

**Garant**
**GARANT Master Tap machine tap HSS-E-PM, ALTiX, NPT: 1/4-18**

**Order data**

|              |               |
|--------------|---------------|
| Order number | 138105 1/4-18 |
| GTIN         | 4045197901910 |
| Item class   | 111           |

**Description**
**Version:**

**Universal taps**, designed for use in a wide spectrum of materials with high process reliability.

- **HSS-E-PM tool material for maximum wear resistance.**
- **Reduced coefficient of friction due to the new high-performance coating.**
- **Special geometry for optimum chip evacuation.**

**Application:**

**Tapered** pipe threads (NPT) to **ANSI B1.20.1**, for threads with sealants. See the table for the specified minimum size of the tapping hole.

**Recommendation:**
**Tapping hole Ø A:**

Pre-drill a plain hole **without using a reamer**.

**Tapping hole Ø B:**

Pre-drill a plain hole and then **ream it using a 1:16 taper reamer (see No. 162650)**. The taper bore Ø can then be checked laterally by reference to the  $D_{max}$  check dimension (see table). **Variante B** for drilling the tapping hole offers the best process reliability for the tapping operation.

Threads per inch: 18

Overall length L: 100 mm

Shank Ø  $D_s$ : 11 mm

Shank square □: 9 mm

Tapping hole Ø A: 11.1 mm

Tapping hole Ø B: 10.75 mm

**Technical description**

|               |       |
|---------------|-------|
| Shank Ø $D_s$ | 11 mm |
|---------------|-------|

|                                            |                                   |
|--------------------------------------------|-----------------------------------|
| Thread gauge $\varnothing D_{\max} + 0.05$ | 11.36 mm                          |
| Number of clamping slots                   | 4                                 |
| Thread pitch                               | 1.411 mm                          |
| Tapping hole minimum depth                 | 17.5 mm                           |
| Threads per inch                           | 18                                |
| Tapping hole $\varnothing A$               | 11.1 mm                           |
| Thread size                                | 1/4-18 NPT                        |
| Shank square $\square$                     | 9 mm                              |
| Thread $\varnothing$                       | 13.616 mm                         |
| Overall length L                           | 100 mm                            |
| Thread depth                               | 22 mm                             |
| Tapping hole $\varnothing B$               | 10.75 mm                          |
| Number of cutting edges Z                  | 4                                 |
| Coating                                    | AlTiX                             |
| Thread type                                | NPT                               |
| Flank angle                                | 60°                               |
| Tool material                              | HSS E PM                          |
| Standard                                   | Manufacturer's standard           |
| Thread standard                            | ANSI B 1.20.1                     |
| Taper lead form                            | C                                 |
| Taper ratio                                | 1:16                              |
| Helix angle                                | 40°                               |
| Shank                                      | Plain shank with h9               |
| Through-coolant                            | no                                |
| Application for type of drilling           | Blind hole                        |
| Application for type of drilling           | Through hole                      |
| Cutting direction                          | right-hand                        |
| Type of threading tool                     | Machine tap for dynamic machining |
| Colour ring                                | green                             |

|                 |            |
|-----------------|------------|
| Series          | Master Tap |
| Type of product | Tap        |

## User data

|                                | Suitability | $V_c$    | ISO code |
|--------------------------------|-------------|----------|----------|
| Alu plastics                   | suitable    | 30 m/min | N        |
| Aluminium (short chipping)     | suitable    | 35 m/min | N        |
| Alu > 10% Si                   | suitable    | 20 m/min | N        |
| Steel < 500 N/mm <sup>2</sup>  | suitable    | 30 m/min | P        |
| Steel < 750 N/mm <sup>2</sup>  | suitable    | 30 m/min | P        |
| Steel < 900 N/mm <sup>2</sup>  | suitable    | 25 m/min | P        |
| Steel < 1100 N/mm <sup>2</sup> | suitable    | 12 m/min | P        |
| Steel < 1400 N/mm <sup>2</sup> | suitable    | 8 m/min  | P        |
| INOX < 900 N/mm <sup>2</sup>   | suitable    | 10 m/min | M        |
| INOX > 900 N/mm <sup>2</sup>   | suitable    | 8 m/min  | M        |
| GG(G)                          | suitable    | 20 m/min | K        |
| CuZn                           | suitable    | 20 m/min | N        |
| Uni                            | suitable    |          |          |
| Oil                            | suitable    |          |          |
| wet maximum                    | suitable    |          |          |