

Garant
GARANT Master Steel solid carbide roughing end mill HPC, TiAlN, Ø f8 DC: 20mm

Order data

Order number	203036 20
GTIN	4045197718907
Item class	11X

Description
Version:

For **roughing and finishing** up to $0.7 \times D$ into solid material **at very high feed rates** with smooth cutting action.

Advantage:

Optimised flute form, eccentric relief ground, wide chip space.

Tolerance nominal \varnothing : f8

No. of teeth Z: 4

Helix angle: 38°

Direction of infeed: horizontal, oblique and vertical

Shank: DIN 6535 HB to h6

No. of teeth Z: 4

Flute length L_c : 41 mm

Overhang length L_1 incl. recess: 74 mm

Recess $\varnothing D_1$: 19.5 mm

Overall length L: 126 mm

Shank $\varnothing D_s$: 20 mm

Technical description

No. of teeth Z	4
Overhang length L_1 incl. recess	74 mm
Feed f_z for slot milling in steel $< 900 \text{ N/mm}^2$	0.1 mm
Feed f_z for side milling in steel $< 900 \text{ N/mm}^2$	0.13 mm

Corner chamfer width at 45°	0.4 mm
Recess $\varnothing D_1$	19.5 mm
Cutting edge $\varnothing D_c$	20 mm
Shank $\varnothing D_s$	20 mm
Overall length L	126 mm
Flute length L_c	41 mm
Direction of infeed	horizontal, oblique and vertical
Shank	DIN 6535 HB to h6
Tolerance nominal \varnothing	f8
Helix angle	38°
Corner chamfer angle	45°
Series	Master Steel
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	0.25×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 ²	suitable	260 m/min	P
Steel < 750 N/mm ²	suitable	240 m/min	P

Steel < 900 N/mm ²	suitable	190 m/min	P
Steel < 1100 N/mm ²	suitable	180 m/min	P
Steel < 1400 N/mm ²	suitable only under restricted conditions	150 m/min	P
INOX < 900 N/mm ²	suitable	80 m/min	M
INOX > 900 N/mm ²	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		
Services			

Shank clamping flats for shrink-fit chucks, with retainer function Shank Ø tool 20 mm

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