



» TUBE AND SHEET DRILLS



Tube and sheet drills

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.



Overview of symbols

 HSS High-speed steel	 Point angle: 118°	 Point cut: work's specification	 bright surface
 HSSE Co 5 High-speed steel with 5 % Cobalt content, ground	 Shape C: split point	 Ø tolerance: work's specification	 TiN 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

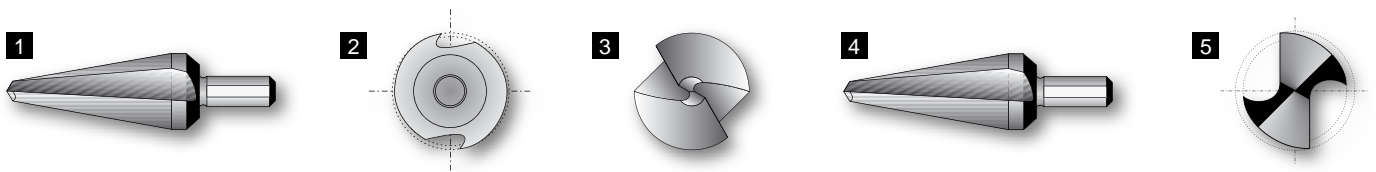
The straight or spiral flute offers absolute running smoothness and high cutting performance. In the spiral flute non-breaking chips in particular are transported away cleanly as with a spiral drill.

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.





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 tubes of 1

Size no.	Ø ₁ - Ø ₂ mm	L ₁ mm	Ø ₃ mm	Article no.	Article no.	Article no.	Cont. pcs.
				HSS	HSSE-Co 5	HSS-TiN	
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 tubes of 1

Size no.	Ø ₁ - Ø ₂ mm	L ₁ mm	Ø ₃ mm	Ø ₃ inch	Article no. HSS	Cont. pcs.
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



101 020



101 020 E



101 020 T



Contents	Article no. HSS	Article no. HSSE-Co 5	Article no. HSS-TIN
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



101 020 RO

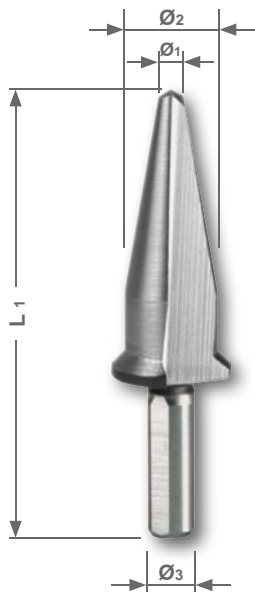


101 020 ERO



101 020 TRO

Contents	Article no. HSS	Article no. HSSE-Co 5	Article no. HSS-TIN
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 box of 1

Size no.	Ø ₁ - Ø ₂ mm	L ₁ mm	Ø ₃ mm	Article no. HSS	Cont. pcs.
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 tubes of 1

Description	Article no.	Cont. pcs.
Hexagonal magnetic holder	270 013	1

Tube and sheet drills - Table of cutting speeds

Material:		High carbon struc. steel up to 700 N/mm ²	High carbon steel over 700 N/mm ²	Alloyed steel over 1000 N/mm ²	Cast iron up to 250 N/mm ²	Cast iron over 250 N/mm ²	CuZn-alloy brittle	CuZn-alloy tough	Al-alloy up to 11% Si	Thermo-plastics	Duro-plastics
Sheet thickness:		up to 4,0	up to 4,0	up to 4,0	up to 4,0	up to 4,0	up to 4,0	up to 4,0	up to 4,0	up to 4,0	up to 4,0
Vc = m/min		30	20	20	15	10	60	35	30	20	15
Cooling lubricant:		Cutting spray	Cutting spray	Cutting spray	Cutting spray	Air	Air	Air	Cutting spray	Water	Air
Size	Ø mm	n = r.p.m.	n = r.p.m.	n = r.p.m.	n = r.p.m.	n = r.p.m.	n = r.p.m.	n = r.p.m.	n = r.p.m.	n = r.p.m.	n = r.p.m.
No. 1	3,0-14,0	3185-682	2123-455	2123-455	1592-341	1062-227	6369-1365	3715-796	3185-682	2123-455	1592-341
No. 2	4,0-20,0	1911-478	1274-318	1274-318	955-239	637-159	3822- 955	2229-557	1911-478	1274-318	955-239
No. 3	16,0-30,5	597-313	398-209	398-209	299-157	199-104	1194- 627	697-365	597-313	398-209	299-157
No. 4	24,0-40,0	398-239	265-159	265-159	199-119	133- 80	796- 478	464-279	398-239	265-159	199-119
No. 5	36,0-50,0	265-191	177-127	177-127	133- 96	88- 64	531- 382	310-223	265-191	177-127	133- 96
No. 6	40,0-61,0	239-157	159-104	159-104	119- 78	80- 52	478- 313	279-183	239-157	159-104	119- 78
No. 7	5,0-25,4	1911-376	1274-251	1274-251	955-188	637-125	3822- 752	2229-439	1911-376	1274-251	955-188
No. 8	5,0-31,0	1911-308	1274-205	1274-205	955-154	637-103	3822- 616	2229-360	1911-308	1274-205	955-154
No. 9	5,0-22,5	1911-425	1274-283	1274-283	955-212	637-142	3822- 849	2229-495	1911-425	1274-283	955-212