

Garant
High-precision countersink, long 90°, TiAlN, External Ø Dc: 16,5mm

Order data

Order number	150377 16,5
GTIN	4045197868015
Item class	11M

Description
Version:

All countersinks have 3 cutting edges, radially relief ground. Flutes ground from solid. High-precision countersink, produced to tight manufacturing tolerances similar to DIN335-C, **with long plain shank.**

Special geometry with extremely unequal spacing and matching cutting edge preparation. Newly developed, **special TiAlN coating** for long tool life.

Application:

High-precision countersinks for chatter-free production of **precise, round 90° countersunk surfaces.**

Technical description

Overall length L	111 mm
Shank Ø D _s	10 mm
smallest countersink Ø for holes from	3.2 mm
Shank tolerance	h9
Feed f in steel < 500 N/mm ²	0.18 mm/rev.
Pre-drill Ø	3.2 mm
External Ø	16.5 mm
Number of cutting edges Z	3
for countersunk screws DIN 7991	M8

Coating	TiAlN
Countersink tip angle	90 degrees
Tool material	HSS
Spacing of the countersink cutting edges	unequal spacing
Standard	Manufacturer's standard
Shank	Parallel shank to h9
Through-coolant	no
Colour ring	green
Type of product	Stepped drill and countersink

User data

	Suitability	V_c	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 ²	suitable	65 m/min	P
Steel < 750 N/mm ²	suitable	50 m/min	P
Steel < 900 N/mm ²	suitable	30 m/min	P
Steel < 1100 N/mm ²	suitable	18 m/min	P
Steel < 1400 N/mm ²	suitable	8 m/min	P
Steel < 55 HRC	suitable only under restricted conditions	8 m/min	H
INOX < 900 N/mm ²	suitable	16 m/min	M
INOX > 900 N/mm ²	suitable	10 m/min	M
Ti > 850 N/mm ²	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