

**Garant**
**Roughing end mill HSS-PM, TiAlN, Ø DC: 12Mmm**

**Order data**

Order number	192645 12M
GTIN	4045197107282
Item class	11W

**Description**
**Version:**
**With relief ground knuckle form profile.**

Up to size 20 with end cutting teeth profile for plunging.

The wide teeth lands permit multiple re-grinding without losing the profile.

**HSS-PM** – For highest demands on metal removal rates.

Sizes 6M to 25M – **MID mills:** dimensions to **factory standard, which is between DIN 844 stub and DIN 844 long.**

Through-coolant: no

Tolerance nominal Ø: js12

No. of teeth Z: 4

Helix angle: 30°

Direction of infeed: horizontal, oblique and vertical

Shank: DIN 1835 B to h6

No. of teeth Z: 4

Flute length  $L_c$ : 40 mm

Overall length L: 97 mm

Shank Ø  $D_s$ : 12 mm

Corner chamfer width at 45°: 0.6 mm

Feed  $f_z$  for slot milling in steel < 750 N/mm<sup>2</sup>: 0.05 mm

**Technical description**

Feed $f_z$ for slot milling in steel < 750 N/mm <sup>2</sup>	0.05 mm
Cutting edge Ø $D_c$	12 mm
No. of teeth Z	4

Corner chamfer width at 45°	0.6 mm
Shank Ø D <sub>s</sub>	12 mm
Overall length L	97 mm
Flute length L <sub>c</sub>	40 mm
Direction of infeed	horizontal, oblique and vertical
Shank	DIN 1835 B to h6
Tolerance nominal Ø	js12
Helix angle	30 °
Corner chamfer angle	45 °
Coating	TiAlN
Tool material	HSS PM
Standard	DIN 844 B
Milling profile	NR
Through-coolant	no
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 only under restricted conditions	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		
dry	suitable		