

# Solid carbide milling cutter with more chip separators TPC, TiAlN, $\varnothing$ f8 DC: 14 mm



### **Order data**

Order number	203095 14
GTIN	4062406117375
Item class	12X

## **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 degrees

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<sub>c</sub>: 42 mm

Overhang length L<sub>1</sub> incl. recess: 50 mm

Recess  $\varnothing$  D<sub>1</sub>: 13.8 mm Overall length L: 99 mm Shank  $\varnothing$  D<sub>4</sub>: 14 mm

# **Technical description**

Cutting edge $\varnothing$ D <sub>c</sub>	14 mm
Corner chamfer width at 45°	0.28 mm

Balance quality with shank       G 2.5 with HB         Helix angle       40 degrees         Tolerance nominal Ø       f8         Overhang length L₁ incl. recess       50 mm         Overall length L       99 mm         Shank Ø D₂       14 mm         Flute length L₂       42 mm         Shank       DIN 6535 HB to h6         Direction of infeed       horizontal and oblique         Recess Ø D₁       13.8 mm         Average chip thickness hmax for TPC milling in Toolox 44       0.069 mm         HRC       45 degrees         Coating       TiAIN         Tool material       Solid carbide         Standard       Manufacturer's standard         Type       N         Helix angle characteristic       unequal spacing         Spacing of the cutters       unequal spacing         Cutting width a₂ for milling operation       0.07×D         Through-coolant       no         Machining strategy       TPC         Colour ring       green         Type of product       End mill	No. of teeth Z	5
Tolerance nominal Ø Overhang length L <sub>1</sub> incl. recess 50 mm Overall length L 99 mm Shank Ø D <sub>2</sub> 114 mm Flute length L Shank DIN 6535 HB to h6 Direction of infeed Recess Ø D <sub>1</sub> 13.8 mm Average chip thickness h <sub>max</sub> for TPC milling in Toolox 44 HRC Corner chamfer angle Coating TiAlN Tool material Solid carbide Standard Manufacturer's standard Type N Helix angle characteristic unequal spacing Cutting width a <sub>n</sub> for milling operation N Machining strategy TPC Colour ring green	Balance quality with shank	G 2.5 with HB
Overlang length L₁ incl. recess       50 mm         Overall length L       99 mm         Shank Ø D₄       14 mm         Flute length L₂       42 mm         Shank       DIN 6535 HB to h6         Direction of infeed       horizontal and oblique         Recess Ø D₁       13.8 mm         Average chip thickness hmax for TPC milling in Toolox 44 HRC       0.069 mm         Corner chamfer angle       45 degrees         Coating       TiAIN         Tool material       Solid carbide         Standard       Manufacturer's standard         Type       N         Helix angle characteristic       unequal spacing         Spacing of the cutters       unequal spacing         Cutting width a₂ for milling operation       0.07×D         Through-coolant       no         Machining strategy       TPC         Colour ring       green	Helix angle	40 degrees
Overall length L       99 mm         Shank Ø D₃       14 mm         Flute length L₂       42 mm         Shank       DIN 6535 HB to h6         Direction of infeed       horizontal and oblique         Recess Ø D₁       13.8 mm         Average chip thickness hmax for TPC milling in Toolox 44 HRC       0.069 mm         Corner chamfer angle       45 degrees         Coating       TiAIN         Tool material       Solid carbide         Standard       Manufacturer's standard         Type       N         Helix angle characteristic       unequal spacing         Spacing of the cutters       unequal spacing         Cutting width a₀ for milling operation       0.07×D         Through-coolant       no         Machining strategy       TPC         Colour ring       green	Tolerance nominal Ø	f8
Shank Ø D₂       14 mm         Flute length L₂       42 mm         Shank       DIN 6535 HB to h6         Direction of infeed       horizontal and oblique         Recess Ø D₁       13.8 mm         Average chip thickness hmax for TPC milling in Toolox 44 HRC       0.069 mm         Corner chamfer angle       45 degrees         Coating       TiAIN         Tool material       Solid carbide         Standard       Manufacturer's standard         Type       N         Helix angle characteristic       unequal spacing         Spacing of the cutters       unequal spacing         Cutting width a₂ for milling operation       0.07×D         Through-coolant       no         Machining strategy       TPC         Colour ring       green	Overhang length L <sub>1</sub> incl. recess	50 mm
Flute length L <sub>c</sub> Shank DIN 6535 HB to h6 Direction of infeed horizontal and oblique Recess Ø D <sub>1</sub> 13.8 mm  Average chip thickness h <sub>max</sub> for TPC milling in Toolox 44 HRC Corner chamfer angle Coating TiAIN Tool material Solid carbide Standard Manufacturer's standard Type N Helix angle characteristic unequal spacing Spacing of the cutters unequal spacing Cutting width a <sub>e</sub> for milling operation Through-coolant no Machining strategy TPC Colour ring GIN 6535 HB to h6 DIN 6535 HB to h6 DIN 6535 HB to h6 horizontal and oblique	Overall length L	99 mm
Shank       DIN 6535 HB to h6         Direction of infeed       horizontal and oblique         Recess Ø D₁       13.8 mm         Average chip thickness hmax for TPC milling in Toolox 44 HRC       0.069 mm         Corner chamfer angle       45 degrees         Coating       TiAIN         Tool material       Solid carbide         Standard       Manufacturer's standard         Type       N         Helix angle characteristic       unequal spacing         Spacing of the cutters       unequal spacing         Cutting width a₂ for milling operation       0.07×D         Through-coolant       no         Machining strategy       TPC         Colour ring       green	Shank Ø D <sub>s</sub>	14 mm
Direction of infeed  Recess Ø D₁  Average chip thickness h <sub>max</sub> for TPC milling in Toolox 44 HRC  Corner chamfer angle  Coating  TiAIN  Tool material  Solid carbide  Standard  Manufacturer's standard  Type  N  Helix angle characteristic  Spacing of the cutters  unequal spacing  Cutting width ae for milling operation  Through-coolant  no  Machining strategy  TPC  Colour ring	Flute length L <sub>c</sub>	42 mm
Recess $\varnothing$ D <sub>1</sub> Average chip thickness h <sub>max</sub> for TPC milling in Toolox 44 HRC  Corner chamfer angle  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  Tyc  Colour ring  TiAlN  N  Manufacturer's standard  N  N  Type  N  Through-coolant  Type	Shank	DIN 6535 HB to h6
Average chip thickness h <sub>max</sub> for TPC milling in Toolox 44 HRC  Corner chamfer angle  Coating  TiAIN  Tool material  Solid carbide  Standard  Manufacturer's standard  Type  N  Helix angle characteristic  Spacing of the cutters  unequal spacing  Cutting width a <sub>e</sub> for milling operation  Tyc  Through-coolant  no  Machining strategy  TPC  Colour ring	Direction of infeed	horizontal and oblique
HRC Corner chamfer angle Coating TiAIN Tool material Solid carbide Standard Manufacturer's standard Type N Helix angle characteristic unequal spacing Spacing of the cutters unequal spacing Cutting width ae for milling operation Tyrough-coolant no Machining strategy TPC Colour ring  45 degrees  Manufacturer's Solid carbide Manufacturer's standard Type N Type N Texting a standard Type Type Type Type Type Type Type Type	Recess Ø D <sub>1</sub>	13.8 mm
Coating TiAIN  Tool material Solid carbide  Standard Manufacturer's standard  Type N  Helix angle characteristic unequal spacing  Spacing of the cutters unequal spacing  Cutting width a <sub>e</sub> for milling operation 0.07×D  Through-coolant no  Machining strategy TPC  Colour ring green		0.069 mm
Tool material  Standard  Manufacturer's standard  Type  N  Helix angle characteristic  Spacing of the cutters  Cutting width a <sub>e</sub> for milling operation  Through-coolant  Machining strategy  Colour ring  Solid carbide  Manufacturer's standard  N  unequal spacing  Unequal spacing  0.07×D  Through-coolant  no  Machining strategy  TPC  Colour ring	Corner chamfer angle	45 degrees
StandardManufacturer's standardTypeNHelix angle characteristicunequal spacingSpacing of the cuttersunequal spacingCutting width ae for milling operation0.07×DThrough-coolantnoMachining strategyTPCColour ringgreen	Coating	TiAlN
Type  N Helix angle characteristic  Spacing of the cutters  Cutting width a <sub>e</sub> for milling operation  Through-coolant  Machining strategy  TPC  Colour ring  N unequal spacing  0.07×D  100  100  100  100  100  100  100  1	Tool material	Solid carbide
Helix angle characteristic unequal spacing  Spacing of the cutters unequal spacing  Cutting width a <sub>e</sub> for milling operation 0.07×D  Through-coolant no  Machining strategy TPC  Colour ring green	Standard	Manufacturer's standard
Spacing of the cuttersunequal spacingCutting width $a_e$ for milling operation $0.07 \times D$ Through-coolantnoMachining strategyTPCColour ringgreen	Туре	N
Cutting width $a_e$ for milling operation $0.07 \times D$ Through-coolantnoMachining strategyTPCColour ringgreen	Helix angle characteristic	unequal spacing
Through-coolant no  Machining strategy TPC  Colour ring green	Spacing of the cutters	unequal spacing
Machining strategy TPC Colour ring green	Cutting width a <sub>e</sub> for milling operation	0.07×D
Colour ring green	Through-coolant	no
	Machining strategy	TPC
Type of product End mill	Colour ring	green
	Type of product	End mill