

**Garant**
**Solid carbide roughing end mill HPC, AlCrN, Ø e8 DC: 20mm**

**Order data**

Order number	203072 20
GTIN	4062406569518
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. Optimised end face geometry.

**Application:**

- **Optimised flute form, eccentric relief ground.**
- **Large flute profiles.**
- **Improved chip evacuation due to optimised end face geometry.**
- **Minimal wear due to sturdy cutting edges.**

**Technical description**

Shank Ø D <sub>s</sub>	20 mm
No. of teeth Z	4
Feed f <sub>z</sub> for slot milling in steel < 900 N/mm <sup>2</sup>	0.09 mm
Tolerance nominal Ø	e8
Shank	DIN 6535 HB to h6
Feed f <sub>z</sub> for side milling in steel < 900 N/mm <sup>2</sup>	0.12 mm
Cutting edge Ø D <sub>c</sub>	20 mm
Corner chamfer angle	45 degrees
Overall length L	104 mm
Corner chamfer width at 45°	0.5 mm

Direction of infeed	horizontal, oblique and vertical
Flute length $L_c$	41 mm
Recess $\varnothing D_1$	19.7 mm
Helix angle	38 degrees
Overhang length $L_1$ incl. recess	54 mm
Coating	AlCrN
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	0.3×D for side milling
Cutting width $a_e$ for milling operation	Full slot cutting depth 1×D
Through-coolant	no
Machining strategy	MTC
Colour ring	green
Type of product	End / face mill

## User data

	Suitability	$V_c$	ISO code
Steel < 500 N/mm <sup>2</sup>	suitable	265 m/min	P
Steel < 750 N/mm <sup>2</sup>	suitable	250 m/min	P
Steel < 900 N/mm <sup>2</sup>	suitable	200 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	160 m/min	P
INOX < 900 N/mm <sup>2</sup>	suitable only under restricted conditions	100 m/min	M
INOX > 900 N/mm <sup>2</sup>	suitable only under restricted conditions	90 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		