

**Garant**
**Solid carbide drill plain shank DIN 6535 HA 180°, TiAlN, Ø DC m7: 13,5mm**

**Order data**

|              |               |
|--------------|---------------|
| Order number | 122506 13,5   |
| GTIN         | 4045197744494 |
| Item class   | 11E           |

**Description**
**Version:**

Special point geometry for generating **180° flat-bottomed holes**. Low radial forces even when spot drilling on faces with up to 45° slope. Flute geometry for optimum chip evacuation. With 4 guide chamfers to stabilise the drill in the hole.

**Advantage:**

**The 180° point angle** permits drilling and counterboring in a single operation.

**Recommendation:**

When using the solid carbide 180° drill it is absolutely essential for process reliability:

- **when spot drilling on flat surfaces to drill a pilot hole 1xD using pilot drill No. 122736.**
- **when spot drilling on sloping surfaces up to 15° : reduce the feed rate f to 50 %, up to 30°: reduce the feed rate f to 40 % and up to 45°: reduce the feed rate f to 25 % of the stated value. After spot drilling, the normal feed rate value can be used.**

**Note:**

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

Form HB and HE supplied at the same price as HA.

Form **HB**: order with **No. 122506 + 129100HB** .

Form **HE**: order with **No. 122506 + 129100HE**.

180° solid carbide drills for machining aluminium available on request.

**Not** suitable for generating counterbores for socket-head screws to DIN974-1.

**Technical description**

|                             |                         |
|-----------------------------|-------------------------|
| Shank tolerance             | h6                      |
| Nominal Ø D <sub>c</sub>    | 13.5 mm                 |
| Flute length L <sub>c</sub> | 58 mm                   |
| Standard                    | Manufacturer's standard |

|   |                               |
|---|-------------------------------|
| Number of cutting edges Z                         | 2                             |
| Overall length L                                  | 105 mm                        |
| Tolerance nominal $\varnothing$                   | m7                            |
| Shank $\varnothing D_s$                           | 14 mm                         |
| Feed f in steel < 900 N/mm <sup>2</sup>           | 0.16 mm/rev.                  |
| recommended maximum drilling depth L <sub>2</sub> | 37.8 mm                       |
| Coating   | TiAlN                         |
| Tool material                                     | Solid carbide                 |
| Version   | 3xD                           |
| Point angle                                       | 180 degrees                   |
| Shank   | DIN 6535 HA to h6             |
| Use for drilling                                  | limited convexity             |
| Use for drilling                                  | limited cross-drilling        |
| Use for drilling                                  | limited oblique spot drilling |
| Through-coolant                                   | yes, with 25 bar              |
| Pilot drill required                              | yes, pilot drill              |
| 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                                  | 85 m/min       | P        |
| Steel < 750 N/mm <sup>2</sup>  | suitable                                  | 75 m/min       | P        |
| Steel < 900 N/mm <sup>2</sup>  | suitable                                  | 60 m/min       | P        |
| Steel < 1100 N/mm <sup>2</sup> | suitable                                  | 50 m/min       | P        |
| INOX < 900 N/mm <sup>2</sup>   | suitable only under restricted conditions | 45 m/min       | M        |
| GG(G)                          | suitable                                  | 90 m/min       | K        |

|             |          |
|-------------|----------|
| Uni         | suitable |
| wet maximum | suitable |
| wet minimum | suitable |
| Air         | suitable |

**Services**

|                        |           |
|------------------------|-----------|
| Shank grinding Type HE | 129100 HE |
| Shank grinding Type HB | 129100 HB |