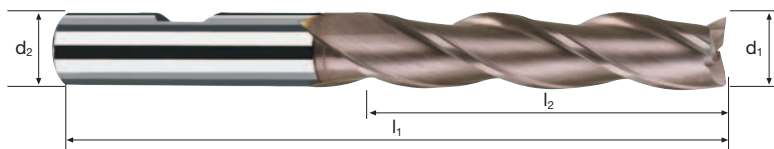


# Cylindrical end mills

Smooth-edged, long version



**HSS-E**  
**Co8**    λ 30°  
                  γ 15°



Roughing

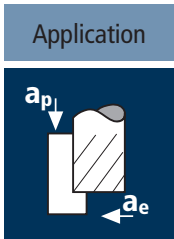


Finishing



<b>Rm</b> < 850	<b>Rm</b> 850-1100	<b>Rm</b> 1100-1300				<b>Inox</b> Stainless	<b>Ti</b> Titanium	<b>GG(G)</b> Copper
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Example: Order-N°.								UNICUT-4X	
Coating		Article-N°.		ø-Code		Ø		U0270	
U		0270		.140		Ø		U0270	
Ø Code	d1 k8	d2 h6	l1	l2	α	Z			
.140	2.0	6	54	10	7.0°	3			●
.160	2.5	6	56	12	5.5°	3			●
.180	3.0	6	56	12	4.5°	3			●
.200	3.5	6	59	15	3.5°	3			●
.220	4.0	6	63	19	2.5°	3			●
.260	5.0	6	68	24	1.0°	3			●
.300	6.0	6	68	24	0.0°	3			●
.391	8.0	8	82	38	0.0°	3			●
.450	10.0	10	95	45	0.0°	3			●
.501	12.0	12	110	53	0.0°	3			●
.570	14.0	12	110	53	0.0°	3			●
.610	16.0	16	123	63	0.0°	3			●
.640	18.0	16	123	63	0.0°	3			●
.682	20.0	20	141	75	0.0°	3			●



Material

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

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>f</sub> [mm/min]
2	3	34	0.005	7.0	0.05	5410	80
4	3	34	0.005	14.0	0.10	2705	40
5	3	34	0.005	17.5	0.10	2165	30
6	3	34	0.010	21.0	0.10	1805	55
8	3	34	0.010	28.0	0.15	1355	40
10	3	34	0.015	35.0	0.20	1080	50
12	3	34	0.015	42.0	0.25	900	40
16	3	34	0.020	56.0	0.30	675	40
20	3	34	0.025	70.0	0.40	540	40

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

2	3	22	0.005	7.0	0.05	3500	55
4	3	22	0.005	14.0	0.10	1750	25
5	3	22	0.005	17.5	0.10	1400	20
6	3	22	0.010	21.0	0.10	1165	35
8	3	22	0.010	28.0	0.15	875	25
10	3	22	0.015	35.0	0.20	700	30
12	3	22	0.015	42.0	0.25	585	25
16	3	22	0.020	56.0	0.30	440	25
20	3	22	0.025	70.0	0.40	350	25

Cast iron  
(lamellar / spheroidal)

2	3	20	0.005	7.0	0.05	3185	50
4	3	20	0.005	14.0	0.10	1590	25
5	3	20	0.005	17.5	0.10	1275	20
6	3	20	0.010	21.0	0.10	1060	30
8	3	20	0.010	28.0	0.15	795	25
10	3	20	0.015	35.0	0.20	635	30
12	3	20	0.015	42.0	0.25	530	25
16	3	20	0.020	56.0	0.30	400	25
20	3	20	0.025	70.0	0.40	320	25

Stainless steel  
[Cr-Ni/1.4301]

2	3	15	0.005	7.0	0.05	2385	35
4	3	15	0.005	14.0	0.10	1195	20
5	3	15	0.005	17.5	0.10	955	15
6	3	15	0.010	21.0	0.10	795	25
8	3	15	0.010	28.0	0.15	595	20
10	3	15	0.015	35.0	0.20	475	20
12	3	15	0.015	42.0	0.25	400	20
16	3	15	0.020	56.0	0.30	300	20
20	3	15	0.025	70.0	0.40	240	20

Material

Stainless steel  
[Cr-Ni-Mo-.../1.4571]

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>f</sub> [mm/min]
2	3	12	0.005	7.0	0.05	1910	30
4	3	12	0.005	14.0	0.10	955	15
5	3	12	0.005	17.5	0.10	765	10
6	3	12	0.010	21.0	0.10	635	20
8	3	12	0.010	28.0	0.15	475	15
10	3	12	0.015	35.0	0.20	380	15
12	3	12	0.015	42.0	0.25	320	15
16	3	12	0.020	56.0	0.30	240	15
20	3	12	0.025	70.0	0.40	190	15

Unalloyed copper

2	3	40	0.005	7.0	0.05	6365	95
4	3	40	0.005	14.0	0.10	3185	50
5	3	40	0.005	17.5	0.10	2545	40
6	3	40	0.010	21.0	0.10	2120	65
8	3	40	0.010	28.0	0.15	1590	50
10	3	40	0.015	35.0	0.20	1275	55
12	3	40	0.015	42.0	0.25	1060	50
16	3	40	0.020	56.0	0.30	795	50
20	3	40	0.025	70.0	0.40	635	50

Wrought aluminium  
alloys Si < 6%

2	3	50	0.005	7.0	0.05	7960	120
4	3	50	0.005	14.0	0.10	3980	60
5	3	50	0.005	17.5	0.10	3185	50
6	3	50	0.010	21.0	0.10	2655	80
8	3	50	0.010	28.0	0.15	1990	60
10	3	50	0.015	35.0	0.20	1590	70
12	3	50	0.015	42.0	0.25	1325	60
16	3	50	0.020	56.0	0.30	995	60
20	3	50	0.025	70.0	0.40	795	60
