

**Garant**
**HSS jobber drill N, uncoated, Ø DC h8 (mm or inch): 19**

**Order data**

|              |               |
|--------------|---------------|
| Order number | 114150 19     |
| GTIN         | 4045197013903 |
| Item class   | 11B           |

**Description**
**Version:**

Profile ground: Jobber drill with high pitch accuracy and concentricity as well as precision ground point.

Steam tempered from Ø 2.4 mm.

With point geometry shape C from size 4 mm

**Recommendation:**
**Maximum drilling depth:**

$$L_2 = L_c - 1.5 \times D_c.$$

**Note:**

Size 16 - 20: Drills with shank Ø 16 mm.

Through-coolant: no

Standard: DIN 338

Tolerance nominal Ø: h8

Point angle: 118 °

Shank: Plain shank

Number of cutting edges Z: 2

recommended maximum drilling depth  $L_2$ : 106.5 mm

Flute length  $L_c$ : 135 mm

Overall length L: 198 mm

Shank Ø  $D_s$ : 16 mm

Feed f in steel < 750 N/mm<sup>2</sup>: 0.2 mm/rev.

**Technical description**

|                           |        |
|---------------------------|--------|
| Nominal Ø $D_c$           | 19 mm  |
| Number of cutting edges Z | 2      |
| Flute length $L_c$        | 135 mm |

|   |              |
|---|--------------|
| Feed f in steel < 750 N/mm <sup>2</sup>           | 0.2 mm/rev.  |
| Tolerance nominal Ø                               | h8           |
| Shank Ø D <sub>s</sub>                            | 16 mm        |
| Overall length L                                  | 198 mm       |
| Standard  | DIN 338      |
| recommended maximum drilling depth L <sub>2</sub> | 106.5 mm     |
| Point angle                                       | 118 °        |
| Shank   | Plain shank  |
| Coating   | uncoated     |
| Tool material                                     | HSS          |
| Type  | N            |
| Through-coolant                                   | no           |
| Colour ring                                       | without      |
| Type of product                                   | Jobber drill |

### User data

|                                | Suitability                               | V <sub>c</sub> | ISO code |
|--------------------------------|---|----------------|----------|
| Alu plastics                   | suitable only under restricted conditions | 80 m/min       | N        |
| Aluminium (short chipping)     | suitable only under restricted conditions | 45 m/min       | N        |
| Alu > 10% Si                   | suitable only under restricted conditions | 50 m/min       | N        |
| Steel < 500 N/mm <sup>2</sup>  | suitable                                  | 40 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 only under restricted conditions | 10 m/min       | P        |
| Steel < 1400 N/mm <sup>2</sup> | suitable only under restricted conditions | 8 m/min        | P        |

|             |          |          |   |
|-------------|----------|----------|---|
| GG(G)       | suitable | 25 m/min | K |
| CuZn        | suitable | 80 m/min | N |
| Oil         | suitable |          |   |
| wet maximum | suitable |          |   |