

**Garant**
**GARANT Diabolo solid carbide copy slot drill, TiAlN, Ø Dc × L1: 3X20mm**

**Order data**

Order number	207373 3X20
GTIN	4045197936974
Item class	11X

**Description**
**Version:**
**GARANT Diabolo:**

Special geometry, coating and carbide **for hard machining in the high-performance field.**  
Suitable even for **machining electrolytic copper.**

Recess angle  $\alpha = 16^\circ$ .

Tolerances:

- **Corner radius: Radius contour = 0 / -0.005 mm.**
- **Neck Ø: D<sub>1</sub> = 0 / -0.01 mm.**

**Note:**

At greater tool overhang lengths, use a reduced value for a<sub>p</sub>!  
values for:

copying:  $a_p = 0.05 \times D \times a_{p, \text{korr}}$

**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**

Corner radius R <sub>1</sub>	1.5 mm
Overall length L	55 mm
Overhang length L <sub>1</sub> incl. recess	20 mm
Correction factor a <sub>p, corr</sub>	0.9
Helix angle	30 degrees
Flute length L <sub>c</sub>	3.5 mm
No. of teeth Z	2

Feed $f_z$ for copy milling in steel < 65 HRC	0.03 mm
Recess $\varnothing D_1$	2.92 mm
Shank $\varnothing D_s$	4 mm
Cutting edge $\varnothing D_c$	3 mm
Series	Diabolo
Coating	TiAlN
Tool material	Solid carbide
Standard	Manufacturer's standard
Type	H
Tolerance nominal $\varnothing$	0 / -0,005
Direction of infeed	horizontal, oblique and vertical
Cutting width $a_e$ for milling operation	0.05×D for copy milling
Shank	DIN 6535 HA to h5
Through-coolant	no
Colour ring	red
Type of product	Ball-nosed slot drill

## User data

	Suitability	$V_c$	ISO code
Steel < 750 N/mm <sup>2</sup>	suitable only under restricted conditions	200 m/min	P
Steel < 900 N/mm <sup>2</sup>	suitable only under restricted conditions	200 m/min	P
Steel < 1100 N/mm <sup>2</sup>	suitable	190 m/min	P
Steel < 1400 N/mm <sup>2</sup>	suitable	170 m/min	P
Steel < 50 HRC	suitable	120 m/min	H
Steel < 55 HRC	suitable	100 m/min	H
Steel < 60 HRC	suitable	72 m/min	H
Steel < 65 HRC	suitable	55 m/min	H

Steel < 67 HRC	suitable	50 m/min	H
Steel < 70 HRC	suitable	45 m/min	H
INOX < 900 N/mm <sup>2</sup>	suitable	90 m/min	M
INOX > 900 N/mm <sup>2</sup>	suitable	80 m/min	M
CuZn	suitable	140 m/min	N
wet maximum	suitable only under restricted conditions		
wet minimum	suitable only under restricted conditions		
dry	suitable		
Air	suitable		