

**Garant**
**End mill HSS-E-SPM HPC, TiAlN, Ø DC: 20 mm**

**Order data**

Order number	191635 20
GTIN	4045197547217
Item class	11W

**Description**
**Version:**

Special **SPM** substrate with very high cobalt content.

Combines the **hardness of solid carbide** and the **toughness of PM steel**.

Multi-flute end mill with universal geometry.

Can be used as a finishing end mill, semi-roughing or roughing end mill.

Tolerance nominal Ø: k12

No. of teeth Z: 4

Helix angle: 30 degrees

Direction of infeed: horizontal, oblique and vertical

Shank: DIN 1835 B to h6

No. of teeth Z: 4

Flute length  $L_c$ : 38 mm

Overall length L: 104 mm

Shank Ø  $D_s$ : 20 mm

Feed  $f_z$  for side milling in steel < 1100 N/mm<sup>2</sup>: 0.075 mm

**Technical description**

Cutting edge Ø $D_c$	20 mm
No. of teeth Z	4
Feed $f_z$ for side milling in steel < 1100 N/mm <sup>2</sup>	0.075 mm
Shank Ø $D_s$	20 mm
Overall length L	104 mm
Flute length $L_c$	38 mm

Direction of infeed	horizontal, oblique and vertical
Shank	DIN 1835 B to h6
Tolerance nominal $\varnothing$	k12
Helix angle	30 degrees
Corner chamfer angle	90 degrees
Coating	TiAlN
Tool material	HSS E SPM
Standard	DIN 844 B
Type	N
Helix angle characteristic	unequal spacing
Cutting width $a_e$ for milling operation	0.5×D for side milling
Through-coolant	no
Machining strategy	HPC
Colour ring	green
Type of product	End mill