

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

**Order data**

Order number	203103 20
GTIN	4045197814623
Item class	11X

**Description**
**Version:**

High-performance milling cutter with **irregular cutter spacing** and **irregular helical pitch**. Optimised bending strength due to the use of ultra-fine grain substrates. Offset chip breaker.

**Note:**

$a_{e\max} = 0.07 \times D$  for TPC machining.

$h_{\max}$ : The values stated in the table are maximum values.

Tolerance nominal Ø: f8

No. of teeth Z: 7

Helix angle: 40°

Direction of infeed: horizontal and oblique

Shank: DIN 6535 HB to h6

Balance quality with shank: G 2.5 with HB

No. of teeth Z: 7

Flute length  $L_c$ : 60 mm

Overhang length  $L_1$  incl. recess: 70 mm

Recess Ø  $D_1$ : 19.8 mm

Overall length L: 126 mm

Shank Ø  $D_s$ : 20 mm

**Technical description**

Overhang length $L_1$ incl. recess	70 mm
Recess Ø $D_1$	19.8 mm
Corner chamfer width at 45°	0.4 mm
Cutting edge Ø $D_c$	20 mm

Direction of infeed	horizontal and oblique
Overall length L	126 mm
Balance quality with shank	G 2.5 with HB
Flute length $L_c$	60 mm
Shank $\varnothing D_s$	20 mm
Shank	DIN 6535 HB to h6
Tolerance nominal $\varnothing$	f8
No. of teeth Z	7
Helix angle	40°
Average chip thickness $h_{max}$ for TPC milling in INOX < 900 N/mm <sup>2</sup>	0.097 mm
Corner chamfer angle	45°
Number of chip separators	1
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	0.07×D
Through-coolant	no
Machining strategy	TPC
Colour ring	blue
Type of product	End / face mill

## User data

	Suitability	$V_c$	ISO code
Steel < 500 N/mm <sup>2</sup>	suitable	380 m/min	P
Steel < 750 N/mm <sup>2</sup>	suitable	340 m/min	P

Steel < 900 N/mm <sup>2</sup>	suitable	300 m/min	P
Steel < 1100 N/mm <sup>2</sup>	suitable	230 m/min	P
INOX < 900 N/mm <sup>2</sup>	suitable	240 m/min	M
INOX > 900 N/mm <sup>2</sup>	suitable	170 m/min	M
wet maximum	Suitable		
wet minimum	Suitable only under restricted conditions		
Air	suitable		

### Services

Shank clamping flats for shrink-fit chucks, with retainer function Shank Ø tool 20 mm

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