

**Garant**
**GARANT Master Steel SlotMachine solid carbide roughing end mill HPC, TiAlN, Ø d11 DC: 20mm**

**Order data**

Order number	205550 20
GTIN	4045197814234
Item class	11X

**Description**
**Version:**

With a new-type knurled profile, optimised for higher feed rates. Improved cutting edge protection thanks to slight edge honing. Tremendous bending strength due to the use of ultra-fine grain substrate.

Feed rate per tooth up to 0.1 mm up to a depth of 2×D (in the slot milled from solid).

**Advantage:**

The tool geometry produces particularly tightly rolled swarf that is discharged via flat chip breaker recesses. As a result, the tool maintains an extremely stable core. Plunge angle of up to 10° possible thanks to generous recess on the front face.

**Application:**

For roughing machining, particularly suitable for full-slot machining.

**Technical description**

Feed $f_z$ for side milling in steel < 900 N/mm <sup>2</sup>	0.13 mm
Direction of infeed	horizontal, oblique and vertical
Feed $f_z$ for slot milling in steel < 900 N/mm <sup>2</sup>	0.09 mm
Overall length L	104 mm
No. of teeth Z	5
Recess Ø D <sub>1</sub>	18.5 mm
Shank	DIN 6535 HB to h6
Cutting edge Ø D <sub>c</sub>	20 mm

Shank $\varnothing D_s$	20 mm
Tolerance nominal $\varnothing$	d11
Flute length $L_c$	38 mm
Corner chamfer width at 45°	1 mm
Overhang length $L_1$ incl. recess	52 mm
Helix angle	42 degrees
Corner chamfer angle	45 degrees
Series	Master Steel
Coating	TiAlN
Tool material	Solid carbide
Standard	DIN 6527
Milling profile	NR
Spacing of the cutters	unequal spacing
Cutting width $a_e$ for milling operation	0.5×D for side milling
Cutting width $a_e$ for milling operation	Full slot cutting depth 1×D
Through-coolant	no
Machining strategy	HPC
Colour ring	green
Type of product	End / face mill

## User data

	Suitability	$V_c$	ISO code
Steel < 500 N/mm <sup>2</sup>	suitable	200 m/min	P
Steel < 750 N/mm <sup>2</sup>	suitable	180 m/min	P
Steel < 900 N/mm <sup>2</sup>	suitable	160 m/min	P
Steel < 1100 N/mm <sup>2</sup>	suitable	140 m/min	P
Steel < 1400 N/mm <sup>2</sup>	suitable	110 m/min	P
INOX < 900 N/mm <sup>2</sup>	suitable	50 m/min	M
INOX > 900 N/mm <sup>2</sup>	suitable	35 m/min	M

GG(G)	suitable	200 m/min	K
Uni	suitable		
wet maximum	suitable		
wet minimum	suitable only under restricted conditions		
dry	suitable		
Air	suitable		