

NEW

CrazyDrill Cool SST-Inox

NEW



CRAZYDRILL
by Mikron Tool
Cool SST-Inox

DEEP HOLE DRILLING OF STAINLESS STEEL & CO. IN ONE STEP



With CrazyDrill Cool SST-Inox, Mikron Tool introduces a drill for stainless steels, heat-resistant and CrCo alloys in the diameter range of 1.0 mm up to 6.35 mm and depths of 6 x d, 10 x d, 15 x d, 20 x d, 30 x d or 40 x d.

The new tip and flute geometry as well as the shape of the cooling channels (due to this newly designed shape, up to four times more coolant volume reaches the drill tip), in conjunction with the innovative coating form the foundation for drilling in one single step up to a drilling depth of 40 x d with high performance in terms of quality, tool life and machining time.

06

NEW

6 x d 10 x d 15 x d 20 x d 30 x d 40 x d

- Internal cooling
- Coated
- Internal cooling
- Coated
- Internal cooling
- Coated
- Internal cooling
- Coated
- Internal cooling
- Coated
- Internal cooling
- Coated

NEW



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1 | SHANK

The reinforced solid carbide shank guarantees stability, high degree of concentricity and hence maximum drilling precision.

2 | NEW GENERATION OF COOLING CHANNELS

Due to a newly designed shape of helical cooling channels, up to four times more coolant volume reaches the drill tip. The result is continuous and efficient chip removal as well as constant and substantial cooling of cutting edges. A Powerchamber additionally guarantees sufficiently strong coolant flow for smaller diameters up to Ø 2.95 mm.

3 | CARBIDE

A specially developed micro-grain solid carbide allows machining at high speeds.

4 | NEW COATING

The high-performance coating eXedur SNP is heat-resistant and wear-resistant, prevents build up edges and promotes uniform chip flushing. A very long tool life is given.

5 | NEW CHIP FLUTE PROFILE

Divided into two areas:

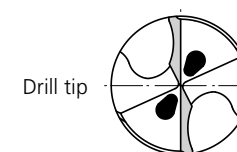
- **Front chip flute area:** a special chip breaker shape ensures compact, short and curved chips.
- **Rear chip flute area:** an extended flute shape ensures perfect chip removal.

6 | POLISHED FLUTES

The polished flutes in versions 15 x d, 20 x d, 30 x d and 40 x d promote uniform chip flushing.

7 | DOUBLE GUIDING MARGIN

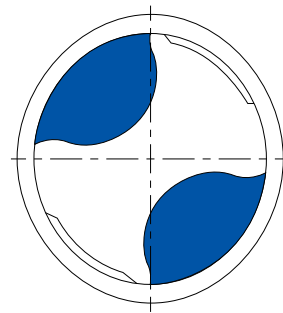
The narrow guiding chamfer ensures the highest degree of precision (straightness) and surface quality.



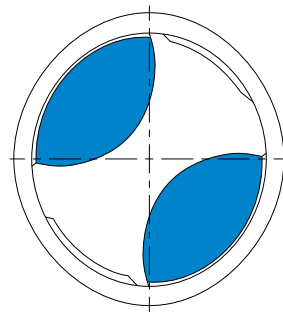
NEW Important features

THE IMPORTANCE OF THE FLUTE PROFILE FOR BEST PERFORMANCE

■ **New flute profile for best chip control: CrazyDrill compared to Conventional drill**
CrazyDrill Cool SST-Inox

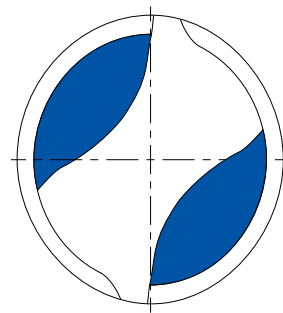


Front chip flute profile
A special chip breaker shape ensures compact, short and curved chips.



Rear chip flute profile
An extended flute shape ensures perfect chips removal.

Conventional drill



One single chip flute profile
A pecking process is necessary due to long chips and difficult evacuation.

■ **Short chips for a perfect evacuation**
CrazyDrill Cool SST-Inox



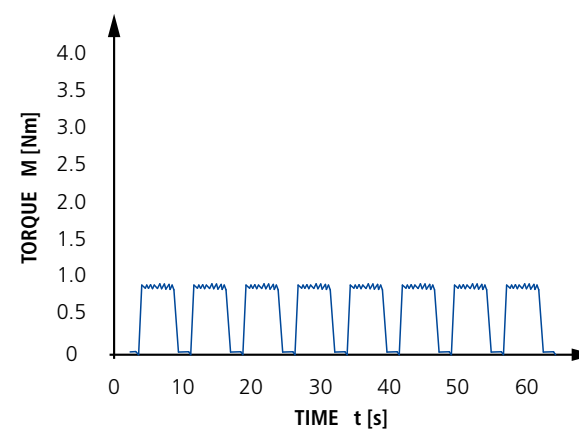
Compact, short and curved chips are easily evacuated and guarantee a long tool life as well as high process reliability.

Conventional drill

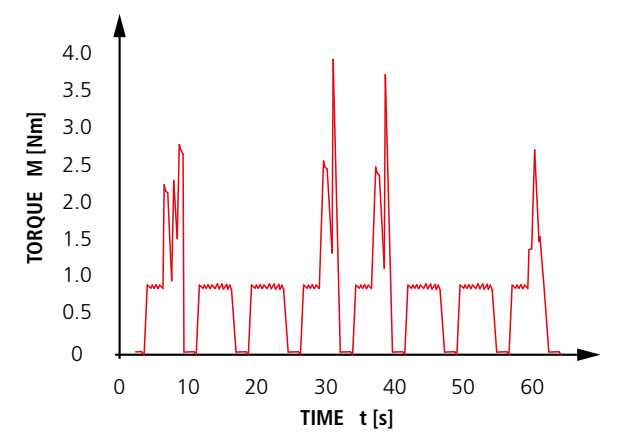


Long chips cause chip jamming and difficult evacuation. This leads to overheating with consequent build up edges. The result is a cutting edge breakout in short time.

■ **Constant torque for a long tool life**
CrazyDrill Cool SST-Inox



Conventional drill



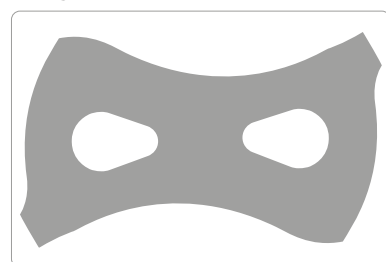
Due to the new flute profile combined with a newly designed shape of helical cooling channels, the torque is kept constant avoiding peaks that lead to unexpected tool breakage. The result is a higher tool life.

NEW Important features

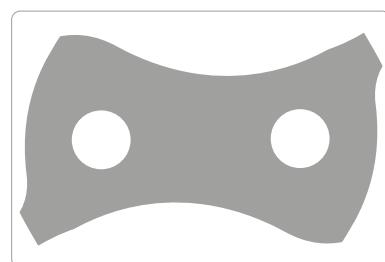
THE IMPORTANCE OF THE COOLING SYSTEM FOR BEST PERFORMANCE

■ Larger cooling channels to avoid overheating

CrazyDrill Cool SST-Inox



Conventional drill



The development of a new design of helical cooling channels was carried out over a 2-stage design cycle: Flow rate analysis and coolant hole design. We enlarged the section of the cooling channels without affecting the mechanical strength of the drill. Up to four times more coolant volume is reached avoiding overheating of the tool and ensuring a perfect chip removal from the cutting area.

■ New drop shape: up to 4 times more flow rate

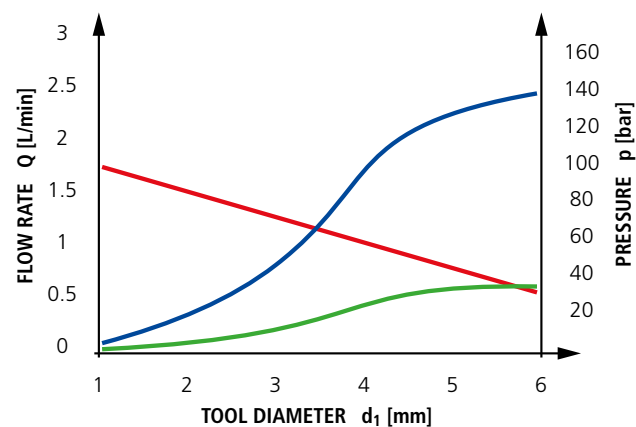


■ Coolant flow rate for new generation channels geometry



■ Coolant flow rate for conventional channels geometry

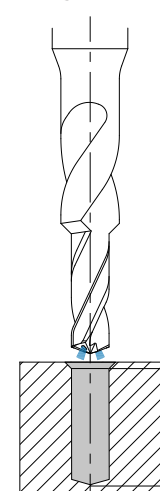
■ Average pressure needed for the new geometry



Due to the new geometry of the helical cooling channels, up to four times more coolant volume reaches the drill tip.

■ Pre-hole for a perfect alignment

CrazyDrill Coolpilot



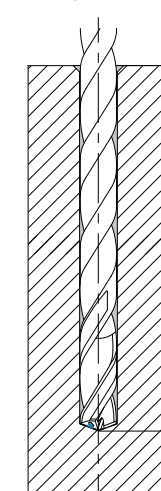
Pilot and short drilling

It is the ideal complement for deep hole drilling.

There is no measurable transition from pilot to follow-up hole due to the perfectly matched tolerance of the tool diameters.

It allows a short drilling up to $3 \times d$ with a simultaneous 90° countersink.

CrazyDrill Cool SST-Inox

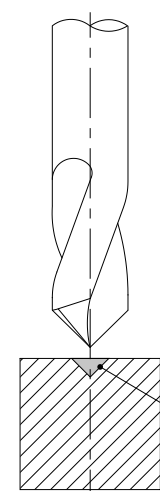


Deep hole drilling

The deep hole up to $40 \times d$ is performed in a single feed stroke due to the new cutting edge geometry and the new coolant duct shape.

Due to the pre-hole machined with CrazyDrill Coolpilot a high position and alignment accuracy is reached as well as a stable machining process.

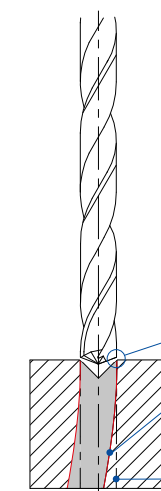
Conventional centering tool



Centering

Centering is not the ideal complement to deep hole drilling, because the follow-up hole could be deviated.

The tip angle of the conventional centering tools (90° or 120°) may cause a breakage of cutting edges, when not matching perfectly with deep hole drills.



The contact of the cutting edges when entering in the center hole may cause breakout and deviation of the drill.

Drill course

Targeted hole

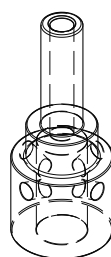
NEW

Benefits and applications



FOR MORE PERFORMANCE IN STAINLESS STEEL AND SUPERALLOYS

- **SHORT MACHINING TIME** | up to 5 times faster
- **LONG TOOL LIFE** | up to 3 times longer
- **HIGH DEGREE OF PROCESS RELIABILITY** | due to greater coolant flow
- **HIGH DEGREE OF PRECISION** | due to double margin



COMPONENT
Nozzle for food industry

MATERIAL
X5CrNi18-10 / 1.4301 / AISI 304

MACHINING

- Drilling
- d = 2.5 mm
- Drilling depth 26 mm

DRILLING TOOL
Mikron Tool - CrazyDrill Cool SST-Inox - 15 x d

DATA	MIKRON TOOL
Tool type	CrazyDrill Cool SST-Inox - Carbide - Coated - Internal cooling
Item number	2.CD.150250.IC
Cutting data	$v_c = 80$ m/min $f = 0.075$ mm/rev $Q_1 = 26$ mm

APPLICATION DOMAINS	COMPONENTS EXAMPLES
Dental	Dental implant
Aerospace industry	Engine parts Spherical joint
Medical technology	Component for endoscope
Automotive industry	Components for gasoline direct injection
Mechanical engineering	Locking bolt
Watches	Watch housing
Hydraulics / Pneumatics	Hydraulic valve
Food industry	Nozzle
Power industry	Blade

MATERIALS GROUPS	EXAMPLES		
	Mat. no.	DIN	AISI / ASTM / UNS
Group M Stainless steel	1.4105	X6CrMoS17	430F
	1.4112	X90CrMoV18	440B
	1.4542	X5CrNiCuNb 16-4	630
	1.4435	X2CrNiMo 18-14-3	316L
Group S1 Super alloys	2.4856		INCONEL 625
	2.4665	NiCr22Fe18Mo	HASTELLOY X
Group S3 CrCo alloys	2.4964	CoCr20W15Ni	HAYNES 25

NEW

Latest innovation for difficult-to-machine materials

THE DRILL WITH THE REVOLUTIONARY GEOMETRY AND COOLING CONCEPT



CrazyDrill Cool SST-Inox is especially developed for stainless steels, and heat-resistant and CrCo alloys. Previously unattained performance is possible due to a new cutting geometry and a new cooling channel shape that guarantees substantial cooling of cutting edges. The new, copper-red coating provides low adhesion to work materials and facilitates an effective drilling process.

The bore with up to a maximum drilling depth of 40 x d is executed in one single step. The tool thereby guarantees optimal chip breaking and outstanding chip removal due to its new cutting geometry and flute profile. In addition, the newly developed drop-shaped cooling channels afford an extremely efficient coolant supply and optimal chip evacuation. New possibilities in terms of cutting speed and tool life become a reality.

Recommendations of Mikron Tool:

- **Version 6 x d** - centering is not necessary on straight surfaces, with its tip angle of 140° and its chisel "s"-form the drill has good self-centering. We recommend pilot drilling or centering only on irregular, rough or inclined surfaces and if a high position accuracy is requested. For details see "drilling process".
- **Version 10 x d, 15 x d, 20 x d, 30 x d and 40 x d** - we recommend pilot drilling with CrazyDrill Coolpilot or CrazyDrill Crosspilot on inclined surfaces. For details see "drilling process".

Coolant type, pressure and filtration

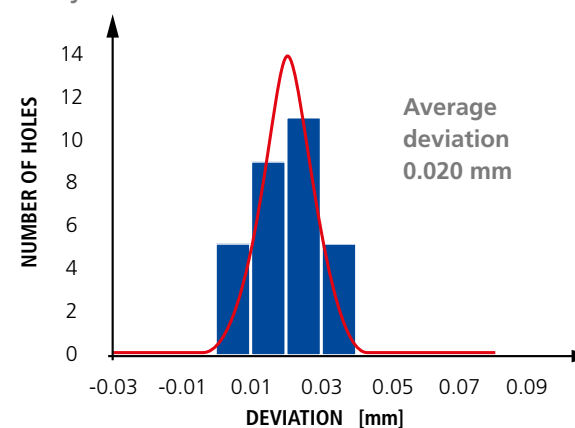
Recommendations for coolant type, pressure and filtration are on page "drilling process".

Please note

You couldn't find your suitable version of the CrazyDrill Cool SST-Inox (diameter, length, cutting direction...)? Ask us about our customized versions!

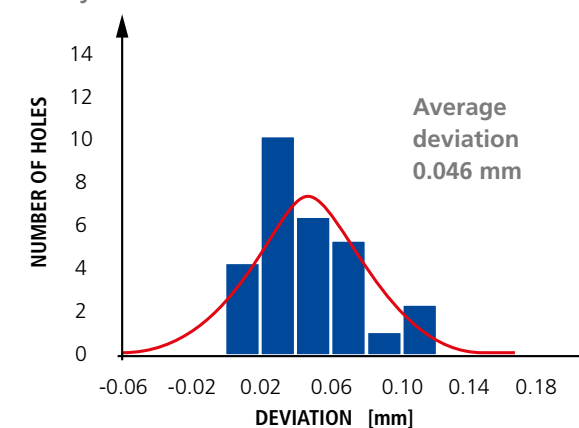
■ Deviation

CrazyDrill Cool SST-Inox 30 x d



Material: X2CrNiMo17-12-2 / 1.4404 / AISI 316L
Diameter: 2.7 mm; Drilling depth: 81 mm;
Step: 1; Coolant: oil; Number of holes: 3x30
Cutting data: $v_c = 80$ m/min; $f = 0.081$ mm/rev

CrazyDrill Cool SST-Inox 40 x d



Material: X2CrNiMo17-12-2 / 1.4404 / AISI 316L
Diameter: 2.7 mm; Drilling depth: 108 mm;
Step: 1; Coolant: oil; Number of holes: 3x30
Cutting data: $v_c = 80$ m/min; $f = 0.081$ mm/rev

■ Surface roughness

CrazyDrill Cool SST-Inox 40 x d

f	Ra exit	Rz exit
[mm/rev]	[µm]	[µm]
0.086	0.331	2.70
0.129	0.388	3.29




Material: X2CrNiMo17-12-2 / 1.4404 / AISI 316L
Diameter: 4.3 mm; Drilling depth: 172 mm; Step: 1; Coolant: oil; Pre-hole: CrazyDrill Coolpilot
Cutting data: $v_c = 80$ m/min; $f_{mid} = 0.086$ mm/rev and $f_{high} = 0.129$ mm/rev

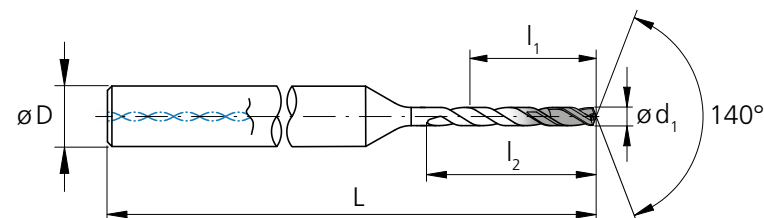
Regrinding: This product can be reground starting from Ø 1.4 mm.

NEW

CrazyDrill Cool SST-Inox 6 x 3

DRILLING WITH INTERNAL COOLING

Carbide			Z2	
Ø d ₁	0.1 - 3.0 mm	3.1 - 6.0 mm	6.1 - 10.0 mm	
Tolerance	+ 0.004 mm 0	+ 0.006 mm + 0.001 mm	+ 0.007 mm + 0.001 mm	



d ₁	d ₁	l ₁	l ₂	D	L	Item number	Availability
[mm]	[inch]	[mm]	[mm]	(h6) [mm]	[mm]		
1.00		6.0	9.0	4	55	2.CD.060100.IC	■
1.05		6.3	9.5	4	55	2.CD.060105.IC	■
1.10		6.6	9.9	4	55	2.CD.060110.IC	■
1.15		6.9	10.4	4	55	2.CD.060115.IC	■
1.20		7.2	10.8	4	57	2.CD.060120.IC	■
1.25		7.5	11.3	4	57	2.CD.060125.IC	■
1.30		7.8	11.7	4	57	2.CD.060130.IC	■
1.35		8.1	12.2	4	57	2.CD.060135.IC	■
1.40		8.4	12.6	4	57	2.CD.060140.IC	■
1.45		8.7	13.1	4	58	2.CD.060145.IC	■
1.50		9.0	13.5	4	58	2.CD.060150.IC	■
1.55		9.3	14.0	4	58	2.CD.060155.IC	■
1.587	1/16	9.6	14.4	4	58	2.CD.060F116.IC	■
1.60		9.6	14.4	4	58	2.CD.060160.IC	■
1.65		9.9	14.9	4	58	2.CD.060165.IC	■
1.70		10.2	15.3	4	60	2.CD.060170.IC	■
1.75		10.5	15.8	4	60	2.CD.060175.IC	■
1.80		10.8	16.2	4	60	2.CD.060180.IC	■
1.85		11.1	16.7	4	60	2.CD.060185.IC	■
1.90		11.4	17.1	4	60	2.CD.060190.IC	■
1.95		11.7	17.6	4	60	2.CD.060195.IC	■
2.00		12.0	18.0	4	63	2.CD.060200.IC	■

d ₁	d ₁	l ₁	l ₂	D	L	Item number	Availability
[mm]	[inch]	[mm]	[mm]	(h6) [mm]	[mm]		
2.05		12.3	18.5	4	63	2.CD.060205.IC	■
2.10		12.6	18.9	4	63	2.CD.060210.IC	■
2.15		12.9	19.4	4	63	2.CD.060215.IC	■
2.20		13.2	19.8	4	63	2.CD.060220.IC	■
2.25		13.5	20.3	4	63	2.CD.060225.IC	■
2.30		13.8	20.7	4	65	2.CD.060230.IC	■
2.35		14.1	21.2	4	65	2.CD.060235.IC	■
2.381	3/32	14.4	21.6	4	65	2.CD.060F332.IC	■
2.40		14.4	21.6	4	65	2.CD.060240.IC	■
2.45		14.7	22.1	4	65	2.CD.060245.IC	■
2.50		15.0	22.5	4	65	2.CD.060250.IC	■
2.55		15.3	23.0	4	65	2.CD.060255.IC	■
2.60		15.6	23.4	4	68	2.CD.060260.IC	■
2.65		15.9	23.9	4	68	2.CD.060265.IC	■
2.70		16.2	24.3	4	68	2.CD.060270.IC	■
2.75		16.5	24.8	4	68	2.CD.060275.IC	■
2.80		16.8	25.2	4	68	2.CD.060280.IC	■
2.85		17.1	25.7	4	68	2.CD.060285.IC	■
2.90		17.4	26.1	4	68	2.CD.060290.IC	■
2.95		17.7	26.6	4	68	2.CD.060295.IC	■
3.00		18.0	27.0	6	74	2.CD.060300.IC	■
3.05		18.3	27.5	6	74	2.CD.060305.IC	■

d ₁	d ₁	l ₁	l ₂	D	L	Item number	Availability
[mm]	[inch]	[mm]	[mm]	(h6) [mm]	[mm]		
3.10		18.6	27.9	6	74	2.CD.060310.IC	■
3.15		18.9	28.4	6	74	2.CD.060315.IC	■
3.175	1/8	19.2	28.8	6	74	2.CD.060F18.IC	■
3.20		19.2	28.8	6	74	2.CD.060320.IC	■
3.25		19.5	29.3	6	74	2.CD.060325.IC	■
3.30		19.8	29.7	6	74	2.CD.060330.IC	■
3.35		20.1	30.2	6	74	2.CD.060335.IC	■
3.40		20.4	30.6	6	74	2.CD.060340.IC	■
3.45		20.7	31.1	6	74	2.CD.060345.IC	■
3.50		21.0	31.5	6	78	2.CD.060350.IC	■
3.55		21.3	32.0	6	78	2.CD.060355.IC	■
3.60		21.6	32.4	6	78	2.CD.060360.IC	■
3.65		21.9	32.9	6	78	2.CD.060365.IC	■
3.70		22.2	33.3	6	78	2.CD.060370.IC	■
3.75		22.5	33.8	6	78	2.CD.060375.IC	■
3.80		22.8	34.2	6	78	2.CD.060380.IC	■
3.85		23.1	34.7	6	78	2.CD.060385.IC	■
3.90		23.4	35.1	6	78	2.CD.060390.IC	■
3.95		23.7	35.6	6	78	2.CD.060395.IC	■
3.968	5/32	24.0	36.0	6	78	2.CD.060F532.IC	■
4.00		24.0	36.0	6	78	2.CD.060400.IC	■
4.10		24.6	36.9	6	80	2.CD.060410.IC	■

d ₁	d ₁	l ₁	l ₂	D	L	Item number	Availability
[mm]	[inch]	[mm]	[mm]	(h6) [mm]	[mm]		
4.20		25.2	37.8	6	80	2.CD.060420.IC	■
4.30		25.8	38.7	6	80	2.CD.060430.IC	■
4.40		26.4	39.6	6	80	2.CD.060440.IC	■
4.50		27.0	40.5	6	80	2.CD.060450.IC	■
4.60		27.6	41.4	6	80	2.CD.060460.IC	■
4.70		28.2	42.3	6	84	2.CD.060470.IC	■
4.762	3/16	28.8	43.2	6	84	2.CD.060F316.IC	■
4.80		28.8	43.2	6	84	2.CD.060480.IC	■
4.90		29.4	44.1	6	84	2.CD.060490.IC	■
5.00		30.0	45.0	6	84	2.CD.060500.IC	■
5.10		30.6	45.9	6	84	2.CD.060510.IC	■
5.20		31.2	46.8	6	84	2.CD.060520.IC	■
5.30		31.8	47.7	6	84	2.CD.060530.IC	■
5.40		32.4	48.6	6	88	2.CD.060540.IC	■
5.50		33.0	49.5	6	88	2.CD.060550.IC	■
5.560	7/32	33.6	50.4	6	88	2.CD.060F732.IC	■
5.60		33.6	50.4	6	88	2.CD.060560.IC	■
5.70		34.2	51.3	6	88	2.CD.060570.IC	■
5.80		34.8	52.2	6	88	2.CD.060580.IC	■
5.90		35.4	53.1	6	88	2.CD.060590.IC	■
6.00		36.0	54.0	6	88	2.CD.060600.IC	■
6.350	1/4	38.1	57.2	8	90	2.CD.060F14.IC	■

■ Stock item

■ Stock item

Complementary products




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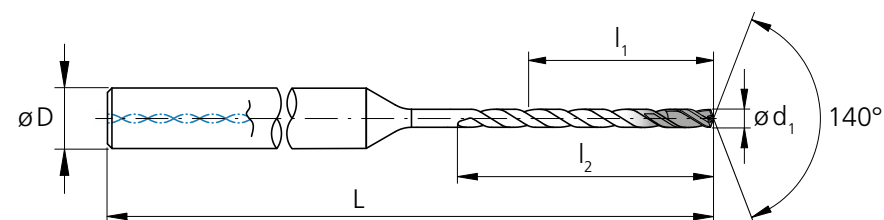
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NEW

CrazyDrill Cool SST-Inox 10 x d

DRILLING WITH INTERNAL COOLING

Carbide			Z2	
Ø d ₁	0.1 - 3.0 mm	3.1 - 6.0 mm	6.1 - 10.0 mm	
Tolerance	+ 0.004 mm 0	+ 0.006 mm + 0.001 mm	+ 0.007 mm + 0.001 mm	



d ₁ [mm]	d ₁ [inch]	l ₁ [mm]	l ₂ [mm]	D (h6) [mm]	L [mm]	Item number	Availability
1.00	10.0	13.0	4	59		2.CD.100100.IC	■
1.05	10.5	13.7	4	59		2.CD.100105.IC	■
1.10	11.0	14.3	4	59		2.CD.100110.IC	■
1.15	11.5	15.0	4	59		2.CD.100115.IC	■
1.20	12.0	15.6	4	62		2.CD.100120.IC	■
1.25	12.5	16.3	4	62		2.CD.100125.IC	■
1.30	13.0	16.9	4	62		2.CD.100130.IC	■
1.35	13.5	17.6	4	62		2.CD.100135.IC	■
1.40	14.0	18.2	4	62		2.CD.100140.IC	■
1.45	14.5	18.9	4	65		2.CD.100145.IC	■
1.50	15.0	19.5	4	65		2.CD.100150.IC	■
1.55	15.5	20.2	4	65		2.CD.100155.IC	■
1.587	1/16	16.0	20.8	4	65	2.CD.100F116.IC	■
1.60	16.0	20.8	4	65		2.CD.100160.IC	■
1.65	16.5	21.5	4	65		2.CD.100165.IC	■
1.70	17.0	22.1	4	67		2.CD.100170.IC	■
1.75	17.5	22.8	4	67		2.CD.100175.IC	■
1.80	18.0	23.4	4	67		2.CD.100180.IC	■
1.85	18.5	24.1	4	67		2.CD.100185.IC	■
1.90	19.0	24.7	4	67		2.CD.100190.IC	■
1.95	19.5	25.4	4	67		2.CD.100195.IC	■
2.00	20.0	26.0	4	70		2.CD.100200.IC	■

■ Stock item

d ₁ [mm]	d ₁ [inch]	l ₁ [mm]	l ₂ [mm]	D (h6) [mm]	L [mm]	Item number	Availability
2.05		20.5	26.7	4	70	2.CD.100205.IC	■
2.10		21.0	27.3	4	70	2.CD.100210.IC	■
2.15		21.5	28.0	4	70	2.CD.100215.IC	■
2.20		22.0	28.6	4	70	2.CD.100220.IC	■
2.25		22.5	29.3	4	70	2.CD.100225.IC	■
2.30		23.0	29.9	4	75	2.CD.100230.IC	■
2.35		23.5	30.6	4	75	2.CD.100235.IC	■
2.381	3/32	24.0	31.2	4	75	2.CD.100F332.IC	■
2.40		24.0	31.2	4	75	2.CD.100240.IC	■
2.45		24.5	31.9	4	75	2.CD.100245.IC	■
2.50		25.0	32.5	4	75	2.CD.100250.IC	■
2.55		25.5	33.2	4	75	2.CD.100255.IC	■
2.60		26.0	33.8	4	80	2.CD.100260.IC	■
2.65		26.5	34.5	4	80	2.CD.100265.IC	■
2.70		27.0	35.1	4	80	2.CD.100270.IC	■
2.75		27.5	35.8	4	80	2.CD.100275.IC	■
2.80		28.0	36.4	4	80	2.CD.100280.IC	■
2.85		28.5	37.1	4	80	2.CD.100285.IC	■
2.90		29.0	37.7	4	80	2.CD.100290.IC	■
2.95		29.5	38.4	4	80	2.CD.100295.IC	■
3.00		30.0	39.0	6	87	2.CD.100300.IC	■
3.05		30.5	39.7	6	87	2.CD.100305.IC	■

d ₁ [mm]	d ₁ [inch]	l ₁ [mm]	l ₂ [mm]	D (h6) [mm]	L [mm]	Item number	Availability
3.10		31.0	40.3	6	87	2.CD.100310.IC	■
3.15		31.5	41.0	6	87	2.CD.100315.IC	■
3.175	1/8	32.0	41.6	6	87	2.CD.100F18.IC	■
3.20		32.0	41.6	6	87	2.CD.100320.IC	■
3.25		32.5	42.3	6	87	2.CD.100325.IC	■
3.30		33.0	42.9	6	87	2.CD.100330.IC	■
3.35		33.5	43.6	6	87	2.CD.100335.IC	■
3.40		34.0	44.2	6	87	2.CD.100340.IC	■
3.45		34.5	44.9	6	87	2.CD.100345.IC	■
3.50		35.0	45.5	6	95	2.CD.100350.IC	■
3.55		35.5	46.2	6	95	2.CD.100355.IC	■
3.60		36.0	46.8	6	95	2.CD.100360.IC	■
3.65		36.5	47.5	6	95	2.CD.100365.IC	■
3.70		37.0	48.1	6	95	2.CD.100370.IC	■
3.75		37.5	48.8	6	95	2.CD.100375.IC	■
3.80		38.0	49.4	6	95	2.CD.100380.IC	■
3.85		38.5	50.1	6	95	2.CD.100385.IC	■
3.90		39.0	50.7	6	95	2.CD.100390.IC	■
3.95		39.5	51.4	6	95	2.CD.100395.IC	■
3.968	5/32	40.0	52.0	6	95	2.CD.100F532.IC	■
4.00		40.0	52.0	6	95	2.CD.100400.IC	■
4.10		41.0	53.3	6	100	2.CD.100410.IC	■

■ Stock item

d ₁ [mm]	d ₁ [inch]	l ₁ [mm]	l ₂ [mm]	D (h6) [mm]	L [mm]	Item number	Availability
4.20		42.0	54.6	6	100	2.CD.100420.IC	■
4.30		43.0	55.9	6	100	2.CD.100430.IC	■
4.40		44.0	57.2	6	100	2.CD.100440.IC	■
4.50		45.0	58.5	6	100	2.CD.100450.IC	■
4.60		46.0	59.8	6	100	2.CD.100460.IC	■
4.70		47.0	61.1	6	105	2.CD.100470.IC	■
4.762	3/16	48.0	62.4	6	105	2.CD.100F316.IC	■
4.80		48.0	62.4	6	105	2.CD.100480.IC	■
4.90		49.0	63.7	6	105	2.CD.100490.IC	■
5.00		50.0	65.0	6	105	2.CD.100500.IC	■
5.10		51.0	66.3	6	105	2.CD.100510.IC	■
5.20		52.0	67.6	6	105	2.CD.100520.IC	■
5.30		53.0	68.9	6	105	2.CD.100530.IC	■
5.40		54.0	70.2	6	112	2.CD.100540.IC	■
5.50		55.0	71.5	6	112	2.CD.100550.IC	■
5.560	7/32	56.0	72.8	6	112	2.CD.100F732.IC	■
5.60		56.0	72.8	6	112	2.CD.100560.IC	■
5.70		57.0	74.1	6	112	2.CD.100570.IC	■
5.80		58.0	75.4	6	112	2.CD.100580.IC	■
5.90		59.0	76.7	6	112	2.CD.100590.IC	■
6.00		60.0	78.0	6	112	2.CD.100600.IC	■
6.350	1/4	63.5	82.6	8	116	2.CD.100F14.IC	■

Complementary products




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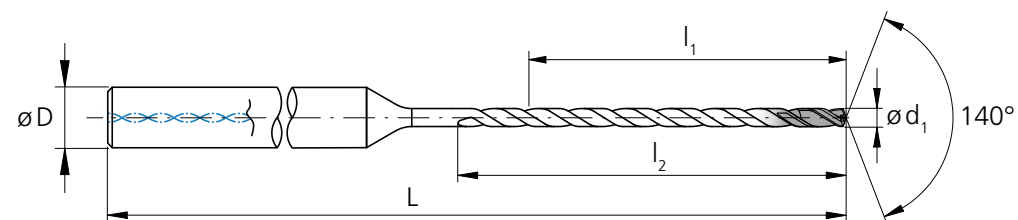
CrazyDrill Crosspilot p.175

NEW

CrazyDrill Cool SST-Inox 15 x d

DRILLING WITH INTERNAL COOLING

Carbide			
	15xd ₁	140°	eXedur SNP
Ø d ₁	0.1 - 3.0 mm	3.1 - 6.0 mm	6.1 - 10.0 mm
Tolerance	+ 0.004 mm 0	+ 0.006 mm + 0.001 mm	+ 0.007 mm + 0.001 mm



d ₁	d ₁	l ₁	l ₂	D	L	Item number	Availability
[mm]	[inch]	[mm]	[mm]	(h6) [mm]	[mm]		
1.00	15.00	18.5	4	62		2.CD.150100.IC	■
1.05	15.75	19.4	4	62		2.CD.150105.IC	■
1.10	16.50	20.4	4	62		2.CD.150110.IC	■
1.15	17.25	21.3	4	62		2.CD.150115.IC	■
1.20	18.00	22.2	4	64		2.CD.150120.IC	■
1.25	18.75	23.1	4	64		2.CD.150125.IC	■
1.30	19.50	24.1	4	66		2.CD.150130.IC	■
1.35	20.25	25.0	4	66		2.CD.150135.IC	■
1.40	21.00	25.9	4	68		2.CD.150140.IC	■
1.45	21.75	26.8	4	70		2.CD.150145.IC	■
1.50	22.50	27.8	4	70		2.CD.150150.IC	■
1.55	23.25	28.7	4	75		2.CD.150155.IC	■
1.587	1/16	24.00	29.6	4	75	2.CD.150F116.IC	■
1.60	24.00	29.6	4	75		2.CD.150160.IC	■
1.65	24.75	30.5	4	75		2.CD.150165.IC	■
1.70	25.50	31.5	4	76		2.CD.150170.IC	■
1.75	26.25	32.4	4	76		2.CD.150175.IC	■
1.80	27.00	33.3	4	76		2.CD.150180.IC	■
1.85	27.75	34.2	4	76		2.CD.150185.IC	■
1.90	28.50	35.2	4	80		2.CD.150190.IC	■
1.95	29.25	36.1	4	80		2.CD.150195.IC	■
2.00	30.00	37.0	4	80		2.CD.150200.IC	■

■ Stock item

d ₁	d ₁	l ₁	l ₂	D	L	Item number	Availability
[mm]	[inch]	[mm]	[mm]	(h6) [mm]	[mm]		
2.05	30.75	37.9	4	80		2.CD.150205.IC	■
2.10	31.50	38.9	4	80		2.CD.150210.IC	■
2.15	32.25	39.8	4	85		2.CD.150215.IC	■
2.20	33.00	40.7	4	85		2.CD.150220.IC	■
2.25	33.75	41.6	4	85		2.CD.150225.IC	■
2.30	34.50	42.6	4	86		2.CD.150230.IC	■
2.35	35.25	43.5	4	86		2.CD.150235.IC	■
2.381	3/32	36.00	44.4	4	86	2.CD.150F332.IC	■
2.40	36.00	44.4	4	86		2.CD.150240.IC	■
2.45	36.75	45.3	4	86		2.CD.150245.IC	■
2.50	37.50	46.3	4	90		2.CD.150250.IC	■
2.55	38.25	47.2	4	90		2.CD.150255.IC	■
2.60	39.00	48.1	4	90		2.CD.150260.IC	■
2.65	39.75	49.0	4	90		2.CD.150265.IC	■
2.70	40.50	50.0	4	92		2.CD.150270.IC	■
2.75	41.25	50.9	4	92		2.CD.150275.IC	■
2.80	42.00	51.8	4	94		2.CD.150280.IC	■
2.85	42.75	52.7	4	94		2.CD.150285.IC	■
2.90	43.50	53.7	4	98		2.CD.150290.IC	■
2.95	44.25	54.6	4	98		2.CD.150295.IC	■
3.00	45.00	55.5	6	100		2.CD.150300.IC	■
3.05	45.75	56.4	6	100		2.CD.150305.IC	■

d ₁	d ₁	l ₁	l ₂	D	L	Item number	Availability
[mm]	[inch]	[mm]	[mm]	(h6) [mm]	[mm]		
3.10	46.50	57.4	6	102		2.CD.150310.IC	■
3.15	47.25	58.3	6	102		2.CD.150315.IC	■
3.175	1/8	48.00	59.2	6	106	2.CD.150F18.IC	■
3.20	48.00	59.2	6	106		2.CD.150320.IC	■
3.25	48.75	60.1	6	106		2.CD.150325.IC	■
3.30	49.50	61.1	6	106		2.CD.150330.IC	■
3.35	50.25	62.0	6	106		2.CD.150335.IC	■
3.40	51.00	62.9	6	106		2.CD.150340.IC	■
3.45	51.75	63.8	6	106		2.CD.150345.IC	■
3.50	52.50	64.8	6	108		2.CD.150350.IC	■
3.55	53.25	65.7	6	108		2.CD.150355.IC	■
3.60	54.00	66.6	6	110		2.CD.150360.IC	■
3.65	54.75	67.5	6	110		2.CD.150365.IC	■
3.70	55.50	68.5	6	112		2.CD.150370.IC	■
3.75	56.25	69.4	6	112		2.CD.150375.IC	■
3.80	57.00	70.3	6	116		2.CD.150380.IC	■
3.85	57.75	71.2	6	116		2.CD.150385.IC	■
3.90	58.50	72.2	6	116		2.CD.150390.IC	■
3.95	59.25	73.1	6	116		2.CD.150395.IC	■
3.968	5/32	60.00	74.0	6	116	2.CD.150F532.IC	■
4.00	60.00	74.0	6	116		2.CD.150400.IC	■
4.10	61.50	75.9	6	118		2.CD.150410.IC	■

■ Stock item

d ₁	d ₁	l ₁	l ₂	D	L	Item number	Availability
[mm]	[inch]	[mm]	[mm]	(h6) [mm]	[mm]		
4.20	63.00	77.7	6	120		2.CD.150420.IC	■
4.30	64.50	79.6	6	122		2.CD.150430.IC	■
4.40	66.00	81.4	6	126		2.CD.150440.IC	■
4.50	67.50	83.3	6	126		2.CD.150450.IC	■
4.60	69.00	85.1	6	126		2.CD.150460.IC	■
4.70	70.50	87.0	6	129		2.CD.150470.IC	■
4.762	3/16	72.00	88.8	6	131	2.CD.150F316.IC	■
4.80	72.00	88.8	6	131		2.CD.150480.IC	■
4.90	73.50	90.7	6	133		2.CD.150490.IC	■
5.00	75.00	92.5	6	135		2.CD.150500.IC	■
5.10	76.50	94.4	6	137		2.CD.150510.IC	■
5.20	78.00	96.2	6	141		2.CD.150520.IC	■
5.30	79.50	98.1	6	141		2.CD.150530.IC	■
5.40	81.00	99.9	6	141		2.CD.150540.IC	■
5.50	82.50	101.8	6	143		2.CD.150550.IC	■
5.560	7/32	84.00	103.6	6	145	2.CD.150F732.IC	■
5.60	84.00	103.6	6	145		2.CD.150560.IC	■
5.70	85.50	105.5	6	147		2.CD.150570.IC	■
5.80	87.00	107.3	6	151		2.CD.150580.IC	■
5.90	88.50	109.2	6	151		2.CD.150590.IC	■
6.00	90.00	111.0	6	151		2.CD.150600.IC	■
6.350	1/4	95.30	117.5	8	157	2.CD.150F14.IC	■




Complementary products

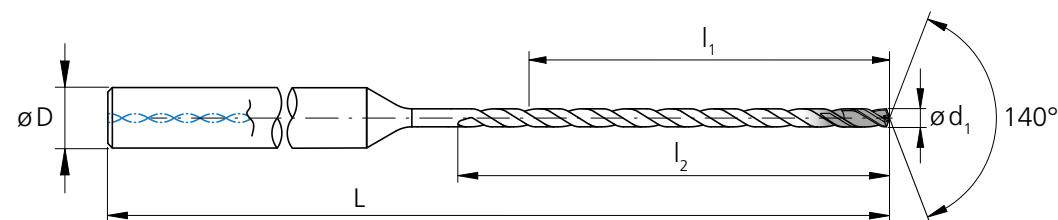
CrazyDrill Coolpilot p.189
CrazyDrill Crosspilot p.175

NEW

CrazyDrill Cool SST-Inox 20 x d

DRILLING WITH INTERNAL COOLING

Carbide			Z2	
Ø d ₁	0.1 - 3.0 mm	3.1 - 6.0 mm	6.1 - 10.0 mm	
Tolerance	+ 0.004 mm 0	+ 0.006 mm + 0.001 mm	+ 0.007 mm + 0.001 mm	



d ₁	d ₁	l ₁	l ₂	D	L	Item number	Availability
[mm]	[inch]	[mm]	[mm]	(h6) [mm]	[mm]		
1.00	20.0	23.5	4	70		2.CD.200100.IC	■
1.05	21.0	24.7	4	70		2.CD.200105.IC	Δ
1.10	22.0	25.9	4	70		2.CD.200110.IC	■
1.15	23.0	27.0	4	70		2.CD.200115.IC	Δ
1.20	24.0	28.2	4	70		2.CD.200120.IC	■
1.25	25.0	29.4	4	70		2.CD.200125.IC	Δ
1.30	26.0	30.6	4	75		2.CD.200130.IC	■
1.35	27.0	31.7	4	75		2.CD.200135.IC	Δ
1.40	28.0	32.9	4	75		2.CD.200140.IC	■
1.45	29.0	34.1	4	78		2.CD.200145.IC	Δ
1.50	30.0	35.3	4	78		2.CD.200150.IC	■
1.55	31.0	36.4	4	78		2.CD.200155.IC	Δ
1.587	1/16	32.0	37.6	4	82	2.CD.200F116.IC	■
1.60	32.0	37.6	4	82		2.CD.200160.IC	■
1.65	33.0	38.8	4	82		2.CD.200165.IC	Δ
1.70	34.0	40.0	4	85		2.CD.200170.IC	■
1.75	35.0	41.1	4	85		2.CD.200175.IC	Δ
1.80	36.0	42.3	4	85		2.CD.200180.IC	■
1.85	37.0	43.5	4	88		2.CD.200185.IC	Δ
1.90	38.0	44.7	4	88		2.CD.200190.IC	■
1.95	39.0	45.8	4	88		2.CD.200195.IC	Δ
2.00	40.0	47.0	4	90		2.CD.200200.IC	■

d ₁	d ₁	l ₁	l ₂	D	L	Item number	Availability
[mm]	[inch]	[mm]	[mm]	(h6) [mm]	[mm]		
2.05	41.0	48.2	4	90		2.CD.200205.IC	Δ
2.10	42.0	49.4	4	93		2.CD.200210.IC	■
2.15	43.0	50.5	4	93		2.CD.200215.IC	Δ
2.20	44.0	51.7	4	95		2.CD.200220.IC	■
2.25	45.0	52.9	4	95		2.CD.200225.IC	Δ
2.30	46.0	54.1	4	98		2.CD.200230.IC	■
2.35	47.0	55.2	4	98		2.CD.200235.IC	Δ
2.381	3/32	48.0	56.4	4	98	2.CD.200F332.IC	■
2.40	48.0	56.4	4	98		2.CD.200240.IC	■
2.45	49.0	57.6	4	100		2.CD.200245.IC	Δ
2.50	50.0	58.8	4	100		2.CD.200250.IC	■
2.55	51.0	59.9	4	102		2.CD.200255.IC	Δ
2.60	52.0	61.1	4	104		2.CD.200260.IC	■
2.65	53.0	62.3	4	104		2.CD.200265.IC	Δ
2.70	54.0	63.5	4	104		2.CD.200270.IC	■
2.75	55.0	64.6	4	106		2.CD.200275.IC	Δ
2.80	56.0	65.8	4	106		2.CD.200280.IC	■
2.85	57.0	67.0	4	108		2.CD.200285.IC	Δ
2.90	58.0	68.2	4	108		2.CD.200290.IC	■
2.95	59.0	69.3	4	110		2.CD.200295.IC	Δ
3.00	60.0	70.5	6	116		2.CD.200300.IC	■
3.05	61.0	71.7	6	116		2.CD.200305.IC	Δ

d ₁	d ₁	l ₁	l ₂	D	L	Item number	Availability
[mm]	[inch]	[mm]	[mm]	(h6) [mm]	[mm]		
3.10	62.0	72.9	6	118		2.CD.200310.IC	■
3.15	63.0	74.0	6	118		2.CD.200315.IC	Δ
3.175	1/8	64.0	75.2	6	120	2.CD.200F18.IC	■
3.20	64.0	75.2	6	120		2.CD.200320.IC	■
3.25	65.0	76.4	6	120		2.CD.200325.IC	Δ
3.30	66.0	77.6	6	122		2.CD.200330.IC	■
3.35	67.0	78.7	6	122		2.CD.200335.IC	Δ
3.40	68.0	79.9	6	126		2.CD.200340.IC	■
3.45	69.0	81.1	6	126		2.CD.200345.IC	Δ
3.50	70.0	82.3	6	126		2.CD.200350.IC	■
3.55	71.0	83.4	6	126		2.CD.200355.IC	Δ
3.60	72.0	84.6	6	128		2.CD.200360.IC	■
3.65	73.0	85.8	6	128		2.CD.200365.IC	Δ
3.70	74.0	87.0	6	130		2.CD.200370.IC	■
3.75	75.0	88.1	6	130		2.CD.200375.IC	Δ
3.80	76.0	89.3	6	132		2.CD.200380.IC	■
3.85	77.0	90.5	6	132		2.CD.200385.IC	Δ
3.90	78.0	91.7	6	136		2.CD.200390.IC	■
3.95	79.0	92.8	6	136		2.CD.200395.IC	Δ
3.968	5/32	80.0	94.0	6	136	2.CD.200F532.IC	■
4.00	80.0	94.0	6	136		2.CD.200400.IC	■
4.10	82.0	96.4	6	141		2.CD.200410.IC	■

d ₁	d ₁	l ₁	l ₂	D	L	Item number	Availability
[mm]	[inch]	[mm]	[mm]	(h6) [mm]	[mm]		
4.20	84.0	98.7	6	143		2.CD.200420.IC	■
4.30	86.0	101.1	6	145		2.CD.200430.IC	■
4.40	88.0	103.4	6	147		2.CD.200440.IC	■
4.50	90.0	105.8	6	151		2.CD.200450.IC	■
4.60	92.0	108.1	6	151		2.CD.200460.IC	■
4.70	94.0	110.5	6	154		2.CD.200470.IC	■
4.762	3/16	96.0	112.8	6	156	2.CD.200F316.IC	■
4.80	96.0	112.8	6	156		2.CD.200480.IC	■
4.90	98.0	115.2	6	158		2.CD.200490.IC	■
5.00	100.0	117.5	6	160		2.CD.200500.IC	■
5.10	102.0	119.9	6	162		2.CD.200510.IC	■
5.20	104.0	122.2	6	166		2.CD.200520.IC	■
5.30	106.0	124.6	6	166		2.CD.200530.IC	■
5.40	108.0	126.9	6	171		2.CD.200540.IC	■
5.50	110.0	129.3	6	173		2.CD.200550.IC	■
5.560	7/32	112.0	131.6	6	175	2.CD.200F732.IC	■
5.60	112.0	131.6	6	175		2.CD.200560.IC	■
5.70	114.0	134.0	6	177		2.CD.200570.IC	■
5.80	116.0	136.3	6	181		2.CD.200580.IC	■
5.90	118.0	138.7	6	181		2.CD.200590.IC	■
6.00	120.0	141.0	6	181		2.CD.200600.IC	■
6.350	1/4	127.0	149.2	8	188	2.CD.200F14.IC	■

■ Stock item
Δ Delivery term upon request,
minimum purchase order quantity 3 pcs.

■ Stock item
Δ Delivery term upon request,
minimum purchase order quantity 3 pcs.

Complementary products
CrazyDrill Coolpilot p.189
CrazyDrill Crosspilot p.175

NEW

Drilling process CrazyDrill Cool SST-Inox

ACCURATE AND QUICK DRILLING UP TO 40 X D

Coolant type, pressure and filtration

Coolant type

For best results, Mikron Tool recommends the use of cutting oil as coolant fluid. Alternatively, emulsion of 8% or more with EP-Additives (Extreme-Pressure-Additives) can be used with good results as well.

Filtration: Good filter quality is very important when using through coolant drills. Dirt particles or residual chips can clog the coolant holes and consequently reduce dramatically the flowrate.

The following filter qualities must be adhered especially in small diameters:

- Drill with $\varnothing < 2$ mm filter quality ≤ 0.010 mm.
- Drill with $\varnothing < 3$ mm filter quality ≤ 0.020 mm.
- Drill with $\varnothing < 6.35$ mm filter quality ≤ 0.050 mm.

Coolant pressure: At least the coolant pressure mentioned in the chart is required for the CrazyDrill Cool SST-Inox to achieve reliable drilling. High pressure is generally better for the cooling and flushing effect.

Ø d, Tool	[mm]	1.0 mm - 2.0 mm		2.0 mm - 4.0 mm		4.0 mm - 6.35 mm	
		6 - 10 x d	15 - 30 x d	6 - 10 x d	15 - 40 x d	6 - 10 x d	15 - 40 x d
Minimal pressure	[bar]	40	65	30	50	30	40

CrazyDrill Cool SST-Inox 6 x d

Because of the high degree of self-centering capability, CrazyDrill Cool SST-Inox can be used on regular and straight surfaces without a centering or pilot hole.

Higher requirements: For irregular, respectively rough or inclined surfaces or for the highest degree of position accuracy, Mikron Tool recommends:

- CrazyDrill Coolpilot as pilot drill
- CrazyDrill Crosspilot as pilot drill for inclined surfaces

CrazyDrill Cool SST-Inox versions 10 x d, 15 x d, 20 x d, 30 x d and 40 x d

We recommend pilot drilling with CrazyDrill Coolpilot or CrazyDrill Crosspilot on inclined surfaces.

Pilot drilling and drilling

Pilot drilling with CrazyDrill Coolpilot or CrazyDrill Crosspilot (on inclined surfaces) is the perfect starting point for accurate drilling (position and alignment accuracy). The drilling quality (no measurable transition from pilot drilling to follow-up drilling) is guaranteed due to predetermined tool tolerances.

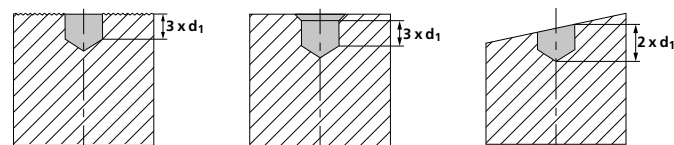
NEW

Drilling process CrazyDrill Cool SST-Inox

ACCURATE AND QUICK DRILLING UP TO 20 X D

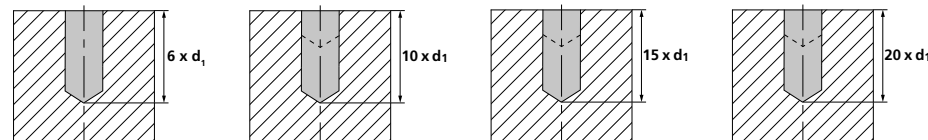
1 | PILOT DRILLING

- Turn on internal coolant.
- With CrazyDrill Coolpilot (irregular or rough surfaces) up to $3 \times d$ with simultaneous chamfer of 90° .
With CrazyDrill Crosspilot for all versions on inclined surfaces.



2 | DRILLING

- Turn on internal coolant.
- Drill with CrazyDrill Cool SST-Inox in one step with recommended drilling speed and feed (see cutting data chart).



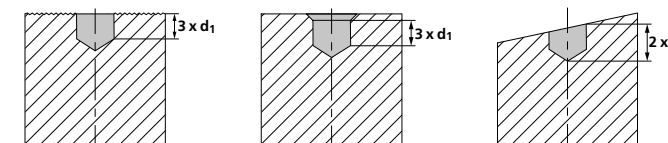
Note:

After the drill reached desired cutting depth, return at increased feed rate (or in case of perfect conditions rapid traverse) to safety position. With CrazyDrill Cool SST-Inox is possible immediately get into the material and drill using the recommended cutting speed and feed.

DRILLING IN ONE STEP 30 X D AND 40 X D

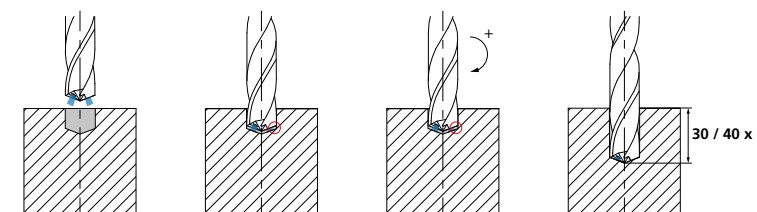
1 | PILOT DRILLING

- Turn on internal coolant.
- With CrazyDrill Coolpilot (irregular or rough surfaces) up to $3 \times d$ with simultaneous chamfer of 90° .
With CrazyDrill Crosspilot for all versions on inclined surfaces.



2 | DEEP HOLE DRILLING

- Turn on coolant. Enter the hole at a maximum speed $n = 500$ rpm and $v_f = 1'000$ mm/min, up to drilling depth $2.8 \times d$ (drill should not touch the bottom of pilot hole).
- Increase speed as per cutting data chart and wait until the desired drilling speed is reached. Program dwell in case of slow spindle acceleration.
- Drill in one step with recommended cutting speed and feed rate.



3 | EXIT FROM BORE

- After the desired drilling depth is reached, return with the drill to drilling depth $3 \times d$ at feed rate or reduced rapid traverse.
- Reduce speed to $n = 500$ rpm.
- Exit the bore at speed $n = 500$ rpm and $v_f = 1'000$ mm/min.

