

**Garant****GARANT Master TM plain shank thread mill 2×D, AlTiN, MF: 20X1,5****Order data**

Order number	139675 20X1,5
GTIN	4067263128724
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.**
- **The latest generation of AlTiN-based HiPIMS coating.**
- **Corrected thread profile for avoidance of profile distortions.**

**Through-coolant feed  $\geq 4 \times 0.5$**

**Note:**

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

Order **HB** shank: with **No. 139675 + 129100 HB**.

Order **HE** shank: with **No. 139675 + 129100 HE**. Can also be used for thread size M24 × 1.5 and M30 × 1.5.

**Technical description**

Number of clamping slots	6
No. of teeth Z	6
Overall length L	106 mm
Through-coolant	yes
Flute length L <sub>c</sub>	41.25 mm

Thread pitch	1.5 mm
Shank Ø D <sub>s</sub>	16 mm
Feed f <sub>z</sub> in steel < 750 N/mm <sup>2</sup>	0.13 mm
Thread size	M20×1.5
Shank length L <sub>s</sub>	49.9 mm
Thread depth	41.25 mm
Nominal Ø D <sub>c</sub>	15.95 mm
Coating	AlTiN
Thread type	MF-LH
Thread type	MF
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 through holes
Application for type of drilling	up to 2×D for blind holes
Spacing of the cutters	unequal spacing
Colour ring	green
Internal/external application	Internal
Series	Master TM
Type of product	thread milling cutter

## User data

	Suitability	V <sub>c</sub>	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