

## Garant

### GARANT Master Alu solid carbide milling cutter with more chip separators TPC, DLC, Ø h6 DC: 12mm



#### Order data

Order number	203113 12
GTIN	4062406245788
Item class	11X

#### Description

##### Version:

**Specially designed for** TPC high-performance milling. **Optimised bending strength** due to the use of ultra-fine grain substrates. **1xD** chip separator for controlled chip breaking.

**Balanced** for very high process reliability and protecting the machine at high speeds.

##### Application:

Especially for milling **aluminium and non-ferrous metals**.

##### Note:

$h_{max}$ : The values stated in the table are maximum values.

$ae_{max} = 0.15 \times D$  for TPC machining.

Tolerance nominal  $\varnothing$ : h6

No. of teeth Z: 4

Helix angle: 38°

Direction of infeed: horizontal and oblique

Shank: DIN 6535 HB to h6

Balance quality with shank: G 2.5 with HB

No. of teeth Z: 4

Flute length  $L_c$ : 36 mm

Overhang length  $L_1$  incl. recess: 45 mm

Recess  $\varnothing D_1$ : 11 mm

Overall length L: 93 mm

Shank  $\varnothing D_s$ : 12 mm

#### Technical description

Cutting edge $\varnothing D_c$	12 mm
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Balance quality with shank	G 2.5 with HB
Average chip thickness $h_{\max}$ for TPC milling in short-chipping aluminium	0.086 mm
Overhang length $L_1$ incl. recess	45 mm
Flute length $L_c$	36 mm
Direction of infeed	horizontal and oblique
Shank	DIN 6535 HB to h6
Helix angle	38 °
Overall length L	93 mm
Recess $\varnothing D_1$	11 mm
Shank form	HB
No. of teeth Z	4
Shank $\varnothing D_s$	12 mm
Tolerance nominal $\varnothing$	h6
Corner rounding $r_v$	0.1 mm
Series	Master Alu
Coating	DLC
Tool material	Solid carbide
Standard	Manufacturer's standard
Type	W
Spacing of the cutters	unequal spacing
Cutting width $a_e$ for milling operation	0.15xD
Through-coolant	no
Machining strategy	TPC
Colour ring	yellow
Type of product	End / face mill

## User data

	Suitability	$V_c$	ISO code
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Aluminium	Suitable	550 m/min	N
Aluminium (short chipping)	suitable	500 m/min	N
Alu > 10% Si	Suitable	450 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
Honeycomb sandwich	suitable only under restricted conditions	300 m/min	N
Cu	Suitable	160 m/min	N
CuZn	suitable	200 m/min	N
wet maximum	Suitable		
wet minimum	Suitable only under restricted conditions		
dry	suitable		
Air	Suitable		