

**Garant**
**Solid carbide milling cutter with chip separators TPC, TiAlN, Ø f8 DC: 10mm**

**Order data**

Order number	203090 10
GTIN	4045197814364
Item class	11X

**Description**
**Version:**

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

Strengthened core. Offset chip breaker. **Optimised bending strength** due to the use of ultra-fine grain substrates.

**Note:**

$a_{e\max} = 0.05 \times D$  for TPC machining.

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

Tolerance nominal Ø: f8

No. of teeth Z: 5

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: 5

Flute length  $L_c$ : 40 mm

Overall length L: 89 mm

Shank Ø  $D_s$ : 10 mm

Corner chamfer width at 45°: 0.2 mm

Average chip thickness  $h_{\max}$  for TPC milling in Toolox 44 HRC: 0.046 mm

**Technical description**

Direction of infeed	horizontal and oblique
Flute length $L_c$	40 mm
Shank	DIN 6535 HB to h6

Corner chamfer width at 45°	0.2 mm
Shank $\varnothing D_s$	10 mm
Overall length L	89 mm
Cutting edge $\varnothing D_c$	10 mm
No. of teeth Z	5
Tolerance nominal $\varnothing$	f8
Average chip thickness $h_{max}$ for TPC milling in Toolox 44 HRC	0.046 mm
Balance quality with shank	G 2.5 with HB
Helix angle	40°
Corner chamfer angle	45°
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	0.05×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 <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

Steel < 1400 N/mm <sup>2</sup>	suitable	150 m/min	P
TOOLOX 33	suitable	60 m/min	H
TOOLOX 44	suitable	40 m/min	H
HARDOX 500 < 1600 N/mm <sup>2</sup>	suitable	25 m/min	H
INOX < 900 N/mm <sup>2</sup>	suitable	220 m/min	M
INOX > 900 N/mm <sup>2</sup>	suitable only under restricted conditions	150 m/min	M
Uni	suitable		
wet maximum	Suitable		
dry	Suitable only under restricted conditions		
Air	suitable		