

**Garant**
**GARANT Master Steel solid carbide torus cutter HPC, TiAlN, Ø e8 DC / R1:  
12/1,5mm**

**Order data**

Order number	206333 12/1,5
GTIN	4062406276409
Item class	11X

**Description**
**Version:**

HPC milling cutter with **newly developed high-performance coating**. For **outstanding tool life** and **optimum metal removal rates** in a range of materials.

With **double relief ground side clearance angle**.

Tolerance: Corner radius  $R_1$

Radius size 0.1 mm – 1 mm:  $R_1 = \pm 0.003$  mm.

Radius size > 1.0 mm:  $R_1 = \pm 0.005$  mm.

**Application:**

Especially for **high speed machining** in **mould and tool making** for **copy milling**. Excellent results for **dry milling**.

**Note:**

**Successor product to No. 206280.**

**Technical description**

Corner radius $R_1$	1.5 mm
Shank	DIN 6535 HA to h6
Feed $f_z$ for side milling in steel < 1100 N/mm <sup>2</sup>	0.045 mm
No. of teeth Z	5
Overall length L	83 mm
Overhang length $L_1$ incl. recess	38 mm
Cutting edge $\varnothing D_c$	12 mm

Shank $\varnothing D_s$	12 mm
Feed $f_z$ for copy milling in steel < 1100 N/mm <sup>2</sup>	0.05 mm
Helix angle	30 degrees
Flute length $L_c$	12 mm
maximum shank recess dia. $D_6$	11.8 mm
minimum shank recess dia. $D_5$	11 mm
Series	Master Steel
Coating	TiAlN
Tool material	Solid carbide
Standard	Manufacturer's standard
Type	H
Tolerance nominal $\varnothing$	e8
Direction of infeed	horizontal, oblique and vertical
Cutting width $a_e$ for milling operation	0.03×D for copy milling
Cutting width $a_e$ for milling operation	0.2×D for side milling
Through-coolant	no
Machining strategy	HPC
Colour ring	green
Type of product	Torus cutter

## User data

	Suitability	$V_c$	ISO code
Steel < 500 N/mm <sup>2</sup>	suitable only under restricted conditions	200 m/min	P
Steel < 750 N/mm <sup>2</sup>	suitable	170 m/min	P
Steel < 900 N/mm <sup>2</sup>	suitable	120 m/min	P
Steel < 1100 N/mm <sup>2</sup>	suitable	85 m/min	P
Steel < 1400 N/mm <sup>2</sup>	suitable	70 m/min	P
Steel < 55 HRC	suitable	40 m/min	H

INOX < 900 N/mm <sup>2</sup>	suitable	95 m/min	M
INOX > 900 N/mm <sup>2</sup>	suitable	85 m/min	M
GG(G)	suitable	110 m/min	K
Uni	suitable		
wet maximum	suitable		
wet minimum	suitable only under restricted conditions		
dry	suitable		
Air	suitable		
<b>Services</b>			

Shank grinding Type HB

129100 HB