

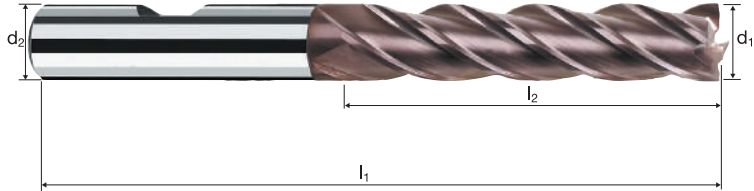
# Cylindrical end mills

Smooth-edged, long version

HSS

HSS-E  $\lambda$  35°  
Co8  $\gamma$  15°

90°



Roughing

Finishing



Rm  
< 850

Rm  
850-1100

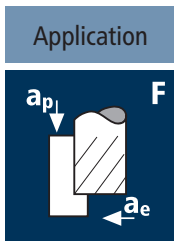
Rm  
1100-1300

Inox  
Stainless

Ti  
Titanium

GG(G)  
Copper

Example: Order-N°.									UNICUT-4X	
									U0200	
$\emptyset$ Code	$d_1$ k8	$d_2$ h6	$l_1$	$l_2$	$l_4$	$\alpha$	$z$			
140	2.00	6.00	54	10.00	16.81	7.0°	4	●		
160	2.50	6.00	56	12.00	19.50	5.5°	4	●		
180	3.00	6.00	56	12.00	19.50	4.5°	4	●		
220	4.00	6.00	63	19.00	26.50	2.5°	4	●		
260	5.00	6.00	68	24.00	31.50	1.0°	4	●		
300	6.00	6.00	68	24.00	-	0.0°	4	●		
391	8.00	8.00	82	38.00	-	0.0°	4	●		
450	10.00	10.00	95	45.00	-	0.0°	4	●		
501	12.00	12.00	110	53.00	-	0.0°	4	●		
570	14.00	12.00	110	53.00	-	0.0°	4	●		
610	16.00	16.00	123	63.00	-	0.0°	4	●		
640	18.00	16.00	123	63.00	-	0.0°	4	●		
682	20.00	20.00	141	75.00	-	0.0°	4	●		
772	25.00	25.00	166	90.00	-	0.0°	4	●		
810	30.00	25.00	166	90.00	-	0.0°	6	●		
832	32.00	32.00	186	106.00	-	0.0°	6	●		
860	36.00	32.00	186	106.00	-	0.0°	6	●		
881	40.00	32.00	205	125.00	-	0.0°	6	●		
892	40.00	40.00	217	125.00	-	0.0°	6	●		



Material

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

d1 [mm]	z	v <sub>c</sub> [m/min]	f <sub>c</sub> [mm]	a <sub>p</sub> [mm]	a <sub>e</sub> [mm]	n [min <sup>-1</sup> ]	v <sub>r</sub> [mm/min]
4.00	4	32	0.005	11.200	0.050	2545	50
6.00	4	32	0.010	16.800	0.100	1700	70
8.00	4	32	0.015	22.400	0.100	1275	75
10.00	4	32	0.020	28.000	0.150	1020	80
12.00	4	32	0.020	33.600	0.200	850	70
16.00	4	32	0.030	44.800	0.250	635	75
20.00	4	32	0.035	56.000	0.300	510	70
30.00	6	32	0.055	84.000	0.450	340	110
40.00	6	32	0.075	112.000	0.600	255	115

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

4.00	4	25	0.005	11.200	0.050	1990	40
6.00	4	25	0.010	16.800	0.100	1325	55
8.00	4	25	0.015	22.400	0.100	995	60
10.00	4	25	0.020	28.000	0.150	795	65
12.00	4	25	0.020	33.600	0.200	665	55
16.00	4	25	0.030	44.800	0.250	495	60
20.00	4	25	0.035	56.000	0.300	400	55
30.00	6	25	0.055	84.000	0.450	265	90
40.00	6	25	0.075	112.000	0.600	200	90

Steel  
1100 - 1300 N/mm<sup>2</sup>

4.00	4	20	0.005	11.200	0.050	1590	30
6.00	4	20	0.010	16.800	0.100	1060	40
8.00	4	20	0.015	22.400	0.100	795	50
10.00	4	20	0.020	28.000	0.150	635	50
12.00	4	20	0.020	33.600	0.200	530	40
16.00	4	20	0.030	44.800	0.250	400	50
20.00	4	20	0.035	56.000	0.300	320	45
30.00	6	20	0.055	84.000	0.450	210	70
40.00	6	20	0.075	112.000	0.600	160	70

Cold work tool steel  
(12% Cr),  
high alloyed  
[1.2379]

4.00	4	18	0.005	11.200	0.050	1430	30
6.00	4	18	0.010	16.800	0.100	955	40
8.00	4	18	0.015	22.400	0.100	715	45
10.00	4	18	0.020	28.000	0.150	575	45
12.00	4	18	0.020	33.600	0.200	475	40
16.00	4	18	0.030	44.800	0.250	360	45
20.00	4	18	0.035	56.000	0.300	285	40
30.00	6	18	0.055	84.000	0.450	190	65
40.00	6	18	0.075	112.000	0.600	145	65

Cast iron  
(lamellar / spheroidal)

4.00	4	24	0.005	11.200	0.050	1910	40
6.00	4	24	0.010	16.800	0.100	1275	50
8.00	4	24	0.015	22.400	0.100	955	55
10.00	4	24	0.020	28.000	0.150	765	60
12.00	4	24	0.020	33.600	0.200	635	50
16.00	4	24	0.030	44.800	0.250	475	55
20.00	4	24	0.035	56.000	0.300	380	55
30.00	6	24	0.055	84.000	0.450	255	85
40.00	6	24	0.075	112.000	0.600	190	85

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

4.00	4	15	0.005	11.200	0.050	1195	25
6.00	4	15	0.010	16.800	0.100	795	30
8.00	4	15	0.015	22.400	0.100	595	35
10.00	4	15	0.020	28.000	0.150	475	40
12.00	4	15	0.020	33.600	0.200	400	30
16.00	4	15	0.030	44.800	0.250	300	35
20.00	4	15	0.035	56.000	0.300	240	35
30.00	6	15	0.055	84.000	0.450	160	55
40.00	6	15	0.075	112.000	0.600	120	55

Unalloyed copper

4.00	4	40	0.005	11.200	0.050	3185	65
6.00	4	40	0.010	16.800	0.100	2120	85
8.00	4	40	0.015	22.400	0.100	1590	95
10.00	4	40	0.020	28.000	0.150	1275	100
12.00	4	40	0.020	33.600	0.200	1060	85
16.00	4	40	0.030	44.800	0.250	795	95
20.00	4	40	0.035	56.000	0.300	635	90
30.00	6	40	0.055	84.000	0.450	425	140
40.00	6	40	0.075	112.000	0.600	320	145

Wrought aluminium  
Construction aluminium

4.00	4	50	0.005	11.200	0.050	3980	80
6.00	4	50	0.010	16.800	0.100	2655	105
8.00	4	50	0.015	22.400	0.100	1990	120
10.00	4	50	0.020	28.000	0.150	1590	125
12.00	4	50	0.020	33.600	0.200	1325	105
16.00	4	50	0.030	44.800	0.250	995	120
20.00	4	50	0.035	56.000	0.300	795	110
30.00	6	50	0.055	84.000	0.450	530	175
40.00	6	50	0.075	112.000	0.600	400	180