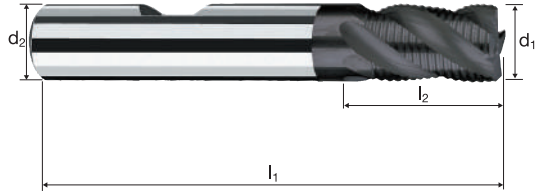


Cylindrical end mills SupraCarb®

Profiled, short version



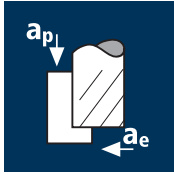
HM
MG10 λ 38°
 γ 0°



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

| Ø Code | d ₁ e8 | d ₂ h6 | l ₁ | l ₂ | l ₄ | 45° | z | POLYCHROM | |
|--------|-------------------|-------------------|----------------|----------------|----------------|------|---|-----------|------------|
| | | | | | | | | Order-N° | Article-N° |
| 180 | 3.00 | 6.00 | 50 | 5.00 | 12.56 | 0.25 | 3 | P15360 | P15260 |
| 220 | 4.00 | 6.00 | 54 | 8.00 | 14.09 | 0.30 | 3 | ● | ● |
| 260 | 5.00 | 6.00 | 54 | 9.00 | 13.22 | 0.35 | 4 | ● | ● |
| 300 | 6.00 | 6.00 | 54 | 10.00 | - | 0.35 | 4 | ● | ● |
| 391 | 8.00 | 8.00 | 58 | 12.00 | - | 0.45 | 4 | ● | ● |
| 450 | 10.00 | 10.00 | 66 | 14.00 | - | 0.60 | 4 | ● | ● |
| 501 | 12.00 | 12.00 | 73 | 16.00 | - | 0.60 | 4 | ● | ● |
| 610 | 16.00 | 16.00 | 82 | 22.00 | - | 0.70 | 4 | ● | ● |
| 612 | 16.00 | 16.00 | 82 | 22.00 | - | 0.70 | 6 | ● | ● |
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Application



Material

Steel
< 850 N/mm²



| d1 [mm] | z | v _c [m/min] | f _s [mm] | a _p [mm] | a _e [mm] | n [min ⁻¹] | v _r [mm/min] | Q [cm ³ /min] |
|---------|---|------------------------|---------------------|---------------------|---------------------|------------------------|-------------------------|--------------------------|
| 3.00 | 3 | 180 | 0.015 | 3.000 | 2.100 | 19100 | 860 | 5.4 |
| 4.00 | 3 | 180 | 0.020 | 4.000 | 2.800 | 14325 | 860 | 9.6 |
| 5.00 | 4 | 180 | 0.030 | 5.000 | 3.500 | 11460 | 1375 | 24.1 |
| 6.00 | 4 | 180 | 0.035 | 6.000 | 4.200 | 9550 | 1335 | 33.7 |
| 8.00 | 4 | 180 | 0.045 | 8.000 | 5.600 | 7160 | 1290 | 57.8 |
| 10.00 | 4 | 180 | 0.055 | 10.000 | 7.000 | 5730 | 1260 | 88.2 |
| 12.00 | 4 | 180 | 0.060 | 12.000 | 8.400 | 4775 | 1145 | 115.5 |
| 16.00 | 4 | 180 | 0.065 | 16.000 | 11.200 | 3580 | 930 | 166.8 |

Steel
850 - 1100 N/mm²



| | | | | | | | | |
|-------|---|-----|-------|--------|--------|-------|-----|-------|
| 3.00 | 3 | 130 | 0.015 | 3.000 | 2.100 | 13795 | 620 | 3.9 |
| 4.00 | 3 | 130 | 0.020 | 4.000 | 2.800 | 10345 | 620 | 7.0 |
| 5.00 | 4 | 130 | 0.030 | 5.000 | 3.500 | 8275 | 995 | 17.4 |
| 6.00 | 4 | 130 | 0.035 | 6.000 | 4.200 | 6895 | 965 | 24.3 |
| 8.00 | 4 | 130 | 0.045 | 8.000 | 5.600 | 5175 | 930 | 41.7 |
| 10.00 | 4 | 130 | 0.055 | 10.000 | 7.000 | 4140 | 910 | 63.7 |
| 12.00 | 4 | 130 | 0.060 | 12.000 | 8.400 | 3450 | 830 | 83.4 |
| 16.00 | 4 | 130 | 0.065 | 16.000 | 11.200 | 2585 | 670 | 120.5 |

Titanium alloys
> 300 HB
[Ti6Al4V]

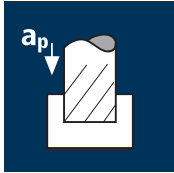


| | | | | | | | | |
|-------|---|----|-------|--------|--------|------|-----|------|
| 3.00 | 3 | 45 | 0.015 | 3.000 | 2.100 | 4775 | 215 | 1.4 |
| 4.00 | 3 | 45 | 0.020 | 4.000 | 2.800 | 3580 | 215 | 2.4 |
| 5.00 | 4 | 45 | 0.020 | 5.000 | 3.500 | 2865 | 230 | 4.0 |
| 6.00 | 4 | 45 | 0.025 | 6.000 | 4.200 | 2385 | 240 | 6.0 |
| 8.00 | 4 | 45 | 0.035 | 8.000 | 5.600 | 1790 | 250 | 11.2 |
| 10.00 | 4 | 45 | 0.045 | 10.000 | 7.000 | 1430 | 260 | 18.0 |
| 12.00 | 4 | 45 | 0.050 | 12.000 | 8.400 | 1195 | 240 | 24.1 |
| 16.00 | 4 | 45 | 0.050 | 16.000 | 11.200 | 895 | 180 | 32.1 |

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



| | | | | | | | | |
|-------|---|----|-------|--------|--------|------|-----|------|
| 3.00 | 3 | 60 | 0.015 | 3.000 | 2.100 | 6365 | 285 | 1.8 |
| 4.00 | 3 | 60 | 0.020 | 4.000 | 2.800 | 4775 | 285 | 3.2 |
| 5.00 | 4 | 60 | 0.020 | 5.000 | 3.500 | 3820 | 305 | 5.3 |
| 6.00 | 4 | 60 | 0.025 | 6.000 | 4.200 | 3185 | 320 | 8.0 |
| 8.00 | 4 | 60 | 0.035 | 8.000 | 5.600 | 2385 | 335 | 15.0 |
| 10.00 | 4 | 60 | 0.045 | 10.000 | 7.000 | 1910 | 345 | 24.1 |
| 12.00 | 4 | 60 | 0.050 | 12.000 | 8.400 | 1590 | 320 | 32.1 |
| 16.00 | 4 | 60 | 0.050 | 16.000 | 11.200 | 1195 | 240 | 42.8 |



Steel
< 850 N/mm²



| | | | | | | | | |
|-------|---|-----|-------|--------|--------|-------|-----|-------|
| 3.00 | 3 | 150 | 0.015 | 3.000 | 3.000 | 15915 | 715 | 6.4 |
| 4.00 | 3 | 150 | 0.020 | 4.000 | 4.000 | 11935 | 715 | 11.5 |
| 5.00 | 4 | 150 | 0.025 | 5.000 | 5.000 | 9550 | 955 | 23.9 |
| 6.00 | 4 | 150 | 0.030 | 6.000 | 6.000 | 7960 | 955 | 34.4 |
| 8.00 | 4 | 150 | 0.040 | 8.000 | 8.000 | 5970 | 955 | 61.1 |
| 10.00 | 4 | 150 | 0.050 | 10.000 | 10.000 | 4775 | 955 | 95.5 |
| 12.00 | 4 | 150 | 0.055 | 12.000 | 12.000 | 3980 | 875 | 126.1 |
| 16.00 | 4 | 150 | 0.055 | 16.000 | 16.000 | 2985 | 655 | 168.1 |

Steel
850 - 1100 N/mm²



| | | | | | | | | |
|-------|---|----|-------|--------|--------|------|-----|------|
| 3.00 | 3 | 80 | 0.015 | 3.000 | 3.000 | 8490 | 380 | 3.4 |
| 4.00 | 3 | 80 | 0.020 | 4.000 | 4.000 | 6365 | 380 | 6.1 |
| 5.00 | 4 | 80 | 0.025 | 5.000 | 5.000 | 5095 | 510 | 12.7 |
| 6.00 | 4 | 80 | 0.030 | 6.000 | 6.000 | 4245 | 510 | 18.3 |
| 8.00 | 4 | 80 | 0.040 | 8.000 | 8.000 | 3185 | 510 | 32.6 |
| 10.00 | 4 | 80 | 0.050 | 10.000 | 10.000 | 2545 | 510 | 50.9 |
| 12.00 | 4 | 80 | 0.055 | 12.000 | 12.000 | 2120 | 465 | 67.2 |
| 16.00 | 4 | 80 | 0.055 | 16.000 | 16.000 | 1590 | 350 | 89.6 |

Titanium alloys
> 300 HB
[Ti6Al4V]



| | | | | | | | | |
|-------|---|----|-------|--------|--------|------|-----|------|
| 3.00 | 3 | 35 | 0.010 | 3.000 | 3.000 | 3715 | 110 | 1.0 |
| 4.00 | 3 | 35 | 0.015 | 4.000 | 4.000 | 2785 | 125 | 2.0 |
| 5.00 | 4 | 35 | 0.020 | 5.000 | 5.000 | 2230 | 180 | 4.5 |
| 6.00 | 4 | 35 | 0.025 | 6.000 | 6.000 | 1855 | 185 | 6.7 |
| 8.00 | 4 | 35 | 0.030 | 8.000 | 8.000 | 1395 | 165 | 10.7 |
| 10.00 | 4 | 35 | 0.040 | 10.000 | 10.000 | 1115 | 180 | 17.8 |
| 12.00 | 4 | 35 | 0.045 | 12.000 | 12.000 | 930 | 165 | 24.1 |
| 16.00 | 4 | 35 | 0.045 | 16.000 | 16.000 | 695 | 125 | 32.1 |

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



| | | | | | | | | |
|-------|---|----|-------|--------|--------|------|-----|------|
| 3.00 | 3 | 50 | 0.010 | 3.000 | 3.000 | 5305 | 160 | 1.4 |
| 4.00 | 3 | 50 | 0.015 | 4.000 | 4.000 | 3980 | 180 | 2.9 |
| 5.00 | 4 | 50 | 0.020 | 5.000 | 5.000 | 3185 | 255 | 6.4 |
| 6.00 | 4 | 50 | 0.025 | 6.000 | 6.000 | 2655 | 265 | 9.5 |
| 8.00 | 4 | 50 | 0.030 | 8.000 | 8.000 | 1990 | 240 | 15.3 |
| 10.00 | 4 | 50 | 0.040 | 10.000 | 10.000 | 1590 | 255 | 25.5 |
| 12.00 | 4 | 50 | 0.045 | 12.000 | 12.000 | 1325 | 240 | 34.4 |
| 16.00 | 4 | 50 | 0.045 | 16.000 | 16.000 | 995 | 180 | 45.8 |