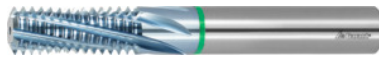


**Garant**
**GARANT Master TM plain shank thread mill 2×D, TiAlN, M: M24**

**Order data**

|              |               |
|--------------|---------------|
| Order number | 139640 M24    |
| GTIN         | 4045197957559 |
| Item class   | 11D           |

**Description**
**Version:**

Solid carbide thread milling cutters **with irregular cutting edge spacing and an increased number of cutting edges**. Due to the **irregular cutting edge spacing** they achieve very **smooth running** and **long tool life**.

**Newly developed universal geometry** and **high-performance coating** for use across a wide spectrum of materials.

- **Significantly reduced vibration due to irregular cutting edge spacing.**
- **Increased number of cutting edges.**
- **New coating for optimum wear resistance.**
- **Corrected thread profile for avoidance of profile distortions.**

**Through-coolant feed  $\geq$  M4**

**Note:**

HB and HE shanks are available at the same price as HA.

Order **HB** shank: with **No. 139640 + 129100 HB**.

Order **HE** shank: with **No. 139640 + 129100 HE**.

**Technical description**

|                          |         |
|--------------------------|---------|
| Shank length $L_s$       | 50 mm   |
| Overall length L         | 120 mm  |
| Thread depth             | 49.5 mm |
| No. of teeth Z           | 6       |
| Number of clamping slots | 6       |
| Shank $\varnothing D_s$  | 20 mm   |

|   |                             |
|---|-----------------------------|
| Through-coolant                             | yes                         |
| Thread pitch                                | 3 mm                        |
| Feed $f_z$ in steel < 750 N/mm <sup>2</sup> | 0.15 mm                     |
| Thread size                                 | M24                         |
| Nominal $\varnothing D_c$                   | 19.95 mm                    |
| Flute length $L_c$                          | 49.5 mm                     |
| Coating                                     | TiAlN                       |
| Thread type                                 | M-LH                        |
| Thread type                                 | M                           |
| Flank angle                                 | 60 degrees                  |
| Tool material                               | Solid carbide               |
| Thread standard                             | DIN 13                      |
| Shank                                       | DIN 6535 HA to h6           |
| Application for type of drilling            | up to 2×D for blind holes   |
| Application for type of drilling            | up to 2×D for through holes |
| Spacing of the cutters                      | unequal spacing             |
| Shank tolerance                             | h6                          |
| Colour ring                                 | green                       |
| Internal/external application               | Indvendig                   |
| Series                                      | Master TM                   |
| Type of product                             | thread milling cutter       |

## User data

|                               | Suitability | $V_c$     | ISO code |
|-------------------------------|-------------|-----------|----------|
| Alu plastics                  | suitable    | 220 m/min | N        |
| Aluminium (short chipping)    | suitable    | 220 m/min | N        |
| Alu > 10% Si                  | suitable    | 180 m/min | N        |
| Steel < 500 N/mm <sup>2</sup> | suitable    | 140 m/min | P        |

|                                |   |           |   |
|--------------------------------|---|-----------|---|
| Steel < 750 N/mm <sup>2</sup>  | suitable                                  | 130 m/min | P |
| Steel < 900 N/mm <sup>2</sup>  | suitable                                  | 120 m/min | P |
| Steel < 1100 N/mm <sup>2</sup> | suitable                                  | 90 m/min  | P |
| Steel < 1400 N/mm <sup>2</sup> | suitable                                  | 80 m/min  | P |
| Steel < 55 HRC                 | suitable only under restricted conditions | 45 m/min  | H |
| TOOLOX 33                      | suitable                                  | 85 m/min  | H |
| TOOLOX 44                      | suitable                                  | 50 m/min  | H |
| INOX < 900 N/mm <sup>2</sup>   | suitable                                  | 82 m/min  | M |
| INOX > 900 N/mm <sup>2</sup>   | suitable                                  | 75 m/min  | M |
| Ti > 850 N/mm <sup>2</sup>     | suitable                                  | 50 m/min  | S |
| GG(G)                          | suitable                                  | 120 m/min | K |
| CuZn                           | suitable                                  | 200 m/min | N |
| Uni                            | suitable                                  |           |   |
| wet maximum                    | suitable                                  |           |   |
| wet minimum                    | suitable                                  |           |   |
| Air                            | suitable                                  |           |   |

### Services

|                        |           |
|------------------------|-----------|
| Shank grinding Type HB | 129100 HB |
| Shank grinding Type HE | 129100 HE |