

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

Order data

Order number	203039 20
GTIN	4062406230968
Item class	11X

Description
Version:

For **roughing and finishing**.

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

Advantage:

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

Technical description

Helix angle	38 degrees
Overhang length L_1 incl. recess	54 mm
Feed f_z for side milling in steel < 900 N/mm ²	0.13 mm
Tolerance nominal Ø	f8
No. of teeth Z	4
Recess Ø D_1	19.8 mm
Shank	DIN 6535 HB to h6
Feed f_z for slot milling in steel < 900 N/mm ²	0.1 mm
Direction of infeed	horizontal, oblique and vertical
Corner chamfer width at 45°	0.1 mm
Flute length L_c	41 mm
Overall length L	104 mm

Cutting edge $\varnothing D_c$	20 mm
Shank $\varnothing D_s$	20 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 $1 \times D$
Cutting width a_e for milling operation	$0.03 \times D$ 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 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