

**Garant**
**Solid carbide torus cutter R1 0.1, DLC, Ø DC × L1: 1X20mm**

**Order data**

Order number	206042 1X20
GTIN	4045197914026
Item class	11X

**Description**
**Version:**

With **advanced DLC sp<sup>2</sup> coating**. For the **highest demands regarding performance and precision in aluminium materials**. **Extremely tight tolerances** ensure maximum accuracy. Double-relief ground with 2 chamfers hollow ground.

**Recess angle  $\alpha = 16^\circ$ .**

Tolerances:

- **Corner radius:  $R_1 = \pm 0.0025$  mm.**
- **Neck  $\varnothing: D_1 = 0 / -0.01$  mm.**

**Note:**

At greater tool overhang lengths, use a reduced value for  $a_p$ !

Values for:

slots milled from solid:  $a_p = 0.25 \times D \times a_{p \text{ korr}}$

side milling:  $a_p = 0.50 \times D \times a_{p \text{ korr}}$

copying:  $a_p = 0.25 \times D \times a_{p \text{ korr}}$

**To calculate the feed rate  $vf$  please use the actual speed of the machine (the maximum possible speed)!**

e.g:  $vf = 18000$  [rpm] ×  $fz$  [mm/Z] ×  $z$

**Technical description**

Feed $f_z$ for side milling in cast aluminium	0.02 mm
Shank $\varnothing D_s$	4 mm
Cutting edge $\varnothing D_c$	1 mm
Overhang length $L_1$ incl. recess	20 mm
Overall length $L$	60 mm

Shank	DIN 6535 HA to h5
Corner radius $R_1$	0.1 mm
Flute length $L_c$	1 mm
Recess $\varnothing D_1$	0.95 mm
Feed $f_z$ for copy milling in cast aluminium	0.02 mm
No. of teeth $Z$	2
Helix angle	30 degrees
Correction factor $a_{p\ corr}$	0.08
Coating	DLC
Tool material	Solid carbide
Standard	Manufacturer's standard
Type	W
Tolerance nominal $\varnothing$	0 / -0.005
Direction of infeed	horizontal, oblique and vertical
Cutting width $a_e$ for milling operation	0.5×D for side milling
Cutting width $a_e$ for milling operation	0.05×D for copy milling
Through-coolant	no
Colour ring	yellow
Type of product	Torus cutter

## User data

	Suitability	$V_c$	ISO code
Aluminium	suitable	480 m/min	N
Aluminium (short chipping)	suitable	400 m/min	N
Alu > 10% Si	suitable	400 m/min	N
PMMA acrylic	Suitable	200 m/min	N
PE-HD	Suitable	160 m/min	N
PA 66	Suitable	200 m/min	N

PEEK	Suitable	150 m/min	N
PF 31	Suitable	130 m/min	N
PVDF GF20	suitable	180 m/min	N
POM GF25	Suitable	160 m/min	N
PA 66 GF30	suitable	150 m/min	N
PEEK GF30	suitable	130 m/min	N
PTFE CF25	suitable	160 m/min	N
Cu	suitable	160 m/min	N
CuZn	suitable	200 m/min	N
wet maximum	suitable		
wet minimum	suitable		
dry	suitable only under restricted conditions		
Air	suitable		