

Garant
Solid carbide torus cutter R1 0.5, Diamond, Ø DC × L1: 3X20mm

Order data

Order number	209731 3X20
GTIN	4045197919649
Item class	10Y

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: $vf = 18000 \text{ [rpm]} \times fz \text{ [mm/Z]} \times z$

Technical description

Cutting edge Ø D_c	3 mm
Shank	DIN 6535 HA to h5
Shank Ø D_s	4 mm
Corner radius R_1	0.5 mm
Recess Ø D_1	2.91 mm
No. of teeth Z	2

Feed f_z for copy milling in graphite	0.035 mm
Feed f_z for side milling in graphite	0.035 mm
Overhang length L_1 incl. recess	20 mm
Overall length L	60 mm
Flute length L_c	4.5 mm
Helix angle	30 degrees
Correction factor $a_{p\text{ corr}}$	0.9
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		