

**Garant**
**Solid carbide milling cutter with chip separators TPC, TiAlN, Ø f8 DC: 16mm**

**Order data**

Order number	203092 16
GTIN	4045197953896
Item class	11X

**Description**
**Version:**

**High-performance milling cutter** specially designed for general-purpose TPC applications. Strengthened core.

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

**Chip separator for controlled chip breaking.**

**Note:**

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

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

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  $L_c$ : 48 mm

Overhang length  $L_1$  incl. recess: 55 mm

Recess Ø  $D_1$ : 15.8 mm

Overall length L: 108 mm

Shank Ø  $D_s$ : 16 mm

**Technical description**

No. of teeth Z	5
Direction of infeed	horizontal and oblique
Helix angle	40 °

Flute length $L_c$	48 mm
Shank $\varnothing D_s$	16 mm
Corner chamfer width at $45^\circ$	0.32 mm
Average chip thickness $h_{max}$ for TPC milling in Toolox 44 HRC	0.078 mm
Overall length $L$	108 mm
Overhang length $L_1$ incl. recess	55 mm
Shank	DIN 6535 HB to h6
Tolerance nominal $\varnothing$	f8
Balance quality with shank	G 2.5 with HB
Cutting edge $\varnothing D_c$	16 mm
Recess $\varnothing D_1$	15.8 mm
Corner chamfer angle	$45^\circ$
Number of chip separators	2
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	$0.07 \times D$
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 <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		