

**Garant**
**GARANT Master TM plain shank thread mill 2.5×D, AlTiN, M: M20**

**Order data**

Order number	139643 M20
GTIN	4067263128373
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  $\geq$  M4**

**Note:**

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

Order **HB** shank: with **No. 139643 + 129100 HB**.

Order **HE** shank: with **No. 139643 + 129100 HE**.

**Technical description**

Overall length L	112 mm
Thread size	M20
Feed $f_z$ in steel $< 750 \text{ N/mm}^2$	0.13 mm
Through-coolant	yes
Shank length $L_s$	45.9 mm
Nominal $\varnothing D_c$	13.95 mm

Thread pitch	2.5 mm
Thread Ø	20 mm
Number of clamping slots	6
No. of teeth Z	6
Shank Ø D <sub>s</sub>	14 mm
Flute length L <sub>c</sub>	51.15 mm
Thread depth	51.15 mm
Coating	AlTiN
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 2.5×D for blind holes
Application for type of drilling	up to 2.5×D for through holes
Spacing of the cutters	unequal spacing
Shank tolerance	h6
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	200 m/min	N
Aluminium (short chipping)	suitable	190 m/min	N
Alu > 10% Si	suitable	160 m/min	N

Steel < 500 N/mm <sup>2</sup>	suitable	125 m/min	P
Steel < 750 N/mm <sup>2</sup>	suitable	115 m/min	P
Steel < 900 N/mm <sup>2</sup>	suitable	110 m/min	P
Steel < 1100 N/mm <sup>2</sup>	suitable	80 m/min	P
Steel < 1400 N/mm <sup>2</sup>	suitable	70 m/min	P
INOX < 900 N/mm <sup>2</sup>	suitable	75 m/min	M
INOX > 900 N/mm <sup>2</sup>	suitable	70 m/min	M
Ti > 850 N/mm <sup>2</sup>	suitable	45 m/min	S
GG(G)	suitable	105 m/min	K
CuZn	suitable	175 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