HTT
HIGH-TECH TOOLS

DIN338RN

Cobalt 5%

HSS Twist Drill Bit

QUALITY FEATURES

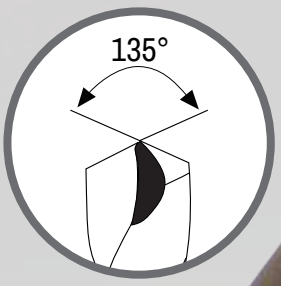
High-quality tools are crucial to processing metals. The exact connection of components requires an accurately produced holes.

Unsmooth or incorrectly produced holes with burrs may cause reworking and the quality is crucially impaired. Therefore, it is paramount to use drill bits produced in compliance with the applicable DIN standards.

This process involves cutting the helix from a round rod. These bits are extremely precise and used for quality work. A cut bit is normally identifiable by its silver colour.

DIN 338 Helical drill bits with cylinder shaft

- Unbeatable in high-alloy steel and stainless steel - the perfect solution for the most challenging drilling
- Made of special HSS steel with 5% cobalt for extremely long life
- Pinpoint centring thanks to split point grinding and 135° point angle
- Precision tool as per DIN 338 RN for outstanding dimensional accuracy of the hole
- Excellent concentricity as per DIN 1414



MANUFACTURING METHOD

Helical grinding

This process involves cutting the helix from a round rod. These bits are extremely precise and used for quality work. A cut bit is normally identifiable by its silver colour.

Materials	HSS-Co
Steel (N/mm²) <900	★★★
Steel (N/mm²) <1100	★★★
Steel (N/mm²) <1300	
Stainless steels	★★★
Aluminium	★★★
Brass	★★★
Bronze	★★
Plastics	★★★
Cast iron	★★★

★★★ Excellent choice
★★ suitable for occassional use

Product group	HSS metal drill bits
Shank	CYL
Product	HSS-Co Cobalt
Sheet metals	★★★
Non-ferrous metals	★★★
Iron	★★★
Cast iron	★★★
Stainless steel	★★★
Steel	★★★
Stainless steel	★★★

★★★ Recommended

TIPS WHEN USING DRILL BITS

Removing chips during drilling
Regularly pulling back (venting) the drill bit, prevents chips from depositing in the helical of the drill bit. If the hole is not vented properly and the chips are not removed, the drill bit will be jammed during the process and may crack.

Guiding the drill
Drilling with a box column drill creates precise holes and a straight progression of the drilling action. Using a hand-held power drill requires accurate navigation.

Material suitability
The sharpness of the drill bit, the cutting capability in metal and plastic, can be maintained over a prolonged period of time if the drill bits are handled with care. Hence, it is important not to use the drills in ceramics, masonry or any other "unsuitable" materials.

Cooling
Drilling into harder materials may cause the tools to heat up. The blade wears progresses more severely and the probability of cracks increases. For a longer service life, it is important to supply a suitable coolant over the entire drilling process.

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Speeds & Feed Speed

Material	Cutting speed	Rotational speed per minute for Ø							Cooling lubricant
		3mm	4mm	6mm	10mm	16mm	25mm	40mm	
Non-alloy construction steel < 700 N/mm²	30m/min	3800	2400	1500	1000	600	400	200	Cooling lubricant emulsion
Non-alloy construction steel > 700 N/mm²	20m/min	2500	1600	1000	600	400	300	200	Cooling lubricant emulsion
Alloy steel < 1000 N/mm²	20m/min	2500	1600	1000	600	400	300	200	Cooling lubricant emulsion
Cast iron	15m/min	1900	1200	800	500	300	200	100	Dry (compressed air)
CuZn alloys	60m/min	7600	4800	3000	1900	1200	800	500	Dry (compressed air)
Al alloys	40m/min	5100	3200	2000	1300	800	500	300	Cooling lubricant emulsion
Thermoplastics	35m/min	4500	2800	1800	1100	700	400	300	Water, compressed air
Thermoset plastics	25m/min	3200	2000	1300	800	500	300	200	Dry (compressed air)

Material	Rotational speed per minute for Ø						
	3mm	4mm	6mm	10mm	16mm	25mm	40mm
Non-alloy construction steel < 700 N/mm²	0.05	0.08	0.12	0.18	0.25	0.32	0.4
Non-alloy construction steel > 700 N/mm²	0.05	0.08	0.12	0.18	0.25	0.32	0.4
Alloy steel < 1000 N/mm²	0.05	0.08	0.12	0.18	0.25	0.32	0.4
Cast iron	0.06	0.1	0.16	0.22	0.3	0.4	0.5
CuZn alloys	0.06	0.1	0.16	0.22	0.3	0.4	0.5
Al alloys	0.08	0.12	0.2	0.28	0.38	0.5	0.63
Thermoplastics	0.08	0.12	0.2	0.28	0.38	0.5	0.63
Thermoset plastics	0.05	0.08	0.12	0.18	0.25	0.32	0.4

ITEM NO.	Diameter (MM)	Overall Length (MM)	Flute Length (MM)
9003380051	0.5	22	6
9003380101	1.0	34	12
9003380151	1.5	40	18
9003380201	2.0	49	24
9003380251	2.5	57	30
9003380301	3.0	61	33
9003380321	3.2	65	36
9003380351	3.5	70	39
9003380401	4.0	75	43
9003380421	4.2	75	43
9003380451	4.5	80	47
9003380501	5.0	86	52
9003380521	5.2	86	52
9003380551	5.5	93	57
9003380601	6.0	93	57
9003380621	6.2	101	63
9003380651	6.5	109	68
9003380701	7.0	109	69
9003380751	7.5	117	75

ITEM NO.	Diameter (MM)	Overall Length (MM)	Flute Length (MM)
9003380801	8.0	117	75
9003380851	8.5	125	81
9003380901	9.0	125	81
9003380951	9.5	133	87
9003381001	10.0	133	87
9003381051	10.5	142	74
9003381101	11.0	142	94
9003381151	11.5	151	101
9003381201	12.0	151	101
9003381251	12.5	151	101
9003381301	13.0	151	101
9003381351	13.5	160	108

ITEM NO.	1/2" REDUCED SHANK	Overall Length (MM)	Flute Length (MM)
9003381401	14.0	160	108
9003381451	14.5	160	108
9003381501	15.0	160	108
9003381551	15.5	178	114
9003381601	16.0	178	114

M35 COABLT DRILL SETS	
	1.5 - 6.5MM (13-PCS)
	1.0 - 10.0MM (19-PCS)
	1.0 - 13.0MM (25-PCS)

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