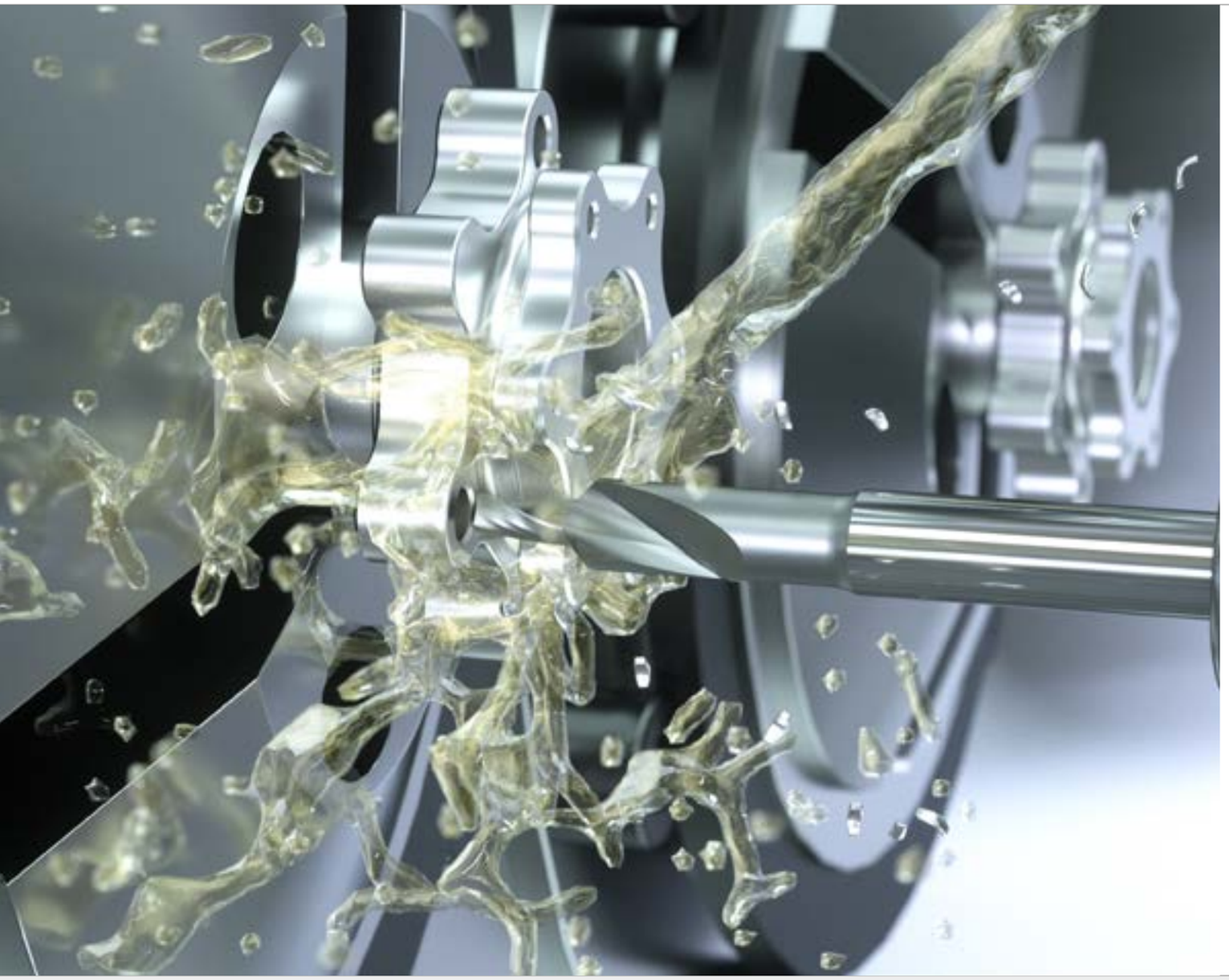
PILOT DRILLING AND SHORT DRILLING TOOLS
CRAZYDRILL PILOT

CrazyDrill Pilot



CRAZYDRILL Pilot

AN UNIVERSAL PILOT DRILL / SHORT DRILL

Mikron Tool offers with CrazyDrill Pilot a short drill, respectively pilot drill including countersinking. It's not only useful for short drilling but it's also a perfect drilling preparation for highly precise position accuracy and straightness when deep-hole drilling above 6 x d.

The drill is available from stock in diameters of 0.4 mm to 6.35 mm and for a maximum drilling depth up to 2 x d. All short drills are coated and have a chamfer angle of 90°.

With CrazyDrill Pilot centering and pilot drilling up to 2 x d is done in one single step. The follow-up drill is guided cylindrically in the pilot hole, therefore high straightness of the follow-up drilling is assured. Furthermore, with the same tool can be realized directly a chamfer of 90° at the hole. This way tool change positions can be saved and shorter cycle times are possible. The digressive helical flute assures constant cutting conditions from drilling to countersinking.

Optimally matched diameter tolerances and tip angles guarantee accurate deep-hole drilling without measurable transition from pilot to follow-up hole, assure process reliability and increase also substantially tool life of the follow-up drill. The special high-performance geometry of CrazyDrill Pilot ensures high cutting speed, the optimal coating results in high wear resistance.

CRAZYDRILL™ by Mikron Tool Pilot

CRAZYDRILL™ by Mikron Tool Pilot

PILOT DRILLING AND SHORT DRILLING TOOLS
CRAZYDRILL PILOT

Ideal preparation for deep holes

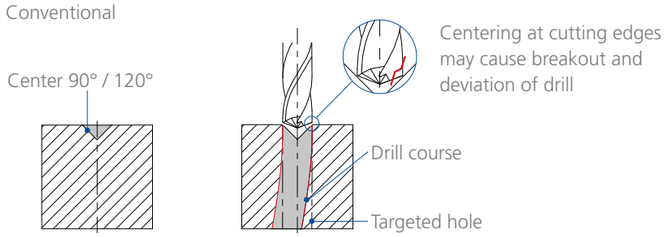
CENTERING, PILOT DRILLING AND COUNTERSINKING IN ONE STEP

Mikron Tool offers with CrazyDrill Pilot a short drill, respectively pilot drill including countersinking. It's not only useful for short drilling but it's also a perfect drilling preparation for highly precise position accuracy and straightness when deep-hole drilling above 6 x d. The drill is available from stock in diameters of 0.4 mm to 6.35 mm and for a maximum drilling depth up to 2 x d. All short drills are coated and have a chamfer angle of 90°.

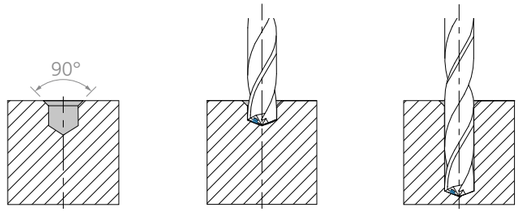
- CrazyDrill Pilot, drilling depth up to 2 x d, with external cooling, countersink 90°

The comparison

- Conventional



- Mikron Tool



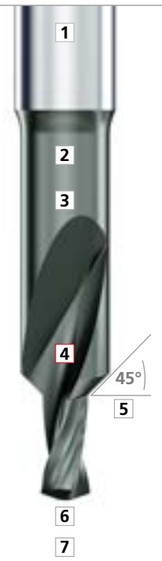
STEP 1
CrazyDrill Pilot

STEP 2
Drill guided in pilot hole

STEP 3
Drilling of deep holes without noticeable diameter difference between pilot hole and bore

CrazyDrill Pilot

- Coated
- Drill with external cooling



1 | SHANK
The reinforced solid carbide shaft guarantees stability, high concentricity and therefore highest drilling accuracy.

2 | SOLID CARBIDE
A special solid carbide assures high machining speed

3 | COATING
Optimal coating protects the solid carbide drill from wear and increases its tool life.

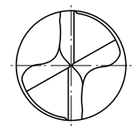
4 | DEGRESSIVE HELICAL FLUTE
For optimal and constant cutting conditions from drilling to chamfering of 90°. The result: Higher process reliability and tool life.

5 | 90° CHAMFER
Enables a chamfer of 90° in one single operation step.

6 | DRILL TIP GEOMETRY
High cutting speed and feed rates thanks to special drill tip geometry. Tip angle of 140° and mutually adapted tolerance increase tool life of follow-up drill.

7 | DIAMETER RANGE
Matched to the dimensions of the CrazyDrill family, each deep-hole drill has the adapted pilot drill. Due to matched tolerances no measurable transition from pilot to follow-up hole.

Drill tip



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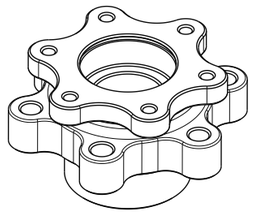
PILOT DRILLING AND SHORT DRILLING TOOLS
CRAZYDRILL PILOT

Benefits and applications

CENTERING AND PILOT HOLE DRILLING IN ONE STEP

- **SHORT MACHINING TIME** | drilling 2 x d +90° countersink with one tool
- **HIGH DEGREE OF PROCESS RELIABILITY** | due to robust tool design
- **HIGH DEGREE OF PRECISION** | due to small tolerances that prevent the deviations



COMPONENT
wheel hub

MATERIAL
AlMg 1 SiCu / 3.3211 / ASTM B211

MACHINING
- Short drilling and chamfering 90°
- d = 3 mm
- Drilling depth 6.2 mm

DRILLING TOOL
Mikron Tool - CrazyDrill Pilot

DATA	MIKRON TOOL
Tool type	CrazyDrill Pilot - Carbide - Coated - External cooling
Item number	2.PD.03000.090
Cutting data	v_c = 160 m/min f = 0.16 mm/rev

APPLICATION DOMAINS	COMPONENTS EXAMPLES
Dental	Dental implants
Aerospace industry	Components for airplane
Medical technology	DHS screws
Automotive industry	Valve housing
Mechanical engineering	Guide bushing
Hydraulics / Pneumatics	Pneumatic valve

MATERIALS GROUPS	EXAMPLES		
	Mat. no.	DIN	AISI / ASTM / UNS
Group P Unalloyed and alloyed steel	1.0401	C15	1015
	1.3505	100Cr6	52100
	1.2436	X210CrW12	D4 / D6
Group M Stainless steel	1.4105	X6CrMoS17	430F
	1.4112	X90CrMoV18	440B
	1.4301	X5CrNi 18-10	304
Group K Cast iron	0.7040	GGG40	60-40-18
Group N Non ferrous metals	3.2315	AlMgSi1	6351
	3.2163	GD-AlSi9Cu3	A380
	2.004	Cu-OF / CW008A	C10100
	2.0321	CuZn37 CW508L	C27400
	2.102	CuSn6	C51900
	2.096	CuAl9Mn2	C63200
Group S2 Titanium (pure and alloyed)	3.7035	Gr.2	B348 / F67
	3.7165	TiAl6V4	B348 / F136
Group H1 Hardened steel <55 HRC	1.2510	100MnCrMoW4	O1

PILOT DRILLING AND SHORT DRILLING TOOLS
CRAZYDRILL PILOT

CrazyDrill Pilot - 2 x d - 90° coutersink

Carbide | 2xd1 | 90° | 140° | Z2 | eXedur RI/RIP

Ø d_1	0.1 - 3.0 mm	3.1 - 6.0 mm	6.1 - 10.0 mm
Tolerance	+ 0.006 mm + 0.002 mm	+ 0.009 mm + 0.004 mm	+ 0.012 mm + 0.006 mm

DRILLING WITH EXTERNAL COOLING

CrazyDrill Pilot centers and realizes a pilot hole up to a drilling depth of 2 x d. The follow-up drill is perfectly guided in the pilot hole, thus ensuring the straightness of the deep hole. Because of the sturdy design, the pilot drill achieves high position accuracy. Furthermore, it guarantees to the follow-up drill a significantly longer tool life since cutting edge breakage is prevented by the two mutually adapted tip angles of 140°.

CrazyDrill Pilot also proves its worth used as short drill where it achieves long tool life and good hole quality due to its stable design (reinforced shaft) and ideal coating. Thanks to its tip geometry, high cutting speed and feed rates are achieved. The degressive helical flute guarantees constant cutting conditions from drilling to process reliable realizing of a 90° chamfer angle.

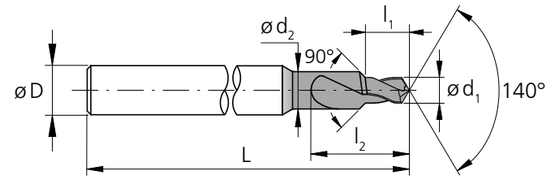
Coolant type, pressure and filtration

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

Please note

You couldn't find your suitable version of the CrazyDrill Pilot (diameter, length, cutting direction…)?
Ask us about our customized versions!

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



d_1 [mm]	d_1 [inch]	l_1 [mm]	d_2 [mm]	l_2 [mm]	D (h6) [mm]	L [mm]	Item number	Availability
0.396	**1/64**	0.8	1.00	2.8	4	46.5	2.PD.F164.090	■
0.40		0.8	1.00	2.8	4	46.5	2.PD.00400.090	■
0.45		0.9	1.00	2.9	4	46.5	2.PD.00450.090	■
0.50		1.0	1.20	3.4	4	47.0	2.PD.00500.090	■
0.55		1.1	1.20	3.5	4	47.0	2.PD.00550.090	■
0.60		1.2	1.50	4.2	4	48.0	2.PD.00600.090	■
0.65		1.3	1.50	4.3	4	48.0	2.PD.00650.090	■
0.70		1.4	1.75	4.9	4	49.0	2.PD.00700.090	■
0.75		1.5	1.75	5.0	4	49.0	2.PD.00750.090	■
0.793	**1/32**	1.6	2.00	5.6	4	49.0	2.PD.F132.090	■
0.80		1.6	2.00	5.6	4	49.0	2.PD.00800.090	■
0.85		1.7	2.00	5.7	4	49.0	2.PD.00850.090	■
0.90		1.8	2.00	5.8	4	49.0	2.PD.00900.090	■
0.95		1.9	2.00	5.9	4	49.0	2.PD.00950.090	■
1.00		2.0	2.50	7.0	4	51.0	2.PD.01000.090	■
1.05		2.1	2.50	7.1	4	51.0	2.PD.01050.090	■
1.10		2.2	2.50	7.2	4	51.0	2.PD.01100.090	■
1.15		2.3	2.50	7.3	4	51.0	2.PD.01150.090	■
1.20		2.4	2.50	7.4	4	51.0	2.PD.01200.090	■
1.25		2.5	2.50	7.5	4	51.0	2.PD.01250.090	■
1.30		2.6	2.50	7.6	4	51.0	2.PD.01300.090	■
1.35		2.7	2.50	7.7	4	51.0	2.PD.01350.090	■
1.40		2.8	2.50	7.8	4	51.0	2.PD.01400.090	■
1.45		2.9	2.50	7.9	4	51.0	2.PD.01450.090	■
1.50		3.0	3.00	9.0	4	53.0	2.PD.01500.090	■
1.55		3.1	3.00	9.1	4	53.0	2.PD.01550.090	■
1.587	**1/16**	3.2	3.00	9.2	4	53.0	2.PD.F116.090	■
1.60		3.2	3.00	9.2	4	53.0	2.PD.01600.090	■
1.65		3.3	3.00	9.3	4	53.0	2.PD.01650.090	■
1.70		3.4	3.00	9.4	4	53.0	2.PD.01700.090	■
1.75		3.5	3.00	9.5	4	53.0	2.PD.01750.090	■
1.80		3.6	3.00	9.6	4	53.0	2.PD.01800.090	■
1.85		3.7	3.00	9.7	4	53.0	2.PD.01850.090	■
1.90		3.8	3.00	9.8	4	53.0	2.PD.01900.090	■

■ Stock item

Complementary products	
CrazyDrill Steel	p.245
CrazyDrill Alu	p.261
CrazyDrill Cool	p.297
CrazyDrill Cool XL	p.331

CRAZYDRILL™ by Mikron Tool Pilot

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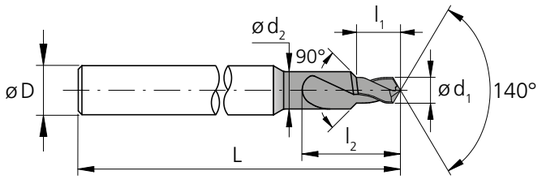
PILOT DRILLING AND SHORT DRILLING TOOLS
CRAZYDRILL PILOT

CrazyDrill Pilot - 2 x d - 90° coutersink

Carbide | 2xd1 | 90° | 140° | Z2 | eXedur RI/RIP

Ø d_1	0.1 - 3.0 mm	3.1 - 6.0 mm	6.1 - 10.0 mm
Tolerance	+ 0.006 mm + 0.002 mm	+ 0.009 mm + 0.004 mm	+ 0.012 mm + 0.006 mm

DRILLING WITH EXTERNAL COOLING



d_1 [mm]	d_1 [inch]	l_1 [mm]	d_2 [mm]	l_2 [mm]	D (h6) [mm]	L [mm]	Item number	Availability
1.95		3.9	3.00	9.9	4	53.0	2.PD.01950.090	■
2.00		4.0	3.50	11.0	4	55.0	2.PD.02000.090	■
2.05		4.1	3.50	11.1	4	55.0	2.PD.02050.090	■
2.10		4.2	3.50	11.2	4	55.0	2.PD.02100.090	■
2.15		4.3	3.50	11.3	4	55.0	2.PD.02150.090	■
2.20		4.4	3.50	11.4	4	55.0	2.PD.02200.090	■
2.25		4.5	3.50	11.5	4	55.0	2.PD.02250.090	■
2.30		4.6	3.50	11.6	4	55.0	2.PD.02300.090	■
2.35		4.7	3.50	11.7	4	55.0	2.PD.02350.090	■
2.381	**3/32**	4.8	3.50	11.8	4	55.0	2.PD.F332.090	■
2.40		4.8	3.50	11.8	4	55.0	2.PD.02400.090	■
2.45		4.9	3.50	11.9	4	55.0	2.PD.02450.090	■
2.50		5.0	3.80	12.6	4	57.0	2.PD.02500.090	■
2.55		5.1	3.80	12.7	4	57.0	2.PD.02550.090	■
2.60		5.2	3.80	12.8	4	57.0	2.PD.02600.090	■
2.65		5.3	3.80	12.9	4	57.0	2.PD.02650.090	■
2.70		5.4	3.80	13.0	4	57.0	2.PD.02700.090	■
2.75		5.5	3.80	13.1	4	57.0	2.PD.02750.090	■
2.80		5.6	3.80	13.2	4	57.0	2.PD.02800.090	■
2.85		5.7	3.80	13.3	4	57.0	2.PD.02850.090	■
2.90		5.8	3.80	13.4	4	57.0	2.PD.02900.090	■
2.95		5.9	3.80	13.5	4	57.0	2.PD.02950.090	■
3.00		6.0	3.80	13.6	4	57.0	2.PD.03000.090	■
3.05		6.1	4.50	15.1	6	61.0	2.PD.03050.090	■
3.10		6.2	4.50	15.2	6	61.0	2.PD.03100.090	■
3.15		6.3	4.50	15.3	6	61.0	2.PD.03150.090	■
3.175	**1/8**	6.4	4.50	15.4	6	61.0	2.PD.F18.090	■
3.20		6.4	4.50	15.4	6	61.0	2.PD.03200.090	■
3.25		6.5	4.50	15.5	6	61.0	2.PD.03250.090	■
3.30		6.6	4.50	15.6	6	61.0	2.PD.03300.090	■
3.35		6.7	4.50	15.7	6	61.0	2.PD.03350.090	■
3.40		6.8	4.50	15.8	6	61.0	2.PD.03400.090	■
3.45		6.9	4.50	15.9	6	61.0	2.PD.03450.090	■
3.50		7.0	4.50	16.0	6	61.0	2.PD.03500.090	■

■ Stock item

d_1 [mm]	d_1 [inch]	l_1 [mm]	d_2 [mm]	l_2 [mm]	D (h6) [mm]	L [mm]	Item number	Availability
3.55		7.1	5.30	17.7	6	64.0	2.PD.03550.090	■
3.60		7.2	5.30	17.8	6	64.0	2.PD.03600.090	■
3.65		7.3	5.30	17.9	6	64.0	2.PD.03650.090	■
3.70		7.4	5.30	18.0	6	64.0	2.PD.03700.090	■
3.75		7.5	5.30	18.1	6	64.0	2.PD.03750.090	■
3.80		7.6	5.30	18.2	6	64.0	2.PD.03800.090	■
3.85		7.7	5.30	18.3	6	64.0	2.PD.03850.090	■
3.90		7.8	5.30	18.4	6	64.0	2.PD.03900.090	■
3.95		7.9	5.30	18.5	6	64.0	2.PD.03950.090	■
3.968	**5/32**	8.0	5.30	18.6	6	64.0	2.PD.F532.090	■
4.00		8.0	5.30	18.6	6	64.0	2.PD.04000.090	■
4.10		8.2	6.00	20.2	6	70.0	2.PD.04100.090	■
4.20		8.4	6.00	20.4	6	70.0	2.PD.04200.090	■
4.30		8.6	6.00	20.6	6	70.0	2.PD.04300.090	■
4.40		8.8	6.00	20.8	6	70.0	2.PD.04400.090	■
4.50		9.0	6.00	21.0	6	70.0	2.PD.04500.090	■
4.60		9.2	6.00	21.2	6	70.0	2.PD.04600.090	■
4.70		9.4	6.00	21.4	6	70.0	2.PD.04700.090	■
4.762	**3/16**	9.6	6.00	21.6	6	70.0	2.PD.F316.090	■
4.80		9.6	6.00	21.6	6	70.0	2.PD.04800.090	■
4.90		9.8	6.00	21.8	6	70.0	2.PD.04900.090	■
5.00		10.0	6.00	22.0	6	70.0	2.PD.05000.090	■
5.10		10.2	8.00	26.2	8	80.0	2.PD.05100.090	■
5.20		10.4	8.00	26.4	8	80.0	2.PD.05200.090	■
5.30		10.6	8.00	26.6	8	80.0	2.PD.05300.090	■
5.40		10.8	8.00	26.8	8	80.0	2.PD.05400.090	■
5.50		11.0	8.00	27.0	8	80.0	2.PD.05500.090	■
5.560	**7/32**	11.2	8.00	27.2	8	80.0	2.PD.F732.090	■
5.60		11.2	8.00	27.2	8	80.0	2.PD.05600.090	■
5.70		11.4	8.00	27.4	8	80.0	2.PD.05700.090	■
5.80		11.6	8.00	27.6	8	80.0	2.PD.05800.090	■
5.90		11.8	8.00	27.8	8	80.0	2.PD.05900.090	■
6.00		12.0	8.00	28.0	8	80.0	2.PD.06000.090	■
6.350	**1/4**	12.7	8.00	28.7	8	80.0	2.PD.F14.090	■

■ Stock item

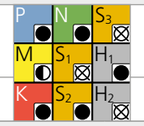
Complementary products

CrazyDrill Steel	p.245
CrazyDrill Alu	p.261
CrazyDrill Cool	p.297
CrazyDrill Cool XL	p.331

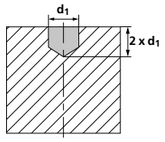
PILOT DRILLING AND SHORT DRILLING TOOLS
CRAZYDRILL PILOT

CrazyDrill Pilot - 2 x d - 90° coutersink

RECOMMENDATION FOR USE
● Excellent | ◐ Good | ○ Acceptable | ⊠ Not recommended



DRILLING WITH EXTERNAL COOLING | CUTTING DATA OVERVIEW



Materials group	Material	Mat. no.	DIN	AISI/ASTM/UNS	v_c [m/min]	f [mm/rev] Ød1 0.4 mm 1/64"	0.8 mm 1/32"	1.0 mm	1.5 mm 1/16"	2.0 mm	2.5 mm 3/32"	3.0 mm 1/8"	4.0 mm 5/32"	5.0 mm 3/16" - 7/32"	6.0 mm 1/4"
P	Unalloyed carbon steel Rm < 800 N/mm²	1.0301	C10	AISI 1010	32 – 64	0.008	0.044	0.064	0.112	0.144	0.168	0.192	0.224	0.248	0.272
		1.0401	C15	AISI 1015											
		1.1191	C45E/CK45	AISI 1045											
		1.0044	S275JR	AISI 1020											
		1.0715	11SMn30	AISI 1215											
	Low alloyed steel Rm > 900 N/mm²	1.5752	15NiCr13	ASTM 3415 / AISI 3310	32 – 64	0.008	0.044	0.064	0.096	0.120	0.136	0.152	0.176	0.192	0.208
		1.7131	16MnCr5	AISI 5115											
		1.3505	100Cr6	AISI 52100											
		1.7225	42CrMo4	AISI 4140											
		1.2842	90MnCrV8	AISI O2											
	High alloyed tool steel Rm < 1200 N/mm²	1.2379	X153CrMoV12	AISI D2	24 – 48	0.008	0.016	0.040	0.064	0.088	0.104	0.120	0.144	0.160	0.176
		1.2436	X210CrW12	AISI D4/D6											
		1.3343	HS6-5-2C	AISI M2 / UNS T11302											
		1.3355	HS18-0-1	AISI T1 / UNS T12001											
M	Stainless steel ferritic	1.4016	X6Cr17	AISI 430 / UNS S43000	20 – 40	0.008	0.009	0.024	0.048	0.064	0.072	0.080	0.096	0.104	0.112
		1.4105	X6CrMoS17	AISI 430F											
	Stainless steel martensitic	1.4034	X46Cr13	AISI 420C	24 – 48	0.008	0.016	0.040	0.064	0.088	0.104	0.120	0.144	0.160	0.176
		1.4112	X90CrMoV18	AISI 440B											
	Stainless steel martensitic – PH	1.4542	X5CrNiCuNb 16-4	AISI 630 / ASTM 17-4 PH											
		1.4545	X5CrNiCuNb 15-5	ASTM 15-5 PH											
	Stainless steel austenitic	1.4301	X5CrNi 18-10	AISI 304	16 – 32	0.008	0.009	0.016	0.040	0.056	0.064	0.072	0.088	0.096	0.104
		1.4435	X2CrNiMo 18-14-3	AISI 316L											
		1.4441	X2CrNiMo 18-15-3	AISI 316LM											
		1.4539	X1NiCrMoCu 25-20-5	AISI 904L											
K	Cast iron	0.6020	GG20	ASTM 30	40 – 80	0.008	0.040	0.064	0.096	0.120	0.120	0.120	0.160	0.160	0.160
		0.6030	GG30	ASTM 40B											
		0.7040	GGG40	ASTM 60-40-18											
		0.7060	GGG60	ASTM 80-60-03											
N	Aluminium alloy wrought	3.2315	AlMgSi1	ASTM 6351	80 – 160	0.008	0.040	0.080	0.096	0.120	0.160	0.160	0.200	0.200	0.200
		3.4365	AlZnMgCu1.5	ASTM 7075											
	Aluminium alloy cast	3.2163	GD-AlSi9Cu3	ASTM A380	64 – 120	0.012	0.064	0.088	0.128	0.160	0.200	0.200	0.224	0.224	0.224
		3.2381	GD-AlSi10Mg	UNS A03590											
	Copper	2.0040	Cu-OF / CW008A	UNS C10100	40 – 80	0.012	0.024	0.048	0.064	0.080	0.112	0.128	0.144	0.160	0.176
		2.0065	Cu-ETP / CW004A	UNS C11000											
	Brass lead free	2.0321	CuZn37 CW508L	UNS C27400	40 – 80	0.016	0.032	0.064	0.080	0.096	0.128	0.144	0.160	0.176	0.192
		2.0360	CuZn40 CW509L	UNS C28000											
	Brass, Bronze Rm < 400 N/mm²	2.0401	CuZn39Pb3 / CW614N	UNS C38500	56 – 120	0.012	0.048	0.080	0.096	0.120	0.160	0.160	0.200	0.200	0.200
		2.1020	CuSn6	UNS C51900											
	Bronze Rm < 600 N/mm²	2.0966	CuAl10Ni5Fe4	UNS C63000	32 – 56	0.008	0.040	0.064	0.080	0.096	0.120	0.120	0.160	0.160	0.160
		2.0960	CuAl9Mn2	UNS C63200											
S_1	Super alloys	2.4856		Inconel 625											
		2.4668		Inconel 718											
		2.4617	NiMo28	Hastelloy B-2											
		2.4665	NiCr22Fe18Mo	Hastelloy X											
S_2	Titanium pure	3.7035	Gr.2	ASTM B348 / F67	10 – 32	0.008	0.024	0.032	0.048	0.056	0.064	0.064	0.080	0.080	0.096
		3.7065	Gr.4	ASTM B348 / F68											
	Titanium alloys	3.7165	TiAl6V4	ASTM B348 / F136	10 – 44	0.008	0.064	0.072	0.088	0.096	0.100	0.104	0.112	0.120	0.120
		9.9367	TiAl6Nb7	ASTM F1295											
S_3	CrCo alloys	2.4964	CoCr20W15Ni	Haynes 25											
			CrCoMo28	ASTM F1537											
H_1	Hardened steel < 55 HRC	1.2510	100MnCrMoW4	AISI O1	16 – 32	0.008	0.006	0.008	0.012	0.016	0.020	0.024	0.032	0.040	0.048
H_2	Hardened steel ≥ 55 HRC	1.2379	X153CrMoV12	AISI D2											

PILOT DRILLING AND SHORT DRILLING TOOLS
CRAZYDRILL PILOT

Drilling process CrazyDrill Pilot

SHORT DRILLING UP TO 2 X D WITH 90° COUNTERSINK

Coolant type, pressure and filtration flowrate

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.

For tools with external cooling no specific parameters have to be considered concerning filter and coolant pressure and quantity. But it must be ensured that the cooling medium is conducted directly to the drill tip, thus cooling and lubricating the drill perfectly and flushing away the chips.

Tool holders

For detailed indications for tool holders see chapter "Technical information".

Pilot drilling and short drilling

Pilot drilling with CrazyDrill Pilot is the perfect preparation for accurate drilling (position and alignment accuracy) and stable machining process.

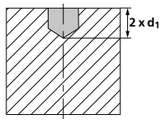
Drilling quality (position and alignment accuracy, no measurable transition from pilot to follow-up hole) and stable machining process are assured due to matched diameters of the tools.

CrazyDrill Pilot not only is the perfect preparation of deep follow-up holes. Concurrently it is a short drill for highly precise and quick drilling up to 2 x d + 90° countersink.

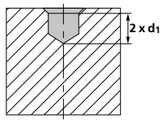
DRILLING PROCESS

1 | PILOT DRILLING OR SHORT DRILLING

- Drilling in one step with recommended cutting speed and feed rate (see cutting data table).



- If needed, after the desired cutting depth of 2 x d is reached, a chamfer angle of 90° can be realized.



Note:
After the drill reached desired cutting depth, return at increased feed rate (or in case of perfect conditions rapid traverse) to safety position.