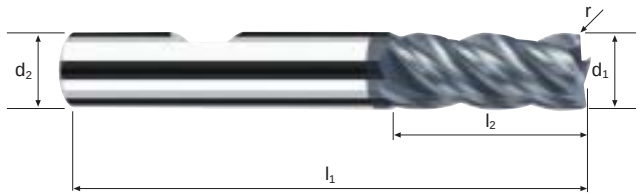
Smooth-edged, normal version

HSS | Favora® | Base-X | X-Generation X

HM MG10

λ 40°
γ 0°

Vario



Roughing

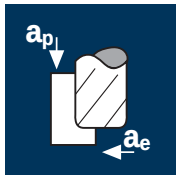
Finishing

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

Example: **Order-N°.** Coating **P** Article-N°. **15326** ø-Code **.180**

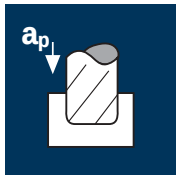
ø Code	d_1 e8	d_2 h6	l_1	l_2	r 0/+0,03	α	z	POLYCHROM P15326	POLYCHROM P15226
.180	3	6	57	8	0.5	5.5°	4	●	
.220	4	6	57	11	0.5	3.5°	4	●	
.260	5	6	57	13	0.5	2.0°	4	●	
.300	6	6	57	13	0.5	0.0°	4	●	
.388	8	8	63	19	0.5	0.0°	4	●	
.448	10	10	72	22	0.5	0.0°	4	●	
.498	12	12	83	26	0.5	0.0°	4	●	
.302	6	6	57	13	1.0	0.0°	4	●	
.391	8	8	63	19	1.0	0.0°	4	●	
.450	10	10	72	22	1.0	0.0°	4	●	
.501	12	12	83	26	1.0	0.0°	4	●	
.608	16	16	92	32	1.0	0.0°	4	●	
.680	20	20	104	38	1.0	0.0°	4	●	
.453	10	10	72	22	1.5	0.0°	4	●	
.503	12	12	83	26	1.5	0.0°	4	●	
.610	16	16	92	32	1.5	0.0°	4	●	
.505	12	12	83	26	2.0	0.0°	4	●	
.611	16	16	92	32	2.0	0.0°	4	●	
.683	20	20	104	38	2.0	0.0°	4	●	

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 [cm³/min]
Steel < 850 N/mm²	10	4	200	0.070	15.0	4.0	6365	1780	107.0
	12	4	200	0.075	18.0	4.8	5305	1590	137.5
	16	4	200	0.100	24.0	6.4	3980	1590	244.0
	20	4	200	0.130	30.0	8.0	3185	1655	397.0
Steel 850 - 1100 N/mm²	10	4	150	0.070	15.0	4.0	4775	1335	80.0
	12	4	150	0.075	18.0	4.8	3980	1195	103.0
	16	4	150	0.100	24.0	6.4	2985	1195	183.5
	20	4	150	0.130	30.0	8.0	2385	1240	297.5
Cold work tool steel (12% Cr) high alloyed [1.2379]	10	4	80	0.065	15.0	4.0	2545	660	39.5
	12	4	80	0.075	18.0	4.8	2120	635	55.0
	16	4	80	0.095	24.0	6.4	1590	605	93.0
	20	4	80	0.120	30.0	8.0	1275	610	146.5
Stainless steel [Cr-Ni/1.4301]	10	4	70	0.045	15.0	4.0	2230	400	24.0
	12	4	70	0.055	18.0	4.8	1855	410	35.5
	16	4	70	0.065	24.0	6.4	1395	365	56.0
	20	4	70	0.085	30.0	8.0	1115	380	91.0

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 [cm³/min]
Steel < 850 N/mm²	10	4	180	0.055	10	10	5730	1260	126.0
	12	4	180	0.060	12	12	4775	1145	165.0
	16	4	180	0.075	8	16	3580	1075	137.5
	20	4	180	0.095	10	20	2865	1090	218.0
Steel 850 - 1100 N/mm²	10	4	120	0.055	10	10	3820	840	84.0
	12	4	120	0.060	12	12	3185	765	110.0
	16	4	120	0.075	8	16	2385	715	91.5
	20	4	120	0.095	10	20	1910	725	145.0
Cold work tool steel (12% Cr) high alloyed [1.2379]	10	4	60	0.055	10	10	1910	420	42.0
	12	4	60	0.060	12	12	1590	380	54.5
	16	4	60	0.075	8	16	1195	360	46.0
	20	4	60	0.095	10	20	955	365	73.0
Stainless steel [Cr-Ni/1.4301]	10	4	50	0.045	10	10	1590	285	28.5
	12	4	50	0.050	12	12	1325	265	38.0
	16	4	50	0.060	8	16	995	240	30.5
	20	4	50	0.075	10	20	795	240	48.0

Corner radius end mills NX-RNV

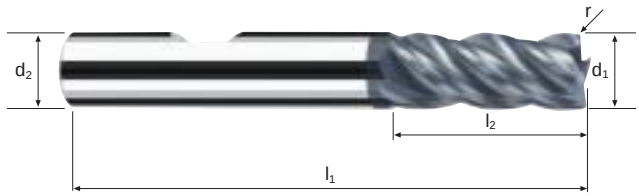
Smooth-edged, normal version

HSS | Favora® | Base-X | X-Generation X

HM MG10

λ **40°**
γ **0°**

Vario



Roughing

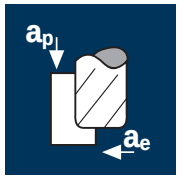
Finishing

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

Example: **Order-N°.** Coating **P** | Article-N°. **15326** | ø-Code **.457**

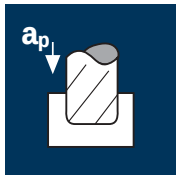
	ø Code	d_1 e8	d_2 h6	l_1	l_2	r 0/+0,03	α	z	POLYCHROM P15326	POLYCHROM P15226
new!	**.457**	10	10	72	22	2.5	0.0°	4	●	
new!	**.506**	12	12	83	26	2.5	0.0°	4	●	
new!	**.612**	16	16	92	32	2.5	0.0°	4	●	
new!	**.684**	20	20	104	38	2.5	0.0°	4	●	
new!	**.508**	12	12	83	26	4.0	0.0°	4	●	
new!	**.614**	16	16	92	32	4.0	0.0°	4	●	
new!	**.686**	20	20	104	38	4.0	0.0°	4	●	

Application



Material	d1 [mm]	z	vc [m/min]	fz [mm]	ap [mm]	ae [mm]	n [min-1]	vf [mm/min]	Q [cm3/min]
Steel 850 - 1100 N/mm²	4	4	160	0.025	6.0	1.6	12735	1275	12.0
	5	4	160	0.035	7.5	2.0	10185	1425	21.5
	6	4	160	0.040	9.0	2.4	8490	1360	29.5
	8	4	160	0.055	12.0	3.2	6365	1400	54.0
	10	4	160	0.065	15.0	4.0	5095	1325	79.5
	12	4	160	0.080	18.0	4.8	4245	1360	117.5
	16	4	160	0.090	24.0	6.4	3185	1145	176.0
	20	4	160	0.110	30.0	8.0	2545	1120	269.0
Steel 1100 - 1300 N/mm²	4	4	120	0.025	6.0	1.6	9550	955	9.0
	5	4	120	0.035	7.5	2.0	7640	1070	16.0
	6	4	120	0.040	9.0	2.4	6365	1020	22.0
	8	4	120	0.055	12.0	3.2	4775	1050	40.5
	10	4	120	0.065	15.0	4.0	3820	995	59.5
	12	4	120	0.080	18.0	4.8	3185	1020	88.0
	16	4	120	0.090	24.0	6.4	2385	860	132.0
	20	4	120	0.110	30.0	8.0	1910	840	201.5
Steel 1300 - 1500 N/mm²	4	4	90	0.025	6.0	1.6	7160	715	7.0
	5	4	90	0.030	7.5	2.0	5730	690	10.5
	6	4	90	0.035	9.0	2.4	4775	670	14.5
	8	4	90	0.045	12.0	3.2	3580	645	25.0
	10	4	90	0.060	15.0	4.0	2865	690	41.5
	12	4	90	0.070	18.0	4.8	2385	670	58.0
	16	4	90	0.080	24.0	6.4	1790	575	88.5
	20	4	90	0.100	30.0	8.0	1430	570	137.0
Titanium alloys >300 HB [Ti6Al4V]	4	4	40	0.015	6.0	1.6	3185	190	2.0
	5	4	40	0.020	7.5	2.0	2545	205	3.0
	6	4	40	0.020	9.0	2.4	2120	170	3.5
	8	4	40	0.025	12.0	3.2	1590	160	6.0
	10	4	40	0.035	15.0	4.0	1275	180	11.0
	12	4	40	0.040	18.0	4.8	1060	170	14.5
	16	4	40	0.050	24.0	6.4	795	160	24.5
	20	4	40	0.060	30.0	8.0	635	150	36.0

Application



Material	d1 [mm]	z	vc [m/min]	fz [mm]	ap [mm]	ae [mm]	n [min-1]	vf [mm/min]	Q [cm3/min]
Steel 850 - 1100 N/mm²	4	4	130	0.020	5.0	4	10345	830	16.5
	5	4	130	0.025	6.3	5	8275	830	26.0
	6	4	130	0.025	7.5	6	6895	690	31.0
	8	4	130	0.035	10.0	8	5175	725	58.0
	10	4	130	0.045	12.5	10	4140	745	93.0
	12	4	130	0.055	15.0	12	3450	760	137.0
	16	4	130	0.065	20.0	16	2585	670	214.5
	20	4	130	0.080	25.0	20	2070	660	330.0
Steel 1100 - 1300 N/mm²	4	4	100	0.020	5.0	4	7960	635	12.5
	5	4	100	0.025	6.3	5	6365	635	20.0
	6	4	100	0.025	7.5	6	5305	530	24.0
	8	4	100	0.035	10.0	8	3980	555	44.5
	10	4	100	0.045	12.5	10	3185	575	72.0
	12	4	100	0.055	15.0	12	2655	585	105.5
	16	4	100	0.065	20.0	16	1990	515	165.0
	20	4	100	0.080	25.0	20	1590	510	255.0
Steel 1300 - 1500 N/mm²	4	4	70	0.015	5.0	4	5570	335	6.5
	5	4	70	0.020	6.3	5	4455	355	11.0
	6	4	70	0.025	7.5	6	3715	370	16.5
	8	4	70	0.030	10.0	8	2785	335	27.0
	10	4	70	0.040	12.5	10	2230	355	44.5
	12	4	70	0.050	15.0	12	1855	370	66.5
	16	4	70	0.055	20.0	16	1395	305	97.5
	20	4	70	0.070	25.0	20	1115	310	155.0
Titanium alloys >300 HB [Ti6Al4V]	4	4	30	0.010	5.0	4	2385	95	2.0
	5	4	30	0.015	6.3	5	1910	115	3.5
	6	4	30	0.020	7.5	6	1590	125	5.5
	8	4	30	0.025	10.0	8	1195	120	9.5
	10	4	30	0.030	12.5	10	955	115	14.5
	12	4	30	0.040	15.0	12	795	125	22.5
	16	4	30	0.045	20.0	16	595	105	33.5
	20	4	30	0.055	25.0	20	475	105	52.5

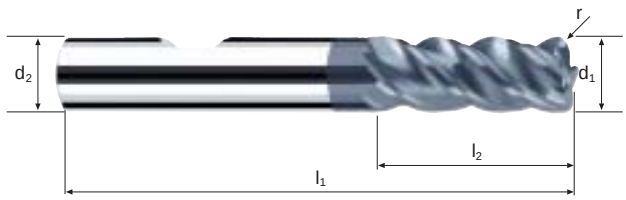
Corner radius end mills NX-RNVD

Smooth-edged, normal version

HSS | Favora® | Base-X | X-Generation X

HM MG10 | **λ 45° γ -10°**

Vario



Roughing

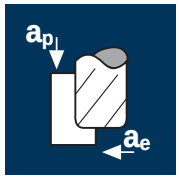
Finishing

	Rm 850-1100	**Rm** 1100-1300	**Rm** 1300-1500	**HRC** 48-56	**HRC** 56-60			**Ti** Titanium	**GG(G) Tool Steel**

Example: **Order-N°.** Coating **P** | Article-N°. **15368** | ø-Code **.220**

ø Code	d_1 e8	d_2 h6	l_1	l_2	r 0/+0,03	α	z	POLYCHROM P15368	POLYCHROM P15268
.220	4	6	57	8	0.5	4.0°	4	●	
.260	5	6	57	10	0.5	2.5°	4	●	
.300	6	6	57	12	0.5	0.0°	4	●	
.388	8	8	63	19	0.5	0.0°	4	●	
.448	10	10	72	23	0.5	0.0°	4	●	
.498	12	12	83	27	0.5	0.0°	4	●	
.302	6	6	57	12	1.0	0.0°	4	●	
.391	8	8	63	19	1.0	0.0°	4	●	
.450	10	10	72	23	1.0	0.0°	4	●	
.501	12	12	83	27	1.0	0.0°	4	●	
.608	16	16	92	32	1.0	0.0°	4	●	
.680	20	20	104	39	1.0	0.0°	4	●	
.453	10	10	72	23	1.5	0.0°	4	●	
.503	12	12	83	27	1.5	0.0°	4	●	
.610	16	16	92	32	1.5	0.0°	4	●	
.505	12	12	83	27	2.0	0.0°	4	●	
.611	16	16	92	32	2.0	0.0°	4	●	
.683	20	20	104	39	2.0	0.0°	4	●	

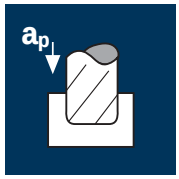
Application



Material

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 [cm³/min]
Steel 850 - 1100 N/mm²	10	4	160	0.065	15.0	4.0	5095	1325	79.5
	12	4	160	0.080	18.0	4.8	4245	1360	117.5
	16	4	160	0.090	24.0	6.4	3185	1145	176.0
	20	4	160	0.110	30.0	8.0	2545	1120	269.0
Steel 1100 - 1300 N/mm²	10	4	120	0.065	15.0	4.0	3820	995	59.5
	12	4	120	0.080	18.0	4.8	3185	1020	88.0
	16	4	120	0.090	24.0	6.4	2385	860	132.0
	20	4	120	0.110	30.0	8.0	1910	840	201.5
Steel 1300 - 1500 N/mm²	10	4	90	0.060	15.0	4.0	2865	690	41.5
	12	4	90	0.070	18.0	4.8	2385	670	58.0
	16	4	90	0.080	24.0	6.4	1790	575	88.5
	20	4	90	0.100	30.0	8.0	1430	570	137.0
Titanium alloys >300 HB [Ti6Al4V]	10	4	40	0.035	15.0	4.0	1275	180	11.0
	12	4	40	0.040	18.0	4.8	1060	170	14.5
	16	4	40	0.050	24.0	6.4	795	160	24.5
	20	4	40	0.060	30.0	8.0	635	150	36.0

Application



Material

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 [cm³/min]
Steel 850 - 1100 N/mm²	10	4	130	0.045	12.5	10	4140	745	93.0
	12	4	130	0.055	15.0	12	3450	760	137.0
	16	4	130	0.065	20.0	16	2585	670	214.5
	20	4	130	0.080	25.0	20	2070	660	330.0
Steel 1100 - 1300 N/mm²	10	4	100	0.045	12.5	10	3185	575	72.0
	12	4	100	0.055	15.0	12	2655	585	105.5
	16	4	100	0.065	20.0	16	1990	515	165.0
	20	4	100	0.080	25.0	20	1590	510	255.0
Steel 1300 - 1500 N/mm²	10	4	70	0.040	12.5	10	2230	355	44.5
	12	4	70	0.050	15.0	12	1855	370	66.5
	16	4	70	0.055	20.0	16	1395	305	97.5
	20	4	70	0.070	25.0	20	1115	310	155.0
Titanium alloys >300 HB [Ti6Al4V]	10	4	30	0.030	12.5	10	955	115	14.5
	12	4	30	0.040	15.0	12	795	125	22.5
	16	4	30	0.045	20.0	16	595	105	33.5
	20	4	30	0.055	25.0	20	475	105	52.5

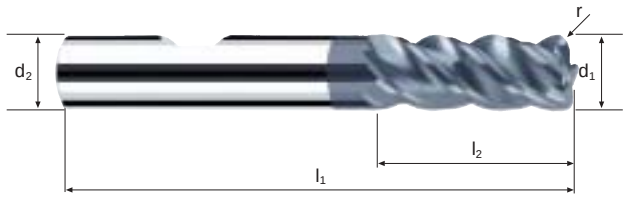
Corner radius end mills NX-RNVD

Smooth-edged, normal version

HSS | Favora® | Base-X | X-Generation X

HM MG10 | **λ 45° γ-10°**

Vario



Roughing

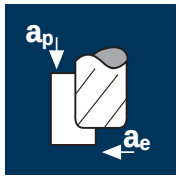
Finishing

	Rm 850-1100	**Rm** 1100-1300	**Rm** 1300-1500	**HRC** 48-56	**HRC** 56-60			**Ti** Titanium	**GG(G) Tool Steel**

Example: **Order-N°.** Coating **P** | Article-N°. **15368** | ø-Code **.457**

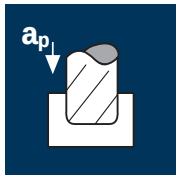
	ø Code	d_1 e8	d_2 h6	l_1	l_2	r 0/+0,03	α	z	POLYCHROM P15368	POLYCHROM P15268
new!	**.457**	10	10	72	23	2.5	0.0°	4	●	
new!	**.506**	12	12	83	27	2.5	0.0°	4	●	
new!	**.612**	16	16	92	32	2.5	0.0°	4	●	
new!	**.684**	20	20	104	39	2.5	0.0°	4	●	
new!	**.508**	12	12	83	27	4.0	0.0°	4	●	
new!	**.614**	16	16	92	32	4.0	0.0°	4	●	
new!	**.686**	20	20	104	39	4.0	0.0°	4	●	

Application



Material	d1 [mm]	z	vc [m/min]	fz [mm]	ap [mm]	ae [mm]	n [min-1]	vf [mm/min]	Q [cm3/min]
Steel < 850 N/mm²	3	4	160	0.010	4.5	1.2	16975	680	3.5
	4	4	160	0.015	6.0	1.6	12735	765	7.5
	5	4	160	0.025	7.5	2.0	10185	1020	15.5
	6	4	160	0.025	9.0	2.4	8490	850	18.5
	8	4	160	0.035	12.0	3.2	6365	890	34.0
	10	4	160	0.045	15.0	4.0	5095	915	55.0
	12	4	160	0.050	18.0	4.8	4245	850	73.5
Steel 850 - 1100 N/mm²	3	4	120	0.010	4.5	1.2	12735	510	3.0
	4	4	120	0.015	6.0	1.6	9550	575	5.5
	5	4	120	0.025	7.5	2.0	7640	765	11.5
	6	4	120	0.025	9.0	2.4	6365	635	13.5
	8	4	120	0.035	12.0	3.2	4775	670	25.5
	10	4	120	0.045	15.0	4.0	3820	690	41.5
	12	4	120	0.050	18.0	4.8	3185	635	55.0
Stainless steel [Cr-Ni/1.4301]	3	4	60	0.010	4.5	1.2	6365	255	1.5
	4	4	60	0.015	6.0	1.6	4775	285	2.5
	5	4	60	0.020	7.5	2.0	3820	305	4.5
	6	4	60	0.025	9.0	2.4	3185	320	7.0
	8	4	60	0.030	12.0	3.2	2385	285	11.0
	10	4	60	0.040	15.0	4.0	1910	305	18.5
	12	4	60	0.050	18.0	4.8	1590	320	27.5
Cast iron (lamellar / spheroidal)	3	4	145	0.015	4.5	1.2	15385	925	5.0
	4	4	145	0.020	6.0	1.6	11540	925	9.0
	5	4	145	0.025	7.5	2.0	9230	925	14.0
	6	4	145	0.030	9.0	2.4	7695	925	20.0
	8	4	145	0.040	12.0	3.2	5770	925	35.5
	10	4	145	0.050	15.0	4.0	4615	925	55.5
	12	4	145	0.060	18.0	4.8	3845	925	80.0

Application



Material	d1 [mm]	z	vc [m/min]	fz [mm]	ap [mm]	ae [mm]	n [min-1]	vf [mm/min]	Q [cm3/min]
Steel < 850 N/mm²	3	4	145	0.010	3.0	3	15385	615	5.5
	4	4	145	0.010	4.0	4	11540	460	7.5
	5	4	145	0.020	5.0	5	9230	740	18.5
	6	4	145	0.025	6.0	6	7695	770	27.5
	8	4	145	0.030	8.0	8	5770	690	44.0
	10	4	145	0.035	10.0	10	4615	645	64.5
	12	4	145	0.040	12.0	12	3845	615	88.5
Steel 850 - 1100 N/mm²	3	4	95	0.010	3.0	3	10080	405	3.5
	4	4	95	0.010	4.0	4	7560	300	5.0
	5	4	95	0.020	5.0	5	6050	485	12.0
	6	4	95	0.025	6.0	6	5040	505	18.0
	8	4	95	0.030	8.0	8	3780	455	29.0
	10	4	95	0.035	10.0	10	3025	425	42.5
	12	4	95	0.040	12.0	12	2520	405	58.5
Stainless steel [Cr-Ni/1.4301]	3	4	45	0.010	2.1	3	4775	190	1.0
	4	4	45	0.010	2.8	4	3580	145	1.5
	5	4	45	0.020	3.5	5	2865	230	4.0
	6	4	45	0.025	4.2	6	2385	240	6.0
	8	4	45	0.030	8.0	8	1790	215	14.0
	10	4	45	0.035	10.0	10	1430	200	20.0
	12	4	45	0.040	12.0	12	1195	190	27.5
Cast iron (lamellar / spheroidal)	3	4	130	0.010	3.0	3	13795	550	5.0
	4	4	130	0.015	4.0	4	10345	620	10.0
	5	4	130	0.020	5.0	5	8275	660	16.5
	6	4	130	0.025	6.0	6	6895	690	25.0
	8	4	130	0.030	8.0	8	5175	620	39.5
	10	4	130	0.040	10.0	10	4140	660	66.0
	12	4	130	0.040	12.0	12	3450	550	79.0

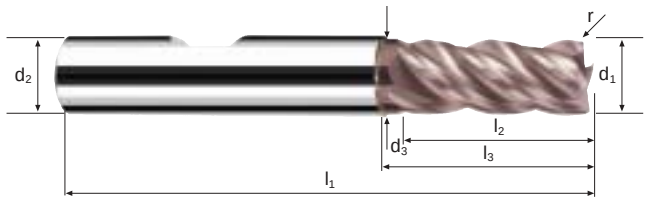
Corner radius end mills NF-RNV

Smooth-edged, normal version with short neck

HSS | Favora® F | Base-X | X-Generation

HM | λ 40° γ 6°

Vario



Roughing

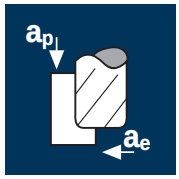
Finishing

Rm < 850 | **Rm** 850-1100 | **Rm** 1100-1300 | **Inox** Stainless | **Ti** Titanium | **Nickel-Alloys** GG(G)

Example: **Order-N°.** Coating **U** Article-N°. **45319** ø-Code **.178**

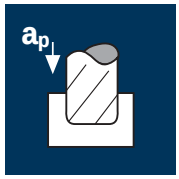
	ø Code	d_1 e8	d_2 h6	d_3	l_1	l_2	l_3	r 0/+0,03	α	z	UNICUT-4X U45319
new!	.178	3	6	2.8	57	8	14	0.2	5.5°	4	●
new!	.218	4	6	3.7	57	11	16	0.2	3.5°	4	●
new!	.258	5	6	4.6	57	13	18	0.2	2.0°	4	●
new!	.297	6	6	5.5	57	13	20	0.2	0.0°	4	●
new!	.385	8	8	7.4	63	19	26	0.2	0.0°	4	●
new!	.445	10	10	9.2	72	22	31	0.2	0.0°	4	●
new!	.496	12	12	11.0	83	26	37	0.2	0.0°	4	●
	.180	3	6	2.8	57	8	14	0.5	5.5°	4	●
	.220	4	6	3.7	57	11	16	0.5	3.5°	4	●
	.260	5	6	4.6	57	13	18	0.5	2.0°	4	●
	.300	6	6	5.5	57	13	20	0.5	0.0°	4	●
	.388	8	8	7.4	63	19	26	0.5	0.0°	4	●
	.448	10	10	9.2	72	22	31	0.5	0.0°	4	●
	.498	12	12	11.0	83	26	37	0.5	0.0°	4	●
new!	.301	6	6	5.5	57	13	20	0.8	0.0°	4	●
new!	.389	8	8	7.4	63	19	26	0.8	0.0°	4	●
new!	.449	10	10	9.2	72	22	31	0.8	0.0°	4	●
new!	.499	12	12	11.0	83	26	37	0.8	0.0°	4	●

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 [cm³/min]
Steel < 850 N/mm²	6	4	160	0.025	9.0	2.4	8490	850	18.5
	8	4	160	0.035	12.0	3.2	6365	890	34.0
	10	4	160	0.045	15.0	4.0	5095	915	55.0
	12	4	160	0.050	18.0	4.8	4245	850	73.5
	16	4	160	0.065	24.0	6.4	3185	830	127.5
	20	4	160	0.085	30.0	8.0	2545	865	207.5
Steel 850 - 1100 N/mm²	6	4	120	0.025	9.0	2.4	6365	635	13.5
	8	4	120	0.035	12.0	3.2	4775	670	25.5
	10	4	120	0.045	15.0	4.0	3820	690	41.5
	12	4	120	0.050	18.0	4.8	3185	635	55.0
	16	4	120	0.065	24.0	6.4	2385	620	95.0
	20	4	120	0.085	30.0	8.0	1910	650	156.0
Stainless steel [Cr-Ni/1.4301]	6	4	60	0.025	9.0	2.4	3185	320	7.0
	8	4	60	0.030	12.0	3.2	2385	285	11.0
	10	4	60	0.040	15.0	4.0	1910	305	18.5
	12	4	60	0.050	18.0	4.8	1590	320	27.5
	16	4	60	0.060	24.0	6.4	1195	285	44.0
	20	4	60	0.075	30.0	8.0	955	285	68.5
Cast iron (lamellar / spheroidal)	6	4	145	0.030	9.0	2.4	7695	925	20.0
	8	4	145	0.040	12.0	3.2	5770	925	35.5
	10	4	145	0.050	15.0	4.0	4615	925	55.5
	12	4	145	0.060	18.0	4.8	3845	925	80.0
	16	4	145	0.085	24.0	6.4	2885	980	150.5
	20	4	145	0.105	30.0	8.0	2310	970	233.0

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 [cm³/min]
Steel < 850 N/mm²	6	4	145	0.025	6.0	6	7695	770	27.5
	8	4	145	0.030	8.0	8	5770	690	44.0
	10	4	145	0.035	10.0	10	4615	645	64.5
	12	4	145	0.040	12.0	12	3845	615	88.5
	16	4	145	0.050	8.0	16	2885	575	73.5
	20	4	145	0.060	10.0	20	2310	555	111.0
Steel 850 - 1100 N/mm²	6	4	95	0.025	6.0	6	5040	505	18.0
	8	4	95	0.030	8.0	8	3780	455	29.0
	10	4	95	0.035	10.0	10	3025	425	42.5
	12	4	95	0.040	12.0	12	2520	405	58.5
	16	4	95	0.050	8.0	16	1890	380	48.5
	20	4	95	0.060	10.0	20	1510	360	72.0
Stainless steel [Cr-Ni/1.4301]	6	4	45	0.025	4.2	6	2385	240	6.0
	8	4	45	0.030	8.0	8	1790	215	14.0
	10	4	45	0.035	10.0	10	1430	200	20.0
	12	4	45	0.040	12.0	12	1195	190	27.5
	16	4	45	0.050	8.0	16	895	180	23.0
	20	4	45	0.060	10.0	20	715	170	34.0
Cast iron (lamellar / spheroidal)	6	4	130	0.025	6.0	6	6895	690	25.0
	8	4	130	0.030	8.0	8	5175	620	39.5
	10	4	130	0.040	10.0	10	4140	660	66.0
	12	4	130	0.040	12.0	12	3450	550	79.0
	16	4	130	0.055	8.0	16	2585	570	73.0
	20	4	130	0.070	10.0	20	2070	580	116.0

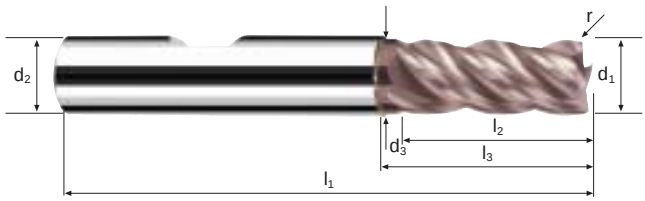
Corner radius end mills NF-RNV

Smooth-edged, normal version with short neck

HSS | Favora® F | Base-X | X-Generation

HM | λ 40° γ 6°

Vario



Roughing

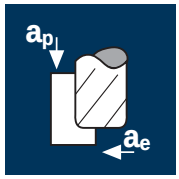
Finishing

Rm < 850 | **Rm** 850-1100 | **Rm** 1100-1300 | **Inox** Stainless | **Ti** Titanium | **Nickel-Alloys** GG(G)

Example: **Order-N°.** Coating **U** Article-N°. **45319** ø-Code **.302**

ø Code	d_1 e8	d_2 h6	d_3	l_1	l_2	l_3	r 0/+0,03	α	z	UNICUT-4X U45319
.302	6	6	5.5	57	13	20	1.0	0.0°	4	●
.391	8	8	7.4	63	19	26	1.0	0.0°	4	●
.450	10	10	9.2	72	22	31	1.0	0.0°	4	●
.501	12	12	11.0	83	26	37	1.0	0.0°	4	●
.608	16	16	15.0	92	32	43	1.0	0.0°	4	●
.680	20	20	19.0	104	38	53	1.0	0.0°	4	●
.453	10	10	9.2	72	22	31	1.5	0.0°	4	●
.503	12	12	11.0	83	26	37	1.5	0.0°	4	●
.610	16	16	15.0	92	32	43	1.5	0.0°	4	●
.505	12	12	11.0	83	26	37	2.0	0.0°	4	●
.611	16	16	15.0	92	32	43	2.0	0.0°	4	●
.683	20	20	19.0	104	38	53	2.0	0.0°	4	●

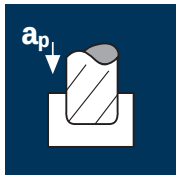
Application



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 [cm³/min]
Steel < 850 N/mm²								
10	4	160	0.045	15.0	4.0	5095	915	55.0
12	4	160	0.050	18.0	4.8	4245	850	73.5
16	4	160	0.065	24.0	6.4	3185	830	127.5
20	4	160	0.085	30.0	8.0	2545	865	207.5
Steel 850 - 1100 N/mm²								
10	4	120	0.045	15.0	4.0	3820	690	41.5
12	4	120	0.050	18.0	4.8	3185	635	55.0
16	4	120	0.065	24.0	6.4	2385	620	95.0
20	4	120	0.085	30.0	8.0	1910	650	156.0
Stainless steel [Cr-Ni/1.4301]								
10	4	60	0.040	15.0	4.0	1910	305	18.5
12	4	60	0.050	18.0	4.8	1590	320	27.5
16	4	60	0.060	24.0	6.4	1195	285	44.0
20	4	60	0.075	30.0	8.0	955	285	68.5
Cast iron (lamellar / spheroidal)								
10	4	145	0.050	15.0	4.0	4615	925	55.5
12	4	145	0.060	18.0	4.8	3845	925	80.0
16	4	145	0.085	24.0	6.4	2885	980	150.5
20	4	145	0.105	30.0	8.0	2310	970	233.0

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 [cm³/min]
Steel < 850 N/mm²								
10	4	145	0.035	10	10	4615	645	64.5
12	4	145	0.040	12	12	3845	615	88.5
16	4	145	0.050	8	16	2885	575	73.5
20	4	145	0.060	10	20	2310	555	111.0
Steel 850 - 1100 N/mm²								
10	4	95	0.035	10	10	3025	425	42.5
12	4	95	0.040	12	12	2520	405	58.5
16	4	95	0.050	8	16	1890	380	48.5
20	4	95	0.060	10	20	1510	360	72.0
Stainless steel [Cr-Ni/1.4301]								
10	4	45	0.035	10	10	1430	200	20.0
12	4	45	0.040	12	12	1195	190	27.5
16	4	45	0.050	8	16	895	180	23.0
20	4	45	0.060	10	20	715	170	34.0
Cast iron (lamellar / spheroidal)								
10	4	130	0.040	10	10	4140	660	66.0
12	4	130	0.040	12	12	3450	550	79.0
16	4	130	0.055	8	16	2585	570	73.0
20	4	130	0.070	10	20	2070	580	116.0

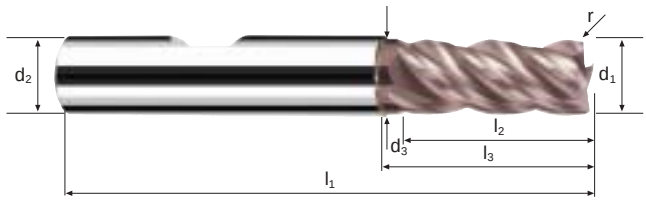
Corner radius end mills NF-RNV

Smooth-edged, normal version with short neck

HSS | Favora® F | Base-X | X-Generation

HM | λ 40° γ 6°

Vario



Roughing

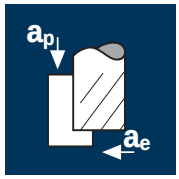
Finishing

Rm < 850 | **Rm** 850-1100 | **Rm** 1100-1300 | **Inox** Stainless | **Ti** Titanium | **Nickel-Alloys** GG(G)

Example: **Order-N°.** Coating **U** Article-N°. **45319** ø-Code **.508**

	ø Code	d_1 e8	d_2 h6	d_3	l_1	l_2	l_3	r 0/+0,03	α	z	UNICUT-4X U45319	UNICUT-4X U45219
new!	.457	10	10	9.2	72	22	31	2.5	0.0°	4	●	
new!	.506	12	12	11.0	83	26	37	2.5	0.0°	4	●	
new!	.612	16	16	15.0	92	32	43	2.5	0.0°	4	●	
new!	.684	20	20	19.0	104	38	53	2.5	0.0°	4	●	
new!	.508	12	12	11.0	83	26	37	4.0	0.0°	4	●	
new!	.614	16	16	15.0	92	32	43	4.0	0.0°	4	●	
new!	.686	20	20	19.0	104	38	53	4.0	0.0°	4	●	

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 [cm³/min]
Steel < 850 N/mm²	3	3	180	0.015	3.6	1.8	19100	860	5.5
	4	3	180	0.020	4.8	2.4	14325	860	10.0
	5	4	180	0.025	6.0	3.0	11460	1145	20.5
	6	4	180	0.030	7.2	3.6	9550	1145	29.5
	8	4	180	0.040	9.6	4.8	7160	1145	53.0
	10	4	180	0.050	12.0	6.0	5730	1145	82.5
	12	4	180	0.055	14.4	7.2	4775	1050	109.0
	16	4	180	0.055	19.2	9.6	3580	790	145.5
	20	4	180	0.060	24.0	12.0	2865	690	198.5
Steel 850 - 1100 N/mm²	3	3	130	0.015	3.6	1.8	13795	620	4.0
	4	3	130	0.020	4.8	2.4	10345	620	7.0
	5	4	130	0.025	6.0	3.0	8275	830	15.0
	6	4	130	0.030	7.2	3.6	6895	825	21.5
	8	4	130	0.040	9.6	4.8	5175	830	38.0
	10	4	130	0.050	12.0	6.0	4140	830	60.0
	12	4	130	0.055	14.4	7.2	3450	760	79.0
	16	4	130	0.055	19.2	9.6	2585	570	105.0
	20	4	130	0.060	24.0	12.0	2070	495	142.5
Titanium alloys >300 HB [Ti6Al4V]	3	3	45	0.010	3.6	1.8	4775	145	1.0
	4	3	45	0.015	4.8	2.4	3580	160	2.0
	5	4	45	0.020	6.0	3.0	2865	230	4.0
	6	4	45	0.025	7.2	3.6	2385	240	6.0
	8	4	45	0.030	9.6	4.8	1790	215	10.0
	10	4	45	0.040	12.0	6.0	1430	230	16.5
	12	4	45	0.045	14.4	7.2	1195	215	22.5
	16	4	45	0.045	19.2	9.6	895	160	29.5
	20	4	45	0.050	24.0	12.0	715	145	42.0
Stainless steel [Cr-Ni/1.4301]	3	3	60	0.010	3.6	1.8	6365	190	1.0
	4	3	60	0.015	4.8	2.4	4775	215	2.5
	5	4	60	0.020	6.0	3.0	3820	305	5.5
	6	4	60	0.025	7.2	3.6	3185	320	8.5
	8	4	60	0.030	9.6	4.8	2385	285	13.0
	10	4	60	0.040	12.0	6.0	1910	305	22.0
	12	4	60	0.045	14.4	7.2	1590	285	29.5
	16	4	60	0.045	19.2	9.6	1195	215	39.5
	20	4	60	0.050	24.0	12.0	955	190	54.5

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 [cm³/min]
Steel < 850 N/mm²	3	3	150	0.015	3.0	3	15915	715	6.5
	4	3	150	0.020	4.0	4	11935	715	11.5
	5	4	150	0.025	5.0	5	9550	955	24.0
	6	4	150	0.030	6.0	6	7960	955	34.5
	8	4	150	0.040	8.0	8	5970	955	61.0
	10	4	150	0.050	10.0	10	4775	955	95.5
	12	4	150	0.055	12.0	12	3980	875	126.0
	16	4	150	0.055	16.0	16	2985	655	167.5
	20	4	150	0.060	20.0	20	2385	570	228.0
Steel 850 - 1100 N/mm²	3	3	80	0.015	3.0	3	8490	380	3.5
	4	3	80	0.020	4.0	4	6365	380	6.0
	5	4	80	0.025	5.0	5	5095	510	13.0
	6	4	80	0.030	6.0	6	4245	510	18.5
	8	4	80	0.040	8.0	8	3185	510	32.5
	10	4	80	0.050	10.0	10	2545	510	51.0
	12	4	80	0.055	12.0	12	2120	465	67.0
	16	4	80	0.055	16.0	16	1590	350	89.5
	20	4	80	0.060	20.0	20	1275	305	122.0
Titanium alloys >300 HB [Ti6Al4V]	3	3	35	0.010	3.0	3	3715	110	1.0
	4	3	35	0.015	4.0	4	2785	125	2.0
	5	4	35	0.020	5.0	5	2230	180	4.5
	6	4	35	0.025	6.0	6	1855	185	6.5
	8	4	35	0.030	8.0	8	1395	165	10.5
	10	4	35	0.040	10.0	10	1115	180	18.0
	12	4	35	0.045	12.0	12	930	165	24.0
	16	4	35	0.045	16.0	16	695	125	32.0
	20	4	35	0.050	20.0	20	555	110	44.0
Stainless steel [Cr-Ni/1.4301]	3	3	50	0.010	3.0	3	5305	160	1.5
	4	3	50	0.015	4.0	4	3980	180	3.0
	5	4	50	0.020	5.0	5	3185	255	6.5
	6	4	50	0.025	6.0	6	2655	265	9.5
	8	4	50	0.030	8.0	8	1990	240	15.5
	10	4	50	0.040	10.0	10	1590	255	25.5
	12	4	50	0.045	12.0	12	1325	240	34.5
	16	4	50	0.045	16.0	16	995	180	46.0
	20	4	50	0.050	20.0	20	795	160	64.0

Cylindrical end mills NB-RP Supracarb

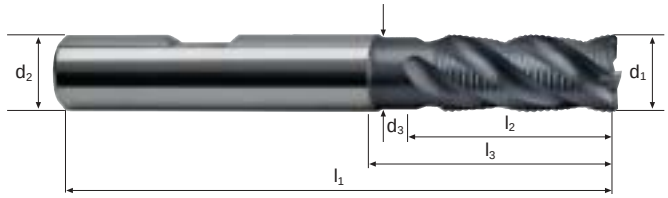
Profiled, normal version with short neck

HSS | Favora® | Base-X | **B** | X-Generation

HM
MG10

λ **38°**
γ **0°**

45°



Roughing

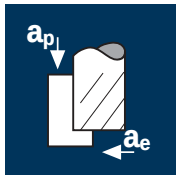
Finishing

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

Example: **Order-N°.** Coating **P** Article-N°. **15336** ø-Code **.180**

ø Code	d_1 e8	d_2 h6	d_3	l_1	l_2	l_3	45°	α	z	POLYCHROM P15336	POLYCHROM P15236
.180	3	6	2.8	57	8	14	0.20	5.5°	3	●	
.220	4	6	3.7	57	11	16	0.25	4.0°	3	●	
.260	5	6	4.6	57	13	18	0.30	2.0°	4	●	
.300	6	6	5.5	57	13	20	0.30	0.0°	4	●	
.391	8	8	7.4	63	19	26	0.40	0.0°	4	●	
.450	10	10	9.2	72	22	31	0.50	0.0°	4	●	
.501	12	12	11.0	83	26	37	0.50	0.0°	4	●	
.610	16	16	15.0	92	32	43	0.60	0.0°	4	●	
new! .612	16	16	15.0	92	32	43	0.60	0.0°	6	●	
.682	20	20	19.0	104	38	53	0.60	0.0°	4	●	
new! .684	20	20	19.0	104	38	53	0.60	0.0°	6	●	

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 [cm³/min]
Steel < 850 N/mm²	3	3	180	0.015	3.6	1.8	19100	860	5.5
	4	3	180	0.020	4.8	2.4	14325	860	10.0
	5	4	180	0.025	6.0	3.0	11460	1145	20.5
	6	4	180	0.030	7.2	3.6	9550	1145	29.5
	8	4	180	0.040	9.6	4.8	7160	1145	53.0
	10	4	180	0.050	12.0	6.0	5730	1145	82.5
	12	4	180	0.055	14.4	7.2	4775	1050	109.0
	16	4	180	0.055	19.2	9.6	3580	790	145.5
	20	4	180	0.060	24.0	12.0	2865	690	198.5
Steel 850 - 1100 N/mm²	3	3	130	0.015	3.6	1.8	13795	620	4.0
	4	3	130	0.020	4.8	2.4	10345	620	7.0
	5	4	130	0.025	6.0	3.0	8275	830	15.0
	6	4	130	0.030	7.2	3.6	6895	825	21.5
	8	4	130	0.040	9.6	4.8	5175	830	38.0
	10	4	130	0.050	12.0	6.0	4140	830	60.0
	12	4	130	0.055	14.4	7.2	3450	760	79.0
	16	4	130	0.055	19.2	9.6	2585	570	105.0
	20	4	130	0.060	24.0	12.0	2070	495	142.5
Titanium alloys >300 HB [Ti6Al4V]	3	3	45	0.010	3.6	1.8	4775	145	1.0
	4	3	45	0.015	4.8	2.4	3580	160	2.0
	5	4	45	0.020	6.0	3.0	2865	230	4.0
	6	4	45	0.025	7.2	3.6	2385	240	6.0
	8	4	45	0.030	9.6	4.8	1790	215	10.0
	10	4	45	0.040	12.0	6.0	1430	230	16.5
	12	4	45	0.045	14.4	7.2	1195	215	22.5
	16	4	45	0.045	19.2	9.6	895	160	29.5
	20	4	45	0.050	24.0	12.0	715	145	42.0
Stainless steel [Cr-Ni/1.4301]	3	3	55	0.010	3.6	1.8	5835	175	1.0
	4	3	55	0.015	4.8	2.4	4375	195	2.0
	5	4	55	0.020	6.0	3.0	3500	280	5.0
	6	4	55	0.025	7.2	3.6	2920	290	7.5
	8	4	55	0.030	9.6	4.8	2190	265	12.0
	10	4	55	0.040	12.0	6.0	1750	280	20.0
	12	4	55	0.045	14.4	7.2	1460	265	27.5
	16	4	55	0.045	19.2	9.6	1095	195	36.0
	20	4	55	0.050	24.0	12.0	875	175	50.5

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 [cm³/min]
Steel < 850 N/mm²	3	3	150	0.015	3.0	3	15915	715	6.5
	4	3	150	0.020	4.0	4	11935	715	11.5
	5	4	150	0.025	5.0	5	9550	955	24.0
	6	4	150	0.030	6.0	6	7960	955	34.5
	8	4	150	0.040	8.0	8	5970	955	61.0
	10	4	150	0.050	10.0	10	4775	955	95.5
	12	4	150	0.055	12.0	12	3980	875	126.0
	16	4	150	0.055	16.0	16	2985	655	167.5
	20	4	150	0.060	20.0	20	2385	570	228.0
Steel 850 - 1100 N/mm²	3	3	80	0.015	3.0	3	8490	380	3.5
	4	3	80	0.020	4.0	4	6365	380	6.0
	5	4	80	0.025	5.0	5	5095	510	13.0
	6	4	80	0.030	6.0	6	4245	510	18.5
	8	4	80	0.040	8.0	8	3185	510	32.5
	10	4	80	0.050	10.0	10	2545	510	51.0
	12	4	80	0.055	12.0	12	2120	465	67.0
	16	4	80	0.055	16.0	16	1590	350	89.5
	20	4	80	0.060	20.0	20	1275	305	122.0
Titanium alloys >300 HB [Ti6Al4V]	3	3	35	0.010	3.0	3	3715	110	1.0
	4	3	35	0.015	4.0	4	2785	125	2.0
	5	4	35	0.020	5.0	5	2230	180	4.5
	6	4	35	0.025	6.0	6	1855	185	6.5
	8	4	35	0.030	8.0	8	1395	165	10.5
	10	4	35	0.040	10.0	10	1115	180	18.0
	12	4	35	0.045	12.0	12	930	165	24.0
	16	4	35	0.045	16.0	16	695	125	32.0
	20	4	35	0.050	20.0	20	555	110	44.0
Stainless steel [Cr-Ni/1.4301]	3	3	45	0.010	3.0	3	4775	145	1.5
	4	3	45	0.015	4.0	4	3580	160	2.5
	5	4	45	0.020	5.0	5	2865	230	6.0
	6	4	45	0.025	6.0	6	2385	240	8.5
	8	4	45	0.030	8.0	8	1790	215	14.0
	10	4	45	0.040	10.0	10	1430	230	23.0
	12	4	45	0.045	12.0	12	1195	215	31.0
	16	4	45	0.045	16.0	16	895	160	41.0
	20	4	45	0.050	20.0	20	715	145	58.0

Cylindrical end mills NF-RP

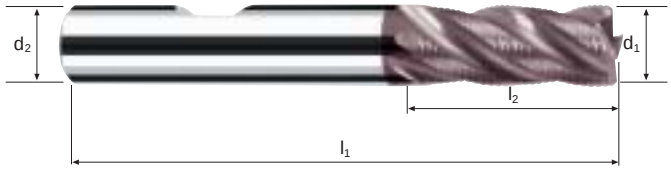
Profiled, normal version

HSS | Favora® F | Base-X | X-Generation

HM

λ **38°**
γ **0°**

45°



Roughing

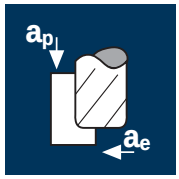
Finishing

Rm < 850 | **Rm** 850-1100 | **Rm** 1100-1300 | **Inox** Stainless | **Ti** Titanium | **GG(G)**

Example: **Order-N°.** Coating **U** Article-N°. **45371** ø-Code **.180**

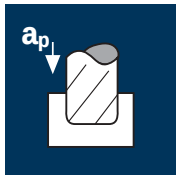
ø Code	d_1 e8	d_2 h6	l_1	l_2	45°	α	z	UNICUT-4X U45371
.180	3	6	57	8	0.20	5.5°	3	●
.220	4	6	57	11	0.25	4.0°	3	●
.260	5	6	57	13	0.30	2.0°	4	●
.300	6	6	57	13	0.30	0.0°	4	●
.391	8	8	63	19	0.40	0.0°	4	●
.450	10	10	72	22	0.50	0.0°	4	●
.501	12	12	83	26	0.50	0.0°	4	●
.610	16	16	92	32	0.60	0.0°	4	●
new! .612	16	16	92	32	0.60	0.0°	6	●
.682	20	20	104	38	0.60	0.0°	4	●
new! .684	20	20	104	38	0.60	0.0°	6	●

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]
Wrought aluminium alloys Si < 6%	16	3	600	0.190	24	9.6	11935	6805	1568.0
	20	3	600	0.235	30	12.0	9550	6735	2424.5
Unalloyed copper	16	3	400	0.190	24	9.6	7960	4535	1045.0
	20	3	400	0.235	30	12.0	6365	4485	1614.5
Thermoplastics	16	3	800	0.190	24	9.6	15915	9070	2089.5
	20	3	800	0.235	30	12.0	12735	8980	3233.0

Application



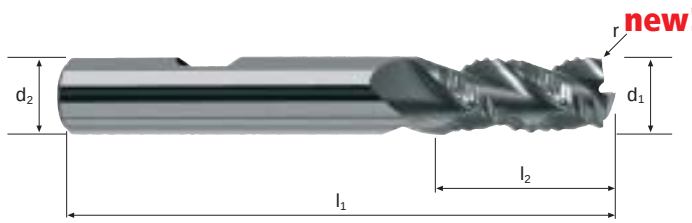
Material	d1 [mm]	z	v_c [m/min]	f_z [mm]	a_p [mm]	a_e [mm]	n [min^{-1}]	v_f [mm/min]	Q [cm^3/min]
Wrought aluminium alloys Si < 6%	16	3	500	0.170	24.0	16	9945	5070	1947.0
	20	3	500	0.210	30.0	20	7960	5015	3009.0
Unalloyed copper	16	3	270	0.170	24.0	16	5370	2740	1052.0
	20	3	270	0.210	30.0	20	4295	2705	1623.0
Thermoplastics	16	3	800	0.170	24.0	16	15915	8115	3116.0
	20	3	800	0.210	30.0	20	12735	8025	4815.0

Corner radius end mills AX-RFP

Profiled, normal version

HSS | Favora® | Base-X | X-Generation | X

HM MG10 | **λ 40° γ 18°**



Roughing

Finishing

Rm < 850			**Al** Aluminium > 99%	**Al** Aluminium Alloy	**Al** Aluminium Cast		**Cu** Copper	**Plastic** Thermoplast	

Example: **Order-N°.** Coating **C** | Article-N°. **15377** | ø-Code **.612**

ø Code	d_1 e8	d_2 h6	l_1	l_2	r 0/+0,03	z	15377	CELERO C15377
							15277	C15277
.612	16	16	92	32	2.5	3	●	●
.684	20	20	104	38	2.5	3	●	●
.614	16	16	92	32	4.0	3	●	●
.686	20	20	104	38	4.0	3	●	●

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