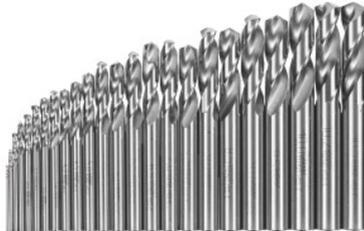


**Garant**

**Stub drill set HSS-E No. 113150, type N as a refill set, without case, uncoated,  
Type: 1-10,5**

**Order data**

Order number	113730 1-10,5
GTIN	4062406264543
Item class	11B

**Description****Version:**

Made up of stub drills No. 113150.  
Particularly robust and strong due to strengthened core.  
Ground flutes, with high concentricity.  
Bright finish.

**Advantage:**

**Ideal for drilling shallow holes (approx. 2 - 4xD)** on NC machines and automatic machines.

Through-coolant: no

Shank: Plain shank

Number of cutting edges Z: 2

Drill range: 1 - 10.5 mm

Number of drills: 24

Tapping hole Ø: 3.3 mm

Tapping hole Ø: 4.2 mm

Tapping hole Ø: 6.8 mm

Tapping hole Ø: 10.2 mm

**Technical description**

Incremental steps of drills	0.5 mm
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Drill range	1 - 10.5 mm
Shank	Plain shank
Tapping hole Ø	3.3 mm
Tapping hole Ø	4.2 mm
Tapping hole Ø	6.8 mm
Tapping hole Ø	10.2 mm
Number of drills	24
Number of cutting edges Z	2
Coating	uncoated
Tool material	HSS E
Standard	DIN 1897
Type	N
Tolerance nominal Ø	h8
Point angle	130 °
Through-coolant	no
with case	no
Colour ring	without
Type of product	Jobber drill

## User data

	Suitability	V <sub>c</sub>	ISO code
Alu plastics	suitable only under restricted conditions	80 m/min	N
Aluminium (short chipping)	suitable only under restricted conditions	45 m/min	N
Alu > 10% Si	suitable only under restricted conditions	50 m/min	N
Steel < 500 N/mm <sup>2</sup>	suitable	40 m/min	P
Steel < 750 N/mm <sup>2</sup>	suitable	30 m/min	P
Steel < 900 N/mm <sup>2</sup>	suitable	25 m/min	P

Steel < 1100 N/mm <sup>2</sup>	suitable only under restricted conditions	10 m/min	P
Steel < 1400 N/mm <sup>2</sup>	suitable only under restricted conditions	8 m/min	P
INOX < 900 N/mm <sup>2</sup>	suitable	12 m/min	M
INOX > 900 N/mm <sup>2</sup>	suitable only under restricted conditions	8 m/min	M
Ti > 850 N/mm <sup>2</sup>	suitable only under restricted conditions	5 m/min	S
GG(G)	suitable	25 m/min	K
CuZn	suitable only under restricted conditions	80 m/min	N
Uni	suitable		
Oil	suitable		
wet maximum	suitable		

## Accessories

Stub drill HSS-E N Ø DC h8 3 mm	113150 3
Stub drill HSS-E N Ø DC h8 1,5 mm	113150 1,5
Stub drill HSS-E N Ø DC h8 8 mm	113150 8
Stub drill HSS-E N Ø DC h8 7 mm	113150 7
Stub drill HSS-E N Ø DC h8 10,5 mm	113150 10,5
Stub drill HSS-E N Ø DC h8 6,5 mm	113150 6,5
Stub drill HSS-E N Ø DC h8 8,5 mm	113150 8,5
Stub drill HSS-E N Ø DC h8 9,5 mm	113150 9,5
Stub drill HSS-E N Ø DC h8 5 mm	113150 5
Stub drill HSS-E N Ø DC h8 9 mm	113150 9
Stub drill HSS-E N Ø DC h8 7,5 mm	113150 7,5
Stub drill HSS-E N Ø DC h8 5,5 mm	113150 5,5
Stub drill HSS-E N Ø DC h8 2 mm	113150 2

Stub drill HSS-E N Ø DC h8 1 mm	113150 1
Stub drill HSS-E N Ø DC h8 4,5 mm	113150 4,5
Stub drill HSS-E N Ø DC h8 2,5 mm	113150 2,5
Stub drill HSS-E N Ø DC h8 3,5 mm	113150 3,5
Stub drill HSS-E N Ø DC h8 6 mm	113150 6
Stub drill HSS-E N Ø DC h8 4 mm	113150 4
Stub drill HSS-E N Ø DC h8 10 mm	113150 10