

**Garant**
**Solid carbide torus cutter R1 0.05, DLC, Ø DC × L1: 1,8X20 mm**

**Order data**

|              |               |
|--------------|---------------|
| Order number | 206042 1,8X20 |
| GTIN         | 4045197914217 |
| 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  $L_c$ : 1.8 mm  
 Corner radius  $R_1$ : 0.1 mm  
 Overhang length  $L_1$  incl. recess: 20 mm  
 Recess  $\varnothing D_1$ : 1.74 mm  
 Overall length L: 55 mm

## Technical description

|   |                                  |
|---|----------------------------------|
| Feed $f_z$ for copy milling in cast aluminium | 0.03 mm                          |
| Shank   | DIN 6535 HA to h5                |
| Overall length L                              | 55 mm                            |
| No. of teeth Z                                | 2                                |
| Recess $\varnothing D_1$                      | 1.74 mm                          |
| Overhang length $L_1$ incl. recess            | 20 mm                            |
| Cutting edge $\varnothing D_c$                | 1.8 mm                           |
| Corner radius $R_1$                           | 0.1 mm                           |
| Feed $f_z$ for side milling in cast aluminium | 0.03 mm                          |
| Flute length $L_c$                            | 1.8 mm                           |
| Shank $\varnothing D_s$                       | 4 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 |