

**Garant**
**Roughing end mill, TiAlN, Ø DC: 20mm**

**Order data**

Order number	192710 20
GTIN	
Item class	11W

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

Up to size 20 end cutting teeth profile for plunging.

**Technical description**

No. of teeth Z	4
Feed $f_z$ for slot milling in steel < 750 N/mm <sup>2</sup>	0.06 mm
Corner chamfer width at 45°	0.5 mm
Cutting edge Ø D <sub>c</sub>	20 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	k12
Helix angle	27 degrees
Corner chamfer angle	45 degrees
Coating	TiAlN
Tool material	HSS Co 8

Standard	DIN 844 B
Milling profile	NR
Spacing of the cutters	unequal spacing
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	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
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		