

**Garant**
**Roughing end mill HPC HSS-E-SPM, TiAlN, Ø k12 DC: 12mm**

**Order data**

Order number	192855 12
GTIN	4045197108289
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**.

Centre cutting teeth profile for plunging.

**Application:**

**For very high metal removal rates and increased machining volumes on stainless steels.**

**Technical description**

No. of teeth Z	4
Cutting edge $\varnothing D_c$	12 mm
Corner chamfer width at 45°	0.3 mm
Feed $f_z$ for slot milling in stainless steel > 900 N/mm <sup>2</sup>	0.029 mm
Shank $\varnothing D_s$	12 mm
Overall length L	83 mm
Flute length $L_c$	26 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	45 degrees

Coating	TiAlN
Tool material	HSS E SPM
Standard	DIN 844
Milling profile	HRF
Through-coolant	no
Machining strategy	HPC
Colour ring	blue
Type of product	End / face mill

### User data

	Suitability	V <sub>c</sub>	ISO code
Aluminium (short chipping)	suitable only under restricted conditions	159 m/min	N
Steel < 500 N/mm <sup>2</sup>	suitable	95 m/min	P
Steel < 750 N/mm <sup>2</sup>	suitable	74 m/min	P
Steel < 900 N/mm <sup>2</sup>	suitable	74 m/min	P
Steel < 1100 N/mm <sup>2</sup>	suitable only under restricted conditions	42 m/min	P
INOX < 900 N/mm <sup>2</sup>	suitable	26 m/min	M
INOX > 900 N/mm <sup>2</sup>	suitable	21 m/min	M
Ti > 850 N/mm <sup>2</sup>	suitable	20 m/min	S
Uni	suitable only under restricted conditions		
wet maximum	suitable		
wet minimum	suitable		
dry	suitable only under restricted conditions		