

Garant
Solid carbide torus cutter R1 0.5, Diamond, Ø DC × L1: 1,5X20mm

Order data

Order number	209731 1,5X20
GTIN	4045197919403
Item class	11Y

Description
Version:

With **crystalline diamond sp³ coating**. For the **highest demands regarding performance and precision** in fibre-reinforced composites, CRP, GRP, and graphite. **Extremely tight tolerances** ensure maximum accuracy. Double relief ground with 2 hollow-ground chamfers. **Recess angle $\alpha = 16^\circ$** .

Tolerances:

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

Note:

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

Values for:

copying: $a_p = 0.10 \times D \times a_{p, \text{korr}}$

side milling: $a_p = 0.20 \times D \times a_{p, \text{korr}}$

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

Shank Ø D_s	4 mm
Overhang length L_1 incl. recess	20 mm
Feed f_z for copy milling in graphite	0.025 mm
Recess Ø D_1	1.44 mm
Feed f_z for side milling in graphite	0.025 mm
Corner radius R_1	0.5 mm

Shank	DIN 6535 HA to h5
No. of teeth Z	2
Cutting edge $\varnothing D_c$	1.5 mm
Flute length L_c	1.5 mm
Overall length L	60 mm
Helix angle	30 degrees
Correction factor $a_{p,corr}$	0.35
Coating	Diamond
Tool material	Solid carbide
Standard	Manufacturer's standard
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	black
Type of product	Torus cutter

User data

	Suitability	V_c	ISO code
PVDF GF20	suitable	200 m/min	N
POM GF25	suitable	190 m/min	N
PA 66 GF30	suitable	170 m/min	N
PEEK GF30	suitable	150 m/min	N
PTFE CF25	suitable	180 m/min	N
PEEK CF30	suitable	160 m/min	N
Hybrids	suitable		
Honeycomb sandwich	suitable	350 m/min	N
GRP	suitable	190 m/min	N

GRP, CRP	suitable	190 m/min	N
Graphite	suitable	340 m/min	N
wet minimum	suitable		
dry	suitable		
Air	suitable		