

Garant
Roughing end mill with internal cooling, TiAlN, Ø k12 DC: 12mm

Order data

| | |
|--------------|---------------|
| Order number | 192910 12 |
| GTIN | 4045197108760 |
| Item class | 11W |

Description
Version:

Relief ground fine pitch knuckle form profile. Centre cutting edge geometry for plunging. For the most demanding metal removal rates.

Advantage:

The coolant is fed directly **to the cutting edges**, resulting in **longer tool life** and **complete chip clearance**.

Through-coolant: yes

Tolerance nominal Ø: k12

No. of teeth Z: 4

Helix angle: 30 °

Direction of infeed: horizontal, oblique and vertical

Shank: DIN 1835 B to h6

No. of teeth Z: 4

Flute length L_c : 26 mm

Overall length L: 83 mm

Shank Ø D_s : 12 mm

Corner chamfer width at 45°: 0.5 mm

Feed f_z for slot milling in steel < 1100 N/mm²: 0.035 mm

Technical description

| | |
|-----------------------------|--------|
| Cutting edge Ø D_c | 12 mm |
| No. of teeth Z | 4 |
| Corner chamfer width at 45° | 0.5 mm |
| Shank Ø D_s | 12 mm |

| | |
|--|----------------------------------|
| Overall length L | 83 mm |
| Flute length L _c | 26 mm |
| Feed f _z for slot milling in steel < 1100 N/mm ² | 0.035 mm |
| Direction of infeed | horizontal, oblique and vertical |
| Shank | DIN 1835 B to h6 |
| Tolerance nominal Ø | k12 |
| Helix angle | 30 ° |
| Corner chamfer angle | 45 ° |
| Coating | TiAlN |
| Tool material | HSS PM |
| Standard | DIN 844 |
| Milling profile | HR |
| Spacing of the cutters | unequal spacing |
| Through-coolant | yes |
| Colour ring | without |
| Type of product | End / face mill |

User data

| | Suitability | V _c | ISO code |
|--------------------------------|---|----------------|----------|
| Aluminium (short chipping) | suitable only under restricted conditions | 138 m/min | N |
| Steel < 500 N/mm ² | suitable | 83 m/min | P |
| Steel < 750 N/mm ² | suitable | 64 m/min | P |
| Steel < 900 N/mm ² | suitable | 64 m/min | P |
| Steel < 1100 N/mm ² | suitable | 37 m/min | P |
| Steel < 1400 N/mm ² | suitable | 32 m/min | P |
| INOX < 900 N/mm ² | suitable | 23 m/min | M |
| INOX > 900 N/mm ² | suitable only under restricted conditions | 18 m/min | M |

| | | | |
|-------------|---|-----------|---|
| GG(G) | suitable only under restricted conditions | 55 m/min | K |
| CuZn | suitable only under restricted conditions | 110 m/min | N |
| Uni | suitable | | |
| wet maximum | suitable | | |