

## Garant

### GARANT Master Steel FEED solid carbide drill, plain shank DIN 6535 HA, TiAlN, Ø DC h7: 13mm



## Order data

Order number	123235 13
GTIN	4045197841056
Item class	11E

## Description

### Version:

**3-flute drill**, specially developed for **use at very high feed rates**. Outstandingly suitable for **machines with high installed power** and stable operating conditions.

- **Special cutter geometry with stable cutting edges and large clearance at the centre enables very high feed rates.**
- **The patented tip is optimised for chip flow and generates low cutting pressure with good chip breakage.**

The **sector-leading technology of the drill point** guarantees **optimum self-centring behaviour**. 3 guide chamfers guarantee a stable exit from the hole and an exact roundness of the hole.

### Note:

Flute length  $L_c = L_2 + 1.5 \times D_c$ .

For process reliability when using the 12xD drill, an initial centre drilling with an NC spotting drill No. 121130 with **155° point angle** is necessary.

## Technical description

Nominal Ø D <sub>c</sub>	13 mm
Number of cutting edges Z	3
recommended maximum drilling depth L <sub>2</sub>	162.5 mm
Flute length L <sub>c</sub>	182 mm
Tolerance nominal Ø	h7
Shank Ø D <sub>s</sub>	14 mm

Standard	Manufacturer's standard
Overall length L	230 mm
Feed f in steel < 1100 N/mm <sup>2</sup>	0.56 mm/rev.
Series	Master Steel
Coating	TiAlN
Tool material	Solid carbide
Version	12xD
Point angle	140 degrees
Shank	DIN 6535 HA to h6
Through-coolant	yes, to 25 bar
Machining strategy	HPC
Semi-Standard	yes
Colour ring	green
Type of product	Jobber drill

## User data

	Suitability	V <sub>c</sub>	ISO code
Steel < 500 N/mm <sup>2</sup>	suitable	120 m/min	P
Steel < 750 N/mm <sup>2</sup>	suitable	110 m/min	P
Steel < 900 N/mm <sup>2</sup>	suitable	100 m/min	P
Steel < 1100 N/mm <sup>2</sup>	suitable	90 m/min	P
Steel < 1400 N/mm <sup>2</sup>	suitable	70 m/min	P
Steel < 55 HRC	suitable	60 m/min	H
INOX < 900 N/mm <sup>2</sup>	suitable	55 m/min	M
INOX > 900 N/mm <sup>2</sup>	suitable	50 m/min	M
Ti > 850 N/mm <sup>2</sup>	suitable only under restricted conditions	40 m/min	S
GG	suitable	120 m/min	K
GGG	suitable	80 m/min	K

Uni	suitable
wet maximum	suitable
wet minimum	suitable
<b>Services</b>	
Shank grinding Type HE	129100 HE