

**Garant**
**Solid carbide torus cutter R1 0.05, DLC, Ø DC × L1: 2X20 mm**

**Order data**

Order number	206045 2X20
GTIN	4045197915658
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 Ø:  $D_1 = 0 / -0.01$  mm.**

**Description:**

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

Values for:

ts\_fraes-kopieren fz for  $a_p = 0.25 \times D$

ts\_fraes-besaeumen fz for  $a_n = 0.50 \times D$

ap max ts\_fraes-kopieren :  $a_p \text{ korr} \times 0.25 \times D$  [mm]

ap max ts\_fraes-besaeumen :  $a_p \text{ korr} \times 0.50 \times D$  [mm]

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

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

**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]  $\times$  fz [mm/Z]  $\times$  z

No. of teeth Z: 2

Helix angle: 30 degrees  
 Shank: DIN 6535 HA to h5  
 No. of teeth Z: 2  
 Flute length  $L_c$ : 2 mm  
 Corner radius  $R_1$ : 0.5 mm  
 Overhang length  $L_1$  incl. recess: 20 mm  
 Recess  $\varnothing D_1$ : 1.91 mm  
 Overall length L: 60 mm

## Technical description

Shank	DIN 6535 HA to h5
Shank $\varnothing D_s$	4 mm
Feed $f_z$ for copy milling in cast aluminium	0.03 mm
Recess $\varnothing D_1$	1.91 mm
No. of teeth Z	2
Overhang length $L_1$ incl. recess	20 mm
Flute length $L_c$	2 mm
Corner radius $R_1$	0.5 mm
Cutting edge $\varnothing D_c$	2 mm
Overall length L	60 mm
Feed $f_z$ for side milling in cast aluminium	0.03 mm
Helix angle	30 degrees
Correction factor $a_{p,corr}$	0.5
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	End mill