

## Garant

### GARANT Master INOX solid carbide milling cutter with chip separators TPC, TiAlN, Ø f8 DC: 20mm



#### Order data

Order number	203119 20
GTIN	4062406783822
Item class	11Z

#### Description

##### Version:

High-performance milling cutter with **irregular cutter spacing** and **irregular helical pitch**. **High process reliability** and **better chip evacuation** due to **increased flutes**. **Optimised carbide substrate** for **higher bending strength** and **extreme tool life**, even in stainless steels in the high-performance field, especially duplex. **Chip separator** positioned offset **at cutting edges**.

##### Advantage:

Lower pull-out forces due to reduced helix angle.

##### Note:

$h_{max}$ : The values stated in the table are maximum values. For finishing operations we recommend items No. 204012, 204014, 204015, 204016, 204018 and 204019.

$a_{e,max} = 0.04 \times D$  for TPC machining.

**Successor product for No. 203105 and No. 203108.**

#### Technical description

Corner chamfer width at 45°	0.4 mm
Average chip thickness $h_{max}$ for TPC milling in INOX < 900 N/mm <sup>2</sup>	0.078 mm
Shank Ø $D_s$	20 mm
No. of teeth Z	6
Direction of infeed	horizontal, oblique and vertical
Flute length $L_c$	100 mm

Shank	DIN 6535 HB to h6
Cutting edge $\varnothing D_c$	20 mm
Balance quality with shank	G 2.5 with HB
Overall length L	160 mm
Corner chamfer angle	45 degrees
Helix angle	36 degrees
Tolerance nominal $\varnothing$	e8
Number of chip separators	3
Series	Master INOX
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	$0.04 \times D$
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 only under restricted conditions	270 m/min	P
Steel < 750 N/mm <sup>2</sup>	Suitable only under restricted conditions	240 m/min	P
Steel < 900 N/mm <sup>2</sup>	Suitable only under restricted conditions	210 m/min	P

Steel < 1100 N/mm <sup>2</sup>	Suitable only under restricted conditions	160 m/min	P
INOX < 900 N/mm <sup>2</sup>	suitable	200 m/min	M
INOX > 900 N/mm <sup>2</sup>	suitable	140 m/min	M
Ti > 850 N/mm <sup>2</sup>	suitable	100 m/min	S
wet maximum	suitable		
wet minimum	Suitable only under restricted conditions		
Air	suitable		