

Garant
Solid carbide torus cutter R1 0.1, DLC, Ø DC × L1: 1X4mm

Order data

Order number	206042 1X4
GTIN	4045197913951
Item class	11X

Description
Version:

With **advanced DLC sp² 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 Ø: $D_1 = 0 / -0.01$ 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: $vf = 18000 \text{ [rpm]} \times fz \text{ [mm/Z]} \times z$

Technical description

Flute length L_c	1 mm
Overhang length L_1 incl. recess	4 mm
Recess Ø D_1	0.95 mm
Overall length L	50 mm
Corner radius R_1	0.1 mm

Shank $\varnothing D_s$	4 mm
Feed f_z for copy milling in cast aluminium	0.03 mm
Feed f_z for side milling in cast aluminium	0.03 mm
Shank	DIN 6535 HA to h5
Cutting edge $\varnothing D_c$	1 mm
No. of teeth Z	2
Helix angle	30 degrees
Correction factor $a_{p\ corr}$	1
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		