# Garant

Solid carbide milling cutter with internal cooling MTC, DLC, Ø h6 DC: 12 mm



## Order data

Order number	202279 12
GTIN	4045197746276
Item class	11X

### Description

#### Version:

With the latest generation of **DLC coating sp**<sup>2</sup>.

Eccentric relief ground, additionally polish ground in the flutes for outstanding chip

evacuation in long-chipping aluminium components.

#### **Application:**

Especially for **MTC (Multi Task Cutting)** use on the new generation of turning / milling centres. **Note:** 

#### **NEW GENERATION AVAILABLE!**

Recommended successor product is No. 202019.

Tolerance nominal  $\emptyset$ : h6 No. of teeth Z: 3 Helix angle: 45 degrees Direction of infeed: horizontal, oblique and vertical Shank: DIN 6535 HA to h6 Balance quality with shank: G 2.5 with HA No. of teeth Z: 3 Flute length L<sub>c</sub>: 19 mm Overhang length L<sub>1</sub> incl. recess: 73 mm Recess  $\emptyset$  D<sub>1</sub>: 11 mm Overall length L: 120 mm Shank  $\emptyset$  D<sub>s</sub>: 12 mm

## **Technical description**

Tolerance nominal Ø	h6
Shank form	HA

Corner chamfer width at 45°0.2 mmOverall length L120 mmOverhang length L, incl. recess73 mmFeed f, for slot milling in short-chipping aluminium0.05 mmFlute length L,19 mmNo. of teeth Z3Shank Ø D,12 mmDirection of infeedhorizontal, oblique and verticalBalance quality with shankG 2.5 with HACutting edge Ø Dc11 mmRecess Ø D,11 mmFeed f, for side milling in short-chipping aluminium0.07 mmShankDIN 6535 HA to h6Helix angle45 degreesCorner chamfer angle45 degreesCoatingDLCTool materialSolid carbideStandardManufacturer's standardTypeWHelix angle characteristicunequal spacingCutting width a, for milling operation0.3×D for side millingCutting width a, for milling operationFull slot cutting depth 1×DThrough-coolantyesMachining strategyMTCColour ringyellow		
Overhang length L, incl. recess73 mmFeed f, for slot milling in short-chipping aluminium0.05 mmFlute length L19 mmNo. of teeth Z3Shank Ø D,12 mmDirection of infeedhorizontal, oblique and verticalBalance quality with shankG 2.5 with HACutting edge Ø Dc11 mmRecess Ø D,11 mmFeed f, for side milling in short-chipping aluminium0.07 mmShankDIN 6535 HA to h6Helix angle45 degreesCorner chamfer angle45 degreesCoatingDLCTool materialSolid carbideStandardWHelix angle characteristicunequal spacingCutting width a, for milling operation5.3×D for side millingCutting width a, for milling operationFull slot cutting depth 1×DThrough-coolantyesMachining strategyMTCColour ringyellow	Corner chamfer width at 45°	0.2 mm
Feed fr for slot milling in short-chipping aluminium0.05 mmFlute length Lr19 mmNo. of teeth Z3Shank Ø Dr12 mmDirection of infeedhorizontal, oblique and verticalBalance quality with shankG 2.5 with HACutting edge Ø Dr12 mmRecess Ø Dr11 mmFeed fr for side milling in short-chipping aluminium0.07 mmShankDIN 6535 HA to h6Helix angle45 degreesCorner chamfer angle45 degreesCoatingDLCTool materialSolid carbideStandardWHelix angle characteristicunequal spacingCutting width a, for milling operationFull slot cutting depth 1×DThrough-coolantyesMachining strategyMTCColour ringyellow	Overall length L	120 mm
Flute length L,19 mmNo, of teeth Z3Shank Ø D,12 mmDirection of infeedhorizontal, oblique and verticalBalance quality with shankG 2.5 with HACutting edge Ø Dc12 mmRecess Ø D,11 mmFeed f, for side milling in short-chipping aluminium0.07 mmShankDIN 6535 HA to h6Helix angle45 degreesCorner chamfer angle45 degreesCoatingDLCTool materialSolid carbideStandardWHelix angle characteristicunequal spacingCutting width a, for milling operation0.3×D for side millingCutting width a, for milling operationFull slot cutting depth 1×DThrough-coolantyesMachining strategyMTCColour ringyellow	Overhang length L1 incl. recess	73 mm
No. of teeth Z3Shank Ø D,12 mmDirection of infeedhorizontal, oblique and verticalBalance quality with shankG 2.5 with HACutting edge Ø Dc12 mmRecess Ø D,11 mmFeed fz for side milling in short-chipping aluminium0.07 mmShankDIN 6535 HA to h6Helix angle45 degreesCorner chamfer angle45 degreesCoatingDLCTool materialSolid carbideStandardManufacturer's standardTypeWHelix angle characteristicunequal spacingCutting width a, for milling operation0.3×D for side millingCutting width a, for milling operationFull slot cutting depth 1×DThrough-coolantyesMachining strategyMTCColour ringyellow	Feed $f_z$ for slot milling in short-chipping aluminium	0.05 mm
Shank Ø Ds12 mmDirection of infeedhorizontal, oblique and verticalBalance quality with shankG 2.5 with HACutting edge Ø Dc12 mmRecess Ø D111 mmFeed f2 for side milling in short-chipping aluminium0.07 mmShankDIN 6535 HA to h6Helix angle45 degreesCorner chamfer angle45 degreesCoatingDLCTool materialSolid carbideStandardManufacturer's standardTypeWHelix angle characteristicunequal spacingCutting width ac for milling operationFull slot cutting depth 1×DThrough-coolantyesMachining strategyMTCColour ringyellow	Flute length L <sub>c</sub>	19 mm
Direction of infeedhorizontal, oblique and verticalBalance quality with shankG 2.5 with HACutting edge Ø Dc12 mmRecess Ø D111 mmFeed f2 for side milling in short-chipping aluminium0.07 mmShankDIN 6535 HA to h6Helix angle45 degreesCorner chamfer angle45 degreesCoatingDLCTool materialSolid carbideStandardManufacturer's standardTypeWHelix angle characteristicunequal spacingCutting width ae for milling operation0.3×D for side millingCutting width ae for milling operationFull slot cutting depth 1×DThrough-coolantyesMachining strategyMTCColour ringyellow	No. of teeth Z	3
Balance quality with shankG 2.5 with HACutting edge Ø Dc12 mmRecess Ø D111 mmFeed f2 for side milling in short-chipping aluminium0.07 mmShankDIN 6535 HA to h6Helix angle45 degreesCorner chamfer angle45 degreesCoatingDLCTool materialSolid carbideStandardManufacturer's standardTypeWHelix angle characteristicunequal spacingCutting width ae for milling operation0.3×D for side millingCutting width ae for milling operationFull slot cutting depth 1×DThrough-coolantyesMachining strategyMTCColour ringyellow	Shank Ø D <sub>s</sub>	12 mm
Cutting edge Ø Dc12 mmRecess Ø D111 mmFeed f2 for side milling in short-chipping aluminium0.07 mmShankDIN 6535 HA to h6Helix angle45 degreesCorner chamfer angle45 degreesCoatingDLCTool materialSolid carbideStandardManufacturer's standardTypeWHelix angle characteristicunequal spacingCutting width ae for milling operation0.3×D for side millingCutting width ae for milling operationFull slot cutting depth 1×DThrough-coolantyesMachining strategyMTCColour ringyellow	Direction of infeed	horizontal, oblique and vertical
Recess Ø D111 mmFeed f2 for side milling in short-chipping aluminium0.07 mmShankDIN 6535 HA to h6Helix angle45 degreesCorner chamfer angle45 degreesCoatingDLCTool materialSolid carbideStandardManufacturer's standardTypeWHelix angle characteristicunequal spacingCutting width ae for milling operation0.3×D for side millingCutting width ae for milling operationFull slot cutting depth 1×DThrough-coolantyesMachining strategyMTCColour ringyellow	Balance quality with shank	G 2.5 with HA
Feed f, for side milling in short-chipping aluminium0.07 mmShankDIN 6535 HA to h6Helix angle45 degreesCorner chamfer angle45 degreesCoatingDLCTool materialSolid carbideStandardManufacturer's standardTypeWHelix angle characteristicunequal spacingCutting width a, for milling operation0.3×D for side millingCutting width a, for milling operationyesMachining strategyMTCYellowYellow	Cutting edge Ø D <sub>c</sub>	12 mm
ShankDIN 6535 HA to h6Helix angle45 degreesCorner chamfer angle45 degreesCoatingDLCTool materialSolid carbideStandardManufacturer's standardTypeWHelix angle characteristicunequal spacingCutting width ae for milling operation0.3×D for side millingCutting width ae for milling operationFull slot cutting depth 1×DThrough-coolantyesMachining strategyMTCColour ringyellow	Recess Ø D <sub>1</sub>	11 mm
Helix angle45 degreesCorner chamfer angle45 degreesCoatingDLCTool materialSolid carbideStandardManufacturer's standardTypeWHelix angle characteristicunequal spacingCutting width ae for milling operation0.3×D for side millingCutting width ae for milling operationFull slot cutting depth 1×DThrough-coolantyesMachining strategyMTCColour ringyellow	Feed $f_z$ for side milling in short-chipping aluminium	0.07 mm
Corner chamfer angle45 degreesCoatingDLCTool materialSolid carbideStandardManufacturer's standardTypeWHelix angle characteristicunequal spacingCutting width ae for milling operation0.3×D for side millingCutting width ae for milling operationFull slot cutting depth 1×DThrough-coolantyesMachining strategyMTCColour ringyellow	Shank	DIN 6535 HA to h6
CoatingDLCTool materialSolid carbideStandardManufacturer's standardTypeWHelix angle characteristicunequal spacingCutting width ae for milling operation0.3×D for side millingCutting width ae for milling operationFull slot cutting depth 1×DThrough-coolantyesMachining strategyMTCColour ringyellow	Helix angle	45 degrees
Tool materialSolid carbideStandardManufacturer's standardTypeWHelix angle characteristicunequal spacingCutting width ae for milling operation0.3×D for side millingCutting width ae for milling operationFull slot cutting depth 1×DThrough-coolantyesMachining strategyMTCColour ringyellow	Corner chamfer angle	45 degrees
StandardManufacturer's standardTypeWHelix angle characteristicunequal spacingCutting width ae for milling operation0.3×D for side millingCutting width ae for milling operationFull slot cutting depth 1×DThrough-coolantyesMachining strategyMTCColour ringyellow	Coating	DLC
TypeWHelix angle characteristicunequal spacingCutting width ae for milling operation0.3×D for side millingCutting width ae for milling operationFull slot cutting depth 1×DThrough-coolantyesMachining strategyMTCColour ringyellow	Tool material	Solid carbide
Helix angle characteristicunequal spacingCutting width ae for milling operation0.3×D for side millingCutting width ae for milling operationFull slot cutting depth 1×DThrough-coolantyesMachining strategyMTCColour ringyellow	Standard	Manufacturer's standard
Cutting width ae for milling operation0.3×D for side millingCutting width ae for milling operationFull slot cutting depth 1×DThrough-coolantyesMachining strategyMTCColour ringyellow	Туре	W
Cutting width a, for milling operationFull slot cutting depth 1×DThrough-coolantyesMachining strategyMTCColour ringyellow	Helix angle characteristic	unequal spacing
Through-coolant yes   Machining strategy MTC   Colour ring yellow	Cutting width $a_e$ for milling operation	0.3×D for side milling
Machining strategyMTCColour ringyellow	Cutting width $a_e$ for milling operation	Full slot cutting depth 1×D
Colour ring yellow	Through-coolant	yes
	Machining strategy	MTC
Type of product End mill	Colour ring	yellow
	Type of product	End mill

## Services

SZ2025 12

Shank clamping flats for shrink-fit chucks, with retainer function Shank Ø tool 12 mm	
Shank grinding Type HB	129100 HB