

**Garant**
**Solid carbide torus cutter, uncoated, Ø h6 DC / R1: 20/4,0mm**

**Order data**

Order number	206190 20/4,0
GTIN	4045197591784
Item class	11X

**Description**
**Version:**

**Eccentric relief ground**, additionally **polish ground** in the flutes for **outstanding chip evacuation** in long-chipping aluminium workpieces.

Tolerances:

- **Corner radius**

**$R_1 = 0.5$  tolerance  $\pm 0.02$ .**

**$R_1 > 0.5 - 1.5$  tolerance  $\pm 0.03$ .**

**$R_1 > 1.5$  tolerance  $\pm 0.05$ .**

**Technical description**

Recess Ø $D_1$	19 mm
Overhang length $L_1$ incl. recess	52 mm
Feed $f_z$ for copy milling in short-chipping aluminium	0.13 mm
Cutting edge Ø $D_c$	20 mm
No. of teeth $Z$	3
Feed $f_z$ for side milling in short-chipping aluminium	0.12 mm
Corner radius $R_1$	4 mm
Shank Ø $D_s$	20 mm
Flute length $L_c$	41 mm
Overall length $L$	104 mm
Balance quality with shank	G 2.5 with HA

Shank	DIN 6535 HA to h6
Helix angle	45 degrees
Coating	uncoated
Tool material	Solid carbide
Standard	DIN 6527
Type	W
Tolerance nominal $\varnothing$	h6
Direction of infeed	horizontal, oblique and vertical
Cutting width $a_e$ for milling operation	0.05×D for copy milling
Cutting width $a_e$ for milling operation	0.5×D for side milling
Through-coolant	no
Shank tolerance	h6
Colour ring	yellow
Type of product	Torus cutter

## User data

	Suitability	$V_c$	ISO code
Aluminium	Suitable	180 m/min	N
Aluminium (short chipping)	suitable	140 m/min	N
Alu > 10% Si	suitable	105 m/min	N
PMMA acrylic	Suitable	180 m/min	N
PE-HD	Suitable	130 m/min	N
PA 66	Suitable	150 m/min	N
PEEK	Suitable	130 m/min	N
PF 31	Suitable	110 m/min	N
Cu	Suitable	80 m/min	N
CuZn	Suitable	100 m/min	N
wet maximum	suitable		

wet minimum	Suitable only under restricted conditions
dry	suitable only under restricted conditions
Air	suitable only under restricted conditions
<b>Services</b>	
Shank grinding Type HB	129100 HB