



## MS141L0160

**Type:** Endmill with 4 teeth

| d1    | d2    | l1  | l2    |
|-------|-------|-----|-------|
| 16,00 | 16,00 | 100 | 50,00 |

| Coolant holes | Cut   | Head shape             | Spiral angle | Cutting edges Z |
|---------------|-------|------------------------|--------------|-----------------|
| No            | Right | Flat<br>Center cutting | 30°          | 4               |

| Coated | Coating type | Material | Material type | Norm |
|--------|--------------|----------|---------------|------|
| No     | -            | MD       | SMG 10        | TUSA |

| Machinable Materials |                                                     |                                                                                                      |                  |                               |
|----------------------|-----------------------------------------------------|------------------------------------------------------------------------------------------------------|------------------|-------------------------------|
| Cod.                 | Material type                                       | Machinability                                                                                        | Cutting speed Vc | Advancement per revolution fn |
|                      |                                                     | <div>Recommended</div> <div>Part.</div> <div>recommended</div> <div>Not</div> <div>recommended</div> | (m/min)          | (mm/dente)                    |
| P01                  | Unalloyed steels up to 800 N/mm2                    |                     | 80 : 140         | 0,03 - 0,04                   |
| P02                  | Low alloy steels from 800 N/mm2 to 1100 N/mm2       |                     | 60 : 100         | 0,02 - 0,035                  |
| P03                  | Highly alloyed steels from 1100 N/mm2 to 1400 N/mm2 |                     | 30 : 60          | 0,015 - 0,03                  |
| M01                  | Ferritic stainless steels                           |                     | 40 : 80          | 0,015 - 0,03                  |
| M02                  | Martensitic stainless steels                        |                     | 40 : 80          | 0,015 - 0,03                  |
| M03                  | Martensitic stainless steels - PH                   |                     | 40 : 80          | 0,015 - 0,03                  |
| M04                  | Austenitic stainless steels                         |                    | 40 : 80          | 0,015 - 0,03                  |
| K01                  | Gray/lamellar cast iron                             |                   | 60 : 100         | 0,04 - 0,06                   |
| K02                  | Nodular/nodular cast iron                           |                   | 60 : 100         | 0,04 - 0,06                   |
| N01                  | Drawn aluminum alloys                               |                   | 150 : 350        | 0,04 - 0,08                   |
| N02                  | Die-cast aluminum alloys                            |                   | 100 : 250        | 0,04 - 0,06                   |
| N03                  | Copper                                              |                   | 60 : 100         | 0,04 - 0,06                   |
| N04                  | Brass - Bronze                                      |                   | 60 : 100         | 0,04 - 0,06                   |
| N05                  | Lead-free brass                                     |                   | 50 : 80          | 0,02 - 0,04                   |
| S01                  | Super alloys (Inconel - Hastelloy - Nimonic)        |                   | 20 : 50          | 0,01 - 0,02                   |
| S02                  | Pure titanium (Grade 2 - Grade 4)                   |                   | 20 : 40          | 0,015 - 0,03                  |
| S03                  | Titanium alloys (Grade 5)                           |                   | 20 : 40          | 0,015 - 0,03                  |
| S04                  | Cobalt Chrome Alloys                                |                   | 20 : 40          | 0,01 - 0,017                  |
| H01                  | Hardened steels up to 55 HRC                        |                   | 15 : 30          | 0,008 - 0,010                 |

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|----------------------|-----------------------------------------------------|-------------------------------------------------------------------------------------|------------------|-------------------------------|
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|                      |                                                     | Recommended<br>Part.<br>recommended<br>Not<br>recommended                           | (m/min)          | (mm/dente)                    |
| P01                  | Unalloyed steels up to 800 N/mm2                    |    | 80 : 140         | 0,03 - 0,04                   |
| P02                  | Low alloy steels from 800 N/mm2 to 1100 N/mm2       |    | 60 : 100         | 0,02 - 0,035                  |
| P03                  | Highly alloyed steels from 1100 N/mm2 to 1400 N/mm2 |    | 30 : 60          | 0,015 - 0,03                  |
| M01                  | Ferritic stainless steels                           |    | 40 : 80          | 0,015 - 0,03                  |
| M02                  | Martensitic stainless steels                        |    | 40 : 80          | 0,015 - 0,03                  |
| M03                  | Martensitic stainless steels - PH                   |    | 40 : 80          | 0,015 - 0,03                  |
| M04                  | Austenitic stainless steels                         |   | 40 : 80          | 0,015 - 0,03                  |
| K01                  | Gray/lamellar cast iron                             |  | 60 : 100         | 0,04 - 0,06                   |
| K02                  | Nodular/nodular cast iron                           |  | 60 : 100         | 0,04 - 0,06                   |
| N01                  | Drawn aluminum alloys                               |  | 150 : 350        | 0,04 - 0,08                   |
| N02                  | Die-cast aluminum alloys                            |  | 100 : 250        | 0,04 - 0,06                   |
| N03                  | Copper                                              |  | 60 : 100         | 0,04 - 0,06                   |
| N04                  | Brass - Bronze                                      |  | 60 : 100         | 0,04 - 0,06                   |
| N05                  | Lead-free brass                                     |  | 50 : 80          | 0,02 - 0,04                   |
| S01                  | Super alloys (Inconel - Hastelloy - Nimonic)        |  | 20 : 50          | 0,01 - 0,02                   |
| S02                  | Pure titanium (Grade 2 - Grade 4)                   |  | 20 : 40          | 0,015 - 0,03                  |
| S03                  | Titanium alloys (Grade 5)                           |  | 20 : 40          | 0,015 - 0,03                  |
| S04                  | Cobalt Chrome Alloys                                |  | 20 : 40          | 0,01 - 0,017                  |
| H01                  | Hardened steels up to 55 HRC                        |  | 15 : 30          | 0,008 - 0,010                 |
| H02                  | Hardened steels from 55 HRC                         |  | -                | -                             |



SWISS HIGH PRECISION TOOLS

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