

**Garant**
**GARANT Master Steel solid carbide roughing end mill HPC, TiAlN, Ø f8 DC: 12mm**

**Order data**

Order number	203039 12
GTIN	4062406230937
Item class	11X

**Description**
**Version:**

For **roughing and finishing**.

Up to 1.5xD into solid material **at very high feed rates** with smooth cutting action.

**Advantage:**

Optimised flute form, eccentric relief ground, generous chip spaces.

**Technical description**

Tolerance nominal Ø	f8
Direction of infeed	horizontal, oblique and vertical
Recess Ø D <sub>1</sub>	11.8 mm
Shank	DIN 6535 HB to h6
Overhang length L <sub>1</sub> incl. recess	36 mm
Overall length L	83 mm
Corner chamfer width at 45°	0.1 mm
Feed f <sub>z</sub> for side milling in steel < 900 N/mm <sup>2</sup>	0.09 mm
Shank Ø D <sub>s</sub>	12 mm
Helix angle	38 degrees
Flute length L <sub>c</sub>	26 mm
Cutting edge Ø D <sub>c</sub>	12 mm

No. of teeth Z	4
Feed $f_z$ for slot milling in steel < 900 N/mm <sup>2</sup>	0.07 mm
Corner chamfer angle	45 degrees
Series	Master Steel
Coating	TiAlN
Tool material	Solid carbide
Standard	DIN 6527
Type	N
Helix angle characteristic	unequal spacing
Spacing of the cutters	unequal spacing
Cutting width $a_e$ for milling operation	Full slot cutting depth 1×D
Cutting width $a_e$ for milling operation	0.03×D for copy milling
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	260 m/min	P
Steel < 750 N/mm <sup>2</sup>	suitable	240 m/min	P
Steel < 900 N/mm <sup>2</sup>	suitable	190 m/min	P
Steel < 1100 N/mm <sup>2</sup>	suitable	180 m/min	P
Steel < 1400 N/mm <sup>2</sup>	suitable only under restricted conditions	150 m/min	P
INOX < 900 N/mm <sup>2</sup>	suitable	80 m/min	M
INOX > 900 N/mm <sup>2</sup>	suitable	70 m/min	M
GG(G)	suitable	250 m/min	K
Uni	suitable		

wet maximum	suitable
wet minimum	suitable only under restricted conditions
dry	suitable
Air	suitable