

**Garant**
**GARANT Master Steel solid carbide mini milling cutter HPC, TiAlN, Ø e8 DC: 12mm**

**Order data**

|              |               |
|--------------|---------------|
| Order number | 202289 12     |
| GTIN         | 4062406271237 |
| Item class   | 11X           |

**Description**
**Version:**

**Extra short cutter** for maximum stability. **Shank length to DIN** for improved support of the tool in the holder. This significantly increases the tool life.

**Save the regrinding costs:** It is cheaper to use a carbide mini slot drill to the limit of wear and throw it away, than to regrind it.

Tool for **general-purpose machining**.

**Note:**

HB shanks are available at the same price as HA.

For **HB** shanks use order **no. 202291**.

**Technical description**

|   |                   |
|---|-------------------|
| No. of teeth Z  | 3                 |
| Shank Ø D <sub>s</sub>  | 12 mm             |
| Feed f <sub>z</sub> for side milling in steel < 900 N/mm <sup>2</sup> | 0.07 mm           |
| Helix angle   | 30 degrees        |
| Tolerance nominal Ø   | e8                |
| Flute length L <sub>c</sub>   | 16 mm             |
| Shank   | DIN 6535 HA to h6 |
| Feed f <sub>z</sub> for slot milling in steel < 900 N/mm <sup>2</sup> | 0.06 mm           |
| Overall length L  | 73 mm             |

|   |                                      |
|---|--------------------------------------|
| Cutting edge $\varnothing D_c$            | 12 mm                                |
| Direction of infeed                       | horizontal, oblique and vertical     |
| Corner chamfer angle                      | 90 degrees                           |
| Series                                    | Master Steel                         |
| Coating                                   | TiAlN                                |
| Tool material                             | Solid carbide                        |
| Standard                                  | Manufacturer's standard              |
| Type                                      | N                                    |
| Cutting width $a_e$ for milling operation | Full slot cutting depth $1 \times D$ |
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| Through-coolant                           | no                                   |
| Machining strategy                        | HPC                                  |
| Colour ring                               | green                                |
| Type of product                           | End / face mill                      |

## User data

|                                | Suitability                               | $V_c$     | ISO code |
|--------------------------------|---|-----------|----------|
| Aluminium (short chipping)     | suitable only under restricted conditions | 290 m/min | N        |
| Alu > 10% Si                   | suitable only under restricted conditions | 240 m/min | N        |
| Steel < 500 N/mm <sup>2</sup>  | suitable                                  | 140 m/min | P        |
| Steel < 750 N/mm <sup>2</sup>  | suitable                                  | 120 m/min | P        |
| Steel < 900 N/mm <sup>2</sup>  | suitable                                  | 100 m/min | P        |
| Steel < 1100 N/mm <sup>2</sup> | suitable                                  | 70 m/min  | P        |
| Steel < 1400 N/mm <sup>2</sup> | suitable                                  | 50 m/min  | P        |
| INOX < 900 N/mm <sup>2</sup>   | suitable                                  | 90 m/min  | M        |
| INOX > 900 N/mm <sup>2</sup>   | suitable                                  | 70 m/min  | M        |
| Ti > 850 N/mm <sup>2</sup>     | suitable                                  | 40 m/min  | S        |

|             |  |          |   |
|-------------|--|----------|---|
| GG(G)       | suitable                                     | 85 m/min | K |
| Uni         | suitable                                     |          |   |
| wet maximum | suitable                                     |          |   |
| wet minimum | suitable only under<br>restricted conditions |          |   |
| dry         | suitable                                     |          |   |
| Air         | suitable                                     |          |   |