

**Garant**
**Roughing end mill, uncoated, Ø js12 DC: 20mm**

**Order data**

Order number	192480 20
GTIN	4045197106452
Item class	11W

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

Centre cutting teeth for plunging.

**Universal end mills** for profile milling or for plunging.

**Technical description**

No. of teeth Z	3
Cutting edge Ø D <sub>c</sub>	20 mm
Feed f <sub>z</sub> for slot milling in steel < 750 N/mm <sup>2</sup>	0.031 mm
Shank Ø D <sub>s</sub>	20 mm
Overall length L	141 mm
Flute length L <sub>c</sub>	75 mm
Direction of infeed	horizontal, oblique and vertical
Shank	DIN 1835 B to h6
Tolerance nominal Ø	js12
Helix angle	25 degrees
Corner chamfer angle	90 degrees
Coating	uncoated
Tool material	HSS Co 8
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	83 m/min	N
Steel < 500 N/mm <sup>2</sup>	suitable	28 m/min	P
Steel < 750 N/mm <sup>2</sup>	suitable	23 m/min	P
Steel < 900 N/mm <sup>2</sup>	suitable only under restricted conditions	23 m/min	P
GG(G)	suitable only under restricted conditions	23 m/min	K
CuZn	suitable only under restricted conditions	55 m/min	N
Uni	suitable		
wet maximum	suitable		