

**Garant**
**Roughing end mill, TiAlN, Ø DC: 13mm**

**Order data**

Order number	192840 13
GTIN	4045197108098
Item class	11W

**Description**
**Version:**
**Relief ground fine pitch knuckle form profile.**

Centre cutting teeth for plunging.

**Technical description**

Corner chamfer width at 45°	0.3 mm
No. of teeth Z	4
Cutting edge Ø D <sub>c</sub>	13 mm
Feed f <sub>z</sub> for slot milling in steel < 900 N/mm <sup>2</sup>	0.026 mm
Shank Ø D <sub>s</sub>	12 mm
Overall length L	83 mm
Flute length L <sub>c</sub>	26 mm
Direction of infeed	horizontal, oblique and vertical
Shank	DIN 1835 B to h6
Tolerance nominal Ø	±0.12
Helix angle	30 degrees
Corner chamfer angle	45 degrees
Coating	TiAlN
Tool material	HSS Co 8

Standard	DIN 844
Milling profile	HR
Through-coolant	no
Colour ring	green
Type of product	End / face mill

### User data

	Suitability	V <sub>c</sub>	ISO code
Aluminium (short chipping)	suitable only under restricted conditions	120 m/min	N
Steel < 500 N/mm <sup>2</sup>	suitable	78 m/min	P
Steel < 750 N/mm <sup>2</sup>	suitable	55 m/min	P
Steel < 900 N/mm <sup>2</sup>	suitable	55 m/min	P
Steel < 1100 N/mm <sup>2</sup>	suitable	29 m/min	P
Steel < 1400 N/mm <sup>2</sup>	suitable only under restricted conditions	25 m/min	P
INOX < 900 N/mm <sup>2</sup>	suitable	17 m/min	M
INOX > 900 N/mm <sup>2</sup>	suitable only under restricted conditions	14 m/min	M
GG(G)	suitable only under restricted conditions	46 m/min	K
CuZn	suitable only under restricted conditions	92 m/min	N
Uni	suitable		
wet maximum	suitable		
dry	suitable only under restricted conditions		