

## Garant

### High-precision countersink with unequal spacing with 3 drive flats 60°, TiAlN, External Ø Dc: 20mm



#### Order data

Order number	150817 20
GTIN	4045197889508
Item class	11M

#### Description

##### Version:

**High-precision 60° countersink with unequal spacing.**

**Special geometry with extremely unequal spacing** and matching cutting edge preparation. Radially relief ground. Flutes ground from solid. Newly developed **special TiAlN coating** for long service life.

Three **drive flats on the shank** for use in a 3-jaw chuck.

##### Advantage:

Very smooth cutting throughout the entire countersinking operation. Chatter-free running for perfect results and **optimum tool service life**.

##### Application:

High-precision countersinks for production of **exactly round 60° countersunk surfaces**.

#### Technical description

Number of cutting edges Z	3
Feed f in steel < 500 N/mm <sup>2</sup>	0.22 mm/rev.
Overall length L	67 mm
Shank Ø D <sub>s</sub>	10 mm
External Ø	20 mm
smallest countersink Ø for holes from	5 mm
Coating	TiAlN

Countersink tip angle	60 degrees
Tool material	HSS
Spacing of the countersink cutting edges	unequal spacing
Standard	DIN 334
Shank	Three clamping flats to h9
Through-coolant	no
Colour ring	green
Type of product	Stepped drill and countersink

### User data

	Suitability	V <sub>c</sub>	ISO code
Alu plastics	suitable	75 m/min	N
Aluminium (short chipping)	suitable	75 m/min	N
Alu > 10% Si	suitable	50 m/min	N
Steel < 500 N/mm <sup>2</sup>	suitable	65 m/min	P
Steel < 750 N/mm <sup>2</sup>	suitable	50 m/min	P
Steel < 900 N/mm <sup>2</sup>	suitable	30 m/min	P
Steel < 1100 N/mm <sup>2</sup>	suitable	18 m/min	P
Steel < 1400 N/mm <sup>2</sup>	suitable	8 m/min	P
Steel < 55 HRC	suitable only under restricted conditions	8 m/min	H
INOX < 900 N/mm <sup>2</sup>	suitable	16 m/min	M
INOX > 900 N/mm <sup>2</sup>	suitable	10 m/min	M
Ti > 850 N/mm <sup>2</sup>	suitable only under restricted conditions	12 m/min	S
GG(G)	suitable	25 m/min	K
CuZn	suitable	60 m/min	N
Graphite, GRP, CRP	suitable only under restricted conditions		

Uni	suitable
wet maximum	suitable
dry	suitable only under restricted conditions