



# TUBE AND SHEET DRILLS



## Tube and sheet drills

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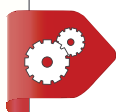
The flutes of the RUKO high performance tube and sheet drills are CBN ground from the solid hardened form. Because CBN (cubical boron nitride) is a much harder abrasive than even silicon carbide or corundum, a better and sharper cutting edge is achieved - without burrs.

And, with higher dimensional precision the drills will last considerably longer while maintaining the precise process tolerances. The ideal tool for sheet metal working in the following sectors of industries: electrical, sanitary engineering, heating technics, automotive, mechanical engineering, switching systems, aviation.

This tough tool is suitable for all standard industrial materials: nonferrous metal, special steel, thermoplastics and duroplastics as well as sheet metals up to 4,0 mm thickness.

This durable and versatile tool will center, spot-drill and bore - all in one smooth, high performance working cycle. By using RUKO cutting spray or RUKO cutting paste tool life will be considerably prolonged.

Special sizes available on request.



- Cooling
- Adjust speed
- Do not press

Hole cutter drill is pulled automatically into the plate.



## Overview of symbols



High-speed steel



Point angle: 118°



Point cut:  
work's specification



bright surface



High-speed steel  
with 5 % Cobalt content,  
ground



Shape C: split point



Ø tolerance:  
work's specification



TiN coating



right hand cutting



Cone angle: 20-30°



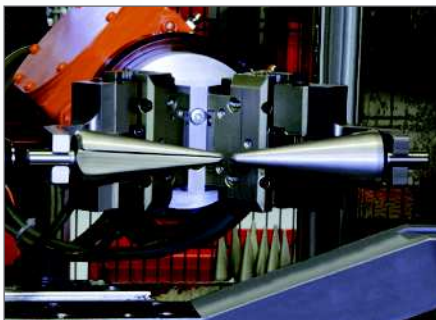
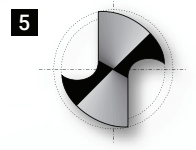
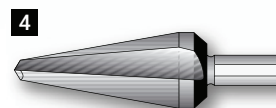
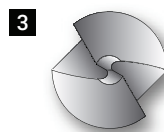
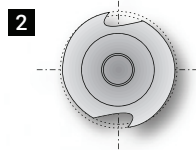
Shank:  
3-way clamping surface



Bit shank:  
6,35 mm x 27,0 mm

## Product Information

- 1 CBN ground flute**  
Because CBN ground flutes have better and sharper cutting edges - without burrs - unlike the conventional milled flutes. This guarantees a superior cutting edge and longer tool life.
- 2 Radially adjusted relief produced by CBN grinding**  
Because radially adjusted relief produced by CBN grinding relates directly to its diameter, the cutting edge is always the highest point of the diameter.
- 3 Flute**  
The straight or spiral flute offers absolute running smoothness and high cutting performance. In the spiral flute non-breaking chips in particular are transported away cleanly as with a spiral drill.
- 4 Cone at the end**  
The cone at the end of these tube and sheet drills makes it easier to withdraw the tool from the material.
- 5 CBN ground bit with split point DIN 1412 C**  
The CBN ground bit ensures centering and spot-drilling even in thin-walled material.



Parts and applications overview:



Material	Surface	Shape	Point angle	Cone angle	Shank	Ø mm	Article no.	Page
HSS						3,0 - 22,5	101 001 - 101 022	101
HSS						3,0 - 22,5	101 001 E - 101 008 E	101
HSSE Co 5						3,0 - 22,5	101 001 T - 101 008 T	101
HSS						5,0 - 22,0	101 049 H	101
HSS						2,0 - 11,8	101 041 - 101 045	103

Steel (N/mm <sup>2</sup> ) < 900	Steel (N/mm <sup>2</sup> ) < 1100	Steel (N/mm <sup>2</sup> ) < 1300	Stainless steel	Aluminium für / for ALU	Brass Cu Zn	Bronze Cu Sn	Plastics	Cast iron	Titanium alloyed Ti
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## Tube and sheet drills HSS and HSSE-Co 5, CBN ground with split point

The CBN ground flutes guarantee quiet running and high cutting performance. The cone makes it easier to withdraw the tool from the material.

Packing unit: in plastic boxes



Steel (N/mm <sup>2</sup> ) < 900	■	■	■		■	■	■	
Steel (N/mm <sup>2</sup> ) < 1100		■			□	□	□	
Steel (N/mm <sup>2</sup> ) < 1300					■	■	■	
Stainless steel		■	□		□	□	□	
Aluminium	■	■						
Brass								
Bronze								
Plastics								
Cast iron								
Titanium alloyed								

Size no.	Ø1 - Ø2 mm	L1 mm	Ø3 mm				
1	3,0 - 14,0	58,0	6,0	101 001	101 001 E	101 001 T	1
2	4,0 - 20,0	71,0	8,0	101 002	101 002 E	101 002 T	1
3	16,0 - 30,5	76,0	9,0	101 003	101 003 E	101 003 T	1
4	24,0 - 40,0	89,0	10,0	101 004	—	101 004 T	1
5	36,0 - 50,0	97,0	12,0	101 005	—	—	1
6	40,0 - 61,0	103,0	13,0	101 006	—	—	1
7	5,0 - 25,4	87,0	10,0	101 007	—	—	1
8	5,0 - 31,0	103,0	9,0	101 008	101 008 E	101 008 T	1
9	5,0 - 22,5	79,0	8,0	101 022	—	—	1



## Tube and sheet drill bits HSS, 1/4", CBN ground with split point

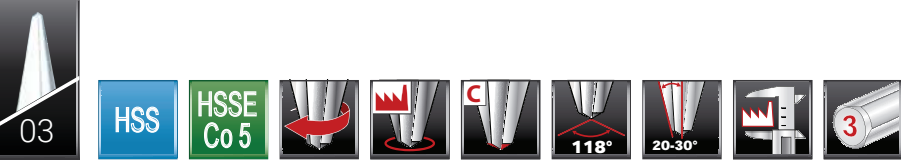
The CBN ground flutes guarantee quiet running and high cutting performance. The cone makes it easier to withdraw the tool from the material.

Packing unit: in plastic boxes






Steel (N/mm <sup>2</sup> ) < 900	■				■		
Steel (N/mm <sup>2</sup> ) < 1100					□		
Steel (N/mm <sup>2</sup> ) < 1300					■		
Stainless steel					□		
Aluminium	■						
Brass							
Bronze							
Plastics							
Cast iron							
Titanium alloyed							

Size no.	Ø1 - Ø2 mm	L1 mm	Ø3 mm	Ø3 inch		
2	5,0 - 20,0	78,0	6,35 x 27,0	1/4"	101 049 H	1






## Tube and sheet drill sets HSS and HSSE-Co 5 in steel case

	HSS 	HSSE Co 5 	HSS 
4-piece set of tube and sheet drills sizes 1, 2, 3 and 1 cutting spray 50 ml in polystyrene case	101 009	—	—
4-piece set of tube and sheet drills sizes 1, 2, 3 and 1 cutting paste 30 g in steel case	101 020	101 020 E	101 020 T



## Tube and sheet drill sets HSS and HSSE-Co 5 in plastic case

	HSS 	HSSE Co 5 	HSS 
4-piece set of tube and sheet drills sizes 1, 2, 3 and 1 cutting paste 30 g	101 020 RO	101 020 ERO	101 020 TRO





## Tube and sheet drills HSS with stopper and spot facer for cavity sealing, CBN ground with split point

The CBN ground flutes guarantee quiet running and high cutting performance.

Packing unit: in plastic boxes

Steel (N/mm2) < 900	■	Brass	■
Steel (N/mm2) < 1100		Bronze	□
Steel (N/mm2) < 1300		Plastics	■
Stainless steel		Cast iron	□
Aluminium	■	Titanium alloyed	

Size no.	Ø1 - Ø2 mm	L1 mm	Ø3 mm	HSS		
1	3,0 - 7,8	48,0	6,0	101 041		1
2	3,0 - 10,2	52,0	6,0	101 042		1
3	3,0 - 11,8	56,0	6,0	101 043		1
5	2,0 - 7,8	48,0	6,0	101 045		1



## Hexagonal magnetic holder

Packing unit: in plastic boxes

	Article no.	
Hexagonal magnetic holder	270 013	1



## Coolants and lubricants

The RUKO coolants and lubricants provide an outstanding separation and cooling effect. They generate a high surface quality and increase the service life of the tools, even with hard and brittle materials.

Suitably aligned to our product range, you will find the coolants and lubricants in our section 14 from page 319.

