

**Garant**
**Roughing end mill with internal cooling, TiAlN, Ø k12 DC: 10mm**

**Order data**

Order number	192910 10
GTIN	4045197108753
Item class	11W

**Description**
**Version:**

**Relief ground fine pitch knuckle form profile.** Centre cutting edge geometry for plunging. For the most demanding metal removal rates.

**Advantage:**

The coolant is fed directly **to the cutting edges**, resulting in **longer tool life** and **complete chip clearance**.

**Technical description**

No. of teeth Z	4
Corner chamfer width at 45°	0.5 mm
Cutting edge Ø D <sub>c</sub>	10 mm
Shank Ø D <sub>s</sub>	10 mm
Overall length L	72 mm
Flute length L <sub>c</sub>	22 mm
Feed f <sub>z</sub> for slot milling in steel < 1100 N/mm <sup>2</sup>	0.025 mm
Direction of infeed	horizontal, oblique and vertical
Shank	DIN 1835 B to h6
Tolerance nominal Ø	k12
Helix angle	30 degrees
Corner chamfer angle	45 degrees

Coating	TiAlN
Tool material	HSS PM
Standard	DIN 844
Milling profile	HR
Spacing of the cutters	unequal spacing
Through-coolant	yes
Colour ring	without
Type of product	End / face mill

### User data

	Suitability	V <sub>c</sub>	ISO code
Aluminium (short chipping)	suitable only under restricted conditions	138 m/min	N
Steel < 500 N/mm <sup>2</sup>	suitable	83 m/min	P
Steel < 750 N/mm <sup>2</sup>	suitable	64 m/min	P
Steel < 900 N/mm <sup>2</sup>	suitable	64 m/min	P
Steel < 1100 N/mm <sup>2</sup>	suitable	37 m/min	P
Steel < 1400 N/mm <sup>2</sup>	suitable	32 m/min	P
INOX < 900 N/mm <sup>2</sup>	suitable	23 m/min	M
INOX > 900 N/mm <sup>2</sup>	suitable only under restricted conditions	18 m/min	M
GG(G)	suitable only under restricted conditions	55 m/min	K
CuZn	suitable only under restricted conditions	110 m/min	N
Uni	suitable		
wet maximum	suitable		