CARBIDE

# MS4LT

Taper end mill, Long cut length, 4 flute

## RECOMMENDED CUTTING CONDITIONS

| Work material | | Carbon steel, Cast iron, Alloy steel, Pre-hardened steel<br>AISI 1050, AISI No 35 B, AISI P20, AISI P21 | | | Hardened steel (45—55HRC)<br>AISI H13 | | |
|---|---|---|---|---|---|---|---|
| Dia. **DC** (mm) | Length of cut **APMX** (mm) | Revolution ($min^{-1}$) | Feed rate (mm/min) | Depth of cut ap (mm) | Revolution ($min^{-1}$) | Feed rate (mm/min) | Depth of cut ap (mm) |
| **0.2** | **2** | 20000—40000 | 200—500 | 0.001 | 20000—40000 | 150—300 | 0.001 |
| **0.3** | **3** | 20000—40000 | 200—500 | 0.002 | 20000—40000 | 150—300 | 0.001 |
| **0.4** | **4** | 20000—40000 | 200—500 | 0.003 | 20000—36000 | 150—300 | 0.002 |
| **0.5** | **4** | 20000—38000 | 200—500 | 0.01 | 16000—29000 | 200—400 | 0.005 |
| | **6** | | | 0.005 | | | 0.003 |
| **0.6** | **4** | 18000—32000 | 250—600 | 0.01 | 13000—24000 | 200—400 | 0.005 |
| | **6** | | | 0.007 | | | 0.004 |
| **0.7** | **6** | 16000—27000 | 250—600 | 0.015 | 11000—20000 | 200—400 | 0.008 |
| | **8** | | | 0.01 | | | 0.005 |
| **0.8** | **4** | 14000—24000 | 250—600 | 0.03 | 10000—18000 | 200—400 | 0.015 |
| | **8** | | | 0.02 | | | 0.01 |
| | **12** | | | 0.013 | | | 0.007 |
| **1.0** | **6** | 11000—19000 | 300—800 | 0.03 | 8000—14000 | 200—500 | 0.015 |
| | **10** | | | 0.02 | | | 0.01 |
| | **16** | | | 0.015 | | | 0.008 |
| **1.2** | **6** | 9200—16000 | 300—800 | 0.04 | 6600—12000 | 200—500 | 0.02 |
| | **10** | | | 0.03 | | | 0.015 |
| | **16** | | | 0.02 | | | 0.01 |
| | **20** | | | 0.01 | | | 0.007 |
| **1.3** | **12** | 8500—15000 | 300—800 | 0.03 | 6100—11000 | 200—500 | 0.015 |
| **1.4** | **12** | 8000—14000 | 300—800 | 0.035 | 5700—10000 | 200—500 | 0.018 |
| **1.5** | **6** | 7500—13000 | 300—800 | 0.06 | 5300—9500 | 200—500 | 0.03 |
| | **10** | | | 0.04 | | | 0.02 |
| | **16** | | | 0.03 | | | 0.015 |
| | **25** | | | 0.015 | | | 0.008 |
| **1.6** | **8** | 7000—12000 | 300—800 | 0.06 | 5000—9000 | 200—500 | 0.03 |
| | **12** | | | 0.045 | | | 0.025 |
| | **16** | | | 0.035 | | | 0.02 |
| | **20** | | | 0.025 | | | 0.015 |
| **1.8** | **8** | 6200—11000 | 300—800 | 0.08 | 4400—8000 | 200—500 | 0.04 |
| | **16** | | | 0.05 | | | 0.03 |
| | **24** | | | 0.03 | | | 0.015 |
| **2.0** | **8** | 5500—9500 | 300—800 | 0.1 | 4000—7200 | 200—500 | 0.05 |
| | **12** | | | 0.07 | | | 0.04 |
| | **20** | | | 0.04 | | | 0.02 |
| | **30** | | | 0.02 | | | 0.01 |
| **2.5** | **10** | 4400—7600 | 300—800 | 0.1 | 3200—5700 | 200—500 | 0.05 |
| | **20** | | | 0.06 | | | 0.03 |
| | **30** | | | 0.03 | | | 0.015 |
| **3.0** | **25** | 3700—6400 | 300—800 | 0.08 | 2700—4800 | 200—500 | 0.04 |
| | **40** | | | 0.04 | | | 0.02 |

ap:Depth of Cut in the Axial Direction

1) If the depth of cut is shallow, the revolution and feed rate can be increased.
2) If the rigidity of the machine or the work materials installation is very low, or chattering and noise are generated, reduce the revolution and feed rate proportionately.

SOLID END MILLS