

**Garant****GARANT Master TM plain shank thread mill with countersink 2×D, AlTiN, UNF: 7/16-20****Order data**

Order number	139738 7/16-20
GTIN	4067263129288
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.**
- **Corrected thread profile for avoidance of profile distortions.**
- **Increased number of cutting edges.**
- **The latest generation of AlTiN-based HiPIMS coating.**
- **increased number of cutting edges**
- **new coating for optimum wear resistance**

**Advantage:**

Incorporating a countersink profile for a 90° countersink and thread milling in a single operation.

**Application:**

For **UNF unified fine threads** ASME-B1.1.

**Note:**

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

Order **HB** shank: with **No. 139738 + 129100 HB**

Order **HE** shank: with **No. 139738 + 129100 HE**

**Technical description**

Number of clamping slots	6
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Flute length $L_c$	23.45 mm
Thread $\varnothing$	11.11 mm
Overall length $L$	92 mm
Shank length $L_s$	53.4 mm
Shank $\varnothing D_s$	12 mm
Neck $\varnothing D_1$	11.75 mm
Feed $f_z$ in steel $< 750 \text{ N/mm}^2$	0.09 mm
Thread type	UNF
Thread type	UNF-LH
Programming value for countersink $L_1$	24.61 mm
No. of teeth $Z$	6
Nominal $\varnothing D_c$	9.3 mm
Thread pitch	1.27 mm
Thread size	7/16-20 UNF
Threads per inch	20
Thread profile	Full profile
Series	Master TM
Coating	AlTiN
Flank angle	60 degrees
Tool material	Solid carbide
Shank	DIN 6535 HA to h6
Through-coolant	yes
Cutting direction	right-hand
Application for type of drilling	up to $2 \times D$ for blind holes
Application for type of drilling	up to $2 \times D$ for through holes
Spacing of the cutters	unequal spacing
Countersink angle	90 degrees
Shank tolerance	h6
Colour ring	green

Internal/external application	Internal
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 < 50 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
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Shank grinding Type HE

129100 HE