

Garant

Solid carbide milling cutter with chip separators TPC, TiAlN, Ø f8 DC: 20mm



Order data

| | |
|--------------|---------------|
| Order number | 203094 20 |
| GTIN | 4045197954046 |
| Item class | 11X |

Description

Version:

High-performance end mill for general-purpose applications, **specially designed for TPC applications.**

Strengthened core.

Optimised bending strength due to the use of ultra-fine grain substrates.

Offset chip breakers for controlled chip breaking.

Note:

$a_{e\max} = 0.03 \times D$ for TPC machining.

h_{\max} : The values stated in the table are maximum values. For finishing operations we recommend items No. 204016, 204018 and 204019.

Successor product to No. 203091.

Technical description

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|--|---------------|
| Corner chamfer width at 45° | 0.4 mm |
| Tolerance nominal Ø | f8 |
| Average chip thickness h_{\max} for TPC milling in Toolox 44 HRC | 0.07 mm |
| Cutting edge Ø D_c | 20 mm |
| Shank Ø D_s | 20 mm |
| Flute length L_c | 100 mm |
| Helix angle | 40 degrees |
| Balance quality with shank | G 2.5 with HB |

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|---|-------------------------|
| No. of teeth Z | 5 |
| Shank | DIN 6535 HB to h6 |
| Direction of infeed | horizontal and oblique |
| Overall length L | 160 mm |
| Corner chamfer angle | 45 degrees |
| Number of chip separators | 3 |
| Coating | TiAlN |
| Tool material | Solid carbide |
| Standard | Manufacturer's standard |
| Type | N |
| Helix angle characteristic | unequal spacing |
| Spacing of the cutters | unequal spacing |
| Cutting width a_e for milling operation | $0.03 \times D$ |
| Through-coolant | no |
| Machining strategy | TPC |
| Colour ring | green |
| Type of product | End / face mill |

User data

| | Suitability | V_c | ISO code |
|-------------------------------------|-------------|-----------|----------|
| Steel < 500 N/mm ² | suitable | 350 m/min | P |
| Steel < 750 N/mm ² | suitable | 310 m/min | P |
| Steel < 900 N/mm ² | suitable | 270 m/min | P |
| Steel < 1100 N/mm ² | suitable | 200 m/min | P |
| Steel < 1400 N/mm ² | suitable | 120 m/min | P |
| TOOLOX 33 | suitable | 50 m/min | H |
| TOOLOX 44 | suitable | 30 m/min | H |
| HARDOX 500 < 1600 N/mm ² | suitable | 20 m/min | H |

| | | | |
|------------------------------|---|-----------|---|
| INOX < 900 N/mm ² | suitable | 190 m/min | M |
| INOX > 900 N/mm ² | suitable only under restricted conditions | 120 m/min | M |
| Uni | suitable | | |
| wet maximum | Suitable | | |
| dry | Suitable only under restricted conditions | | |
| Air | suitable | | |