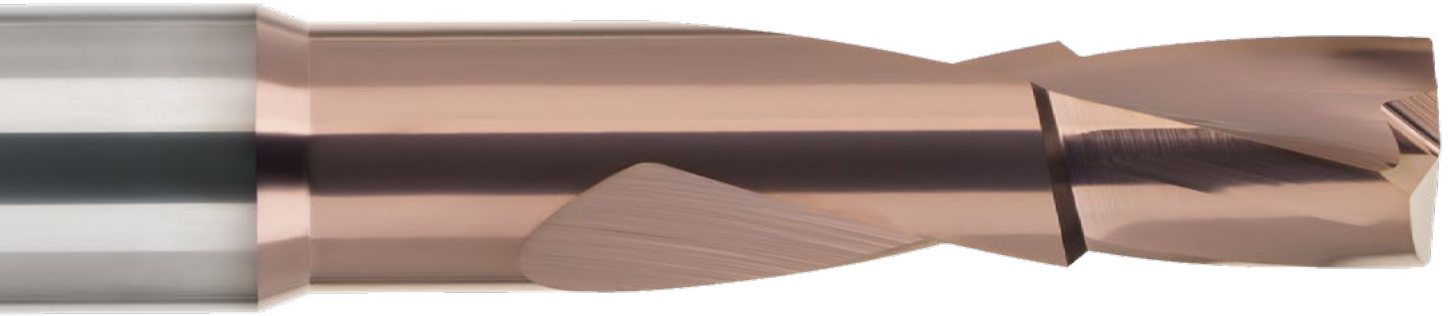
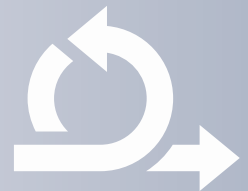


INOX-170 PILOT

HBmicrotec[®]
ACTIONTOOLS & ENGINEERING



ACTIONDRILL[®]
by HB microtec
INOX-170Pilot



170° α-INOX
high-performance point
geometry, 2x faster drilling
on inclined surfaces
compared to 180° flat
drills

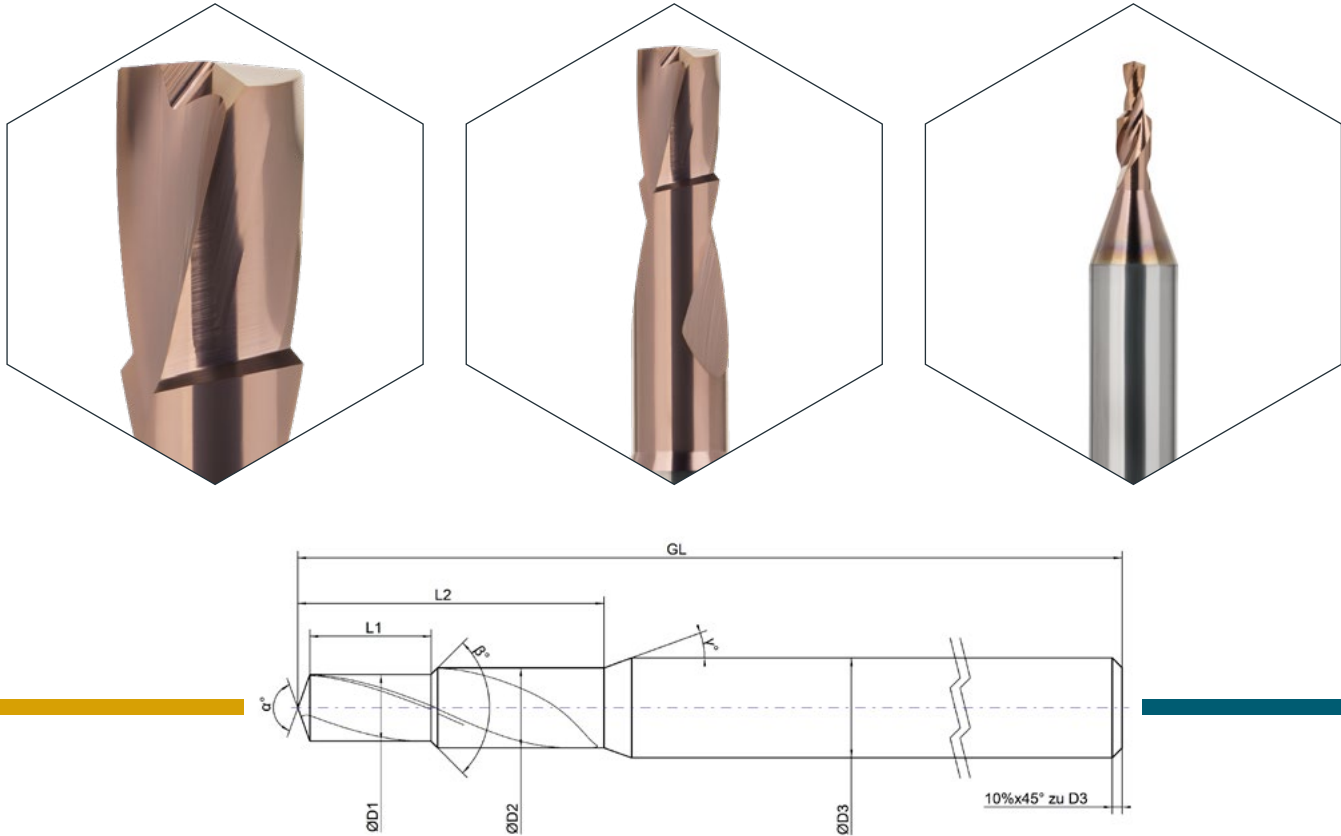
from Ø 0.3 k6
to Ø 7.2 k6

The high-performance α-INOX
coating guarantees a long tool
life and prevents the cutting
edges from sticking

2xD drilling depth with 90°
countersink edge for chamfering

The reinforced h6 shank
combined with an optimized
usable length makes the tool
robust and vibration-free

High feed and cutting speeds
are made possible by the use
of ultra-fine-grained solid
carbide with high fracture
toughness.

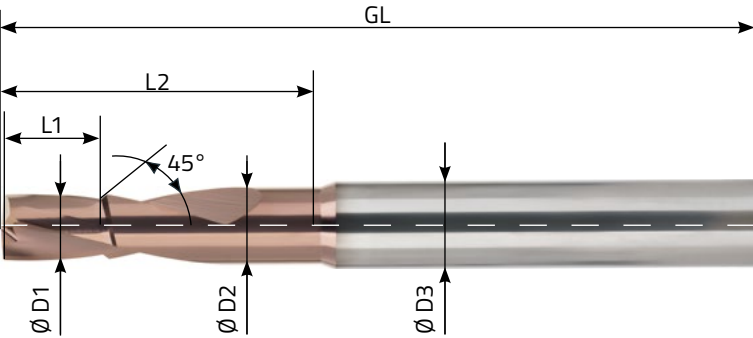
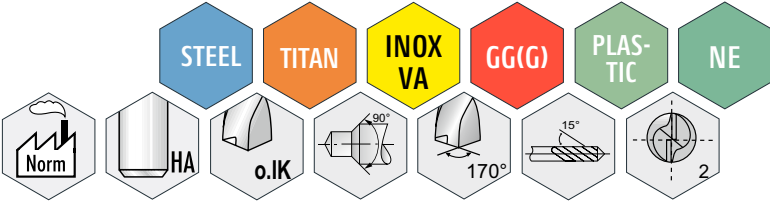


☐ Order Order number: _____ ☐ Inquiry

Dimensions: D ₁ : _____ GL: _____ α: _____ D ₂ : _____ L ₁ : _____ β: _____ D ₃ : _____ L ₂ : _____ γ: _____ Z: _____	Coating: ☐ Coated*: _____ ☐ Uncoated	Cooling channels: ☐ No ☐ Yes Cutting direction: ☐ Right ☐ Left
Material to be machined: _____	Shank shape: _____	Quantity: _____
Date, signature & company stamp: _____		Contact person: _____

* Without further information, the most suitable coating will be used.

INOX-170Pilot



■ α-INOX coated



5 PRO's of the ACTIONDRILL:

- Direct drilling on inclined surfaces
- For surfaces with an inclination angle up to 61°
- Combination tool: drilling + chamfering
- Perfect positional accuracy
- Shorter process times and high process reliability

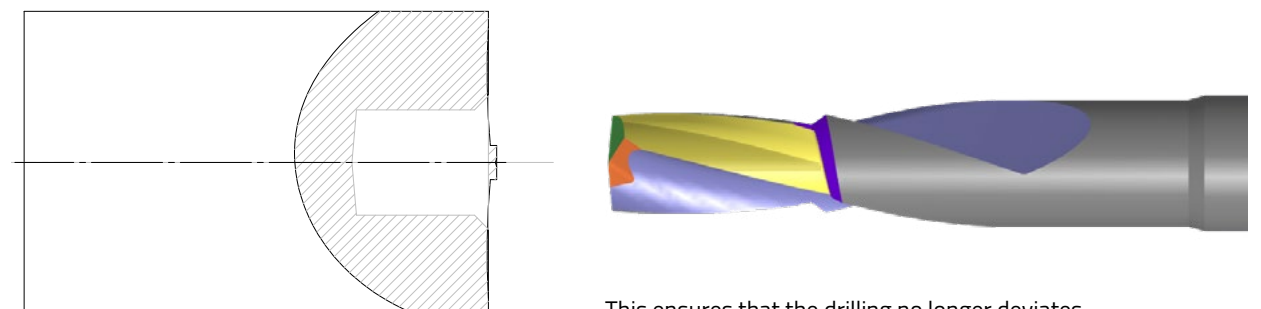
Article number	D1 k6 (mm)	D1 (inch)	D2 (mm)	D3 h6 (mm)	L1 (mm)	L2 (mm)	GL (mm)
AD.90.030.170	Ø 0.30	-	Ø 0.70	Ø 4.00	0.60	2.30	55.00
AD.90.035.170	Ø 0.35	-	Ø 0.75	Ø 4.00	0.70	2.55	55.00
AD.90.040.170	Ø 0.40	-	Ø 0.80	Ø 4.00	0.80	2.80	55.00
AD.90.045.170	Ø 0.45	-	Ø 0.85	Ø 4.00	0.90	3.05	55.00
AD.90.050.170	Ø 0.50	-	Ø 0.90	Ø 4.00	1.00	3.30	55.00
AD.90.055.170	Ø 0.55	-	Ø 0.95	Ø 4.00	1.10	3.55	55.00
AD.90.060.170	Ø 0.60	-	Ø 1.00	Ø 4.00	1.20	3.80	55.00
AD.90.065.170	Ø 0.65	-	Ø 1.05	Ø 4.00	1.30	4.05	55.00
AD.90.070.170	Ø 0.70	-	Ø 1.10	Ø 4.00	1.40	4.30	55.00
AD.90.075.170	Ø 0.75	-	Ø 1.15	Ø 4.00	1.50	4.55	55.00
AD.90.080.170	Ø 0.80	-	Ø 1.20	Ø 4.00	1.60	4.80	55.00
AD.90.085.170	Ø 0.85	-	Ø 1.25	Ø 4.00	1.70	5.05	55.00
AD.90.090.170	Ø 0.90	-	Ø 1.30	Ø 4.00	1.80	5.30	55.00
AD.90.095.170	Ø 0.95	-	Ø 1.35	Ø 4.00	1.90	5.55	55.00
AD.90.100.170	Ø 1.00	-	Ø 1.60	Ø 4.00	2.00	6.70	55.00
AD.90.105.170	Ø 1.05	-	Ø 1.65	Ø 4.00	2.10	6.80	55.00
AD.90.110.170	Ø 1.10	-	Ø 1.70	Ø 4.00	2.20	7.00	55.00
AD.90.115.170	Ø 1.15	-	Ø 1.75	Ø 4.00	2.30	7.10	55.00
AD.90.120.170	Ø 1.20	-	Ø 1.80	Ø 4.00	2.40	7.20	55.00
AD.90.125.170	Ø 1.25	-	Ø 1.85	Ø 4.00	2.50	8.20	55.00
AD.90.130.170	Ø 1.30	-	Ø 1.90	Ø 4.00	2.60	8.30	55.00
AD.90.135.170	Ø 1.35	-	Ø 1.95	Ø 4.00	2.70	8.40	55.00
AD.90.140.170	Ø 1.40	-	Ø 2.00	Ø 4.00	2.80	8.50	55.00
AD.90.145.170	Ø 1.45	-	Ø 2.05	Ø 4.00	2.90	8.60	55.00
AD.90.150.170	Ø 1.50	-	Ø 2.10	Ø 4.00	3.00	9.60	55.00
AD.90.155.170	Ø 1.55	-	Ø 2.15	Ø 4.00	3.10	9.70	55.00
AD.90.1587.170	Ø1.587	1/16"	Ø 2.20	Ø 4.00	3.17	9.80	55.00
AD.90.160.170	Ø 1.60	-	Ø 2.20	Ø 4.00	3.20	9.80	55.00
AD.90.165.170	Ø 1.65	-	Ø 2.25	Ø 4.00	3.30	9.90	55.00
AD.90.170.170	Ø 1.70	-	Ø 2.30	Ø 4.00	3.40	10.10	55.00
AD.90.175.170	Ø 1.75	-	Ø 2.35	Ø 4.00	3.50	10.20	55.00
AD.90.180.170	Ø 1.80	-	Ø 2.40	Ø 4.00	3.60	11.10	55.00
AD.90.185.170	Ø 1.85	-	Ø 2.45	Ø 4.00	3.70	11.30	55.00
AD.90.190.170	Ø 1.90	-	Ø 2.50	Ø 4.00	3.80	11.40	55.00
AD.90.195.170	Ø 1.95	-	Ø 2.55	Ø 4.00	3.90	11.50	55.00
AD.90.200.170	Ø 2.00	-	Ø 2.60	Ø 4.00	4.00	11.60	60.00
AD.90.203.170	Ø 2.03	-	Ø 2.85	Ø 4.00	4.06	11.70	60.00
AD.90.205.170	Ø 2.05	-	Ø 2.85	Ø 4.00	4.10	11.70	60.00
AD.90.210.170	Ø 2.10	-	Ø 2.90	Ø 4.00	4.20	11.80	60.00
AD.90.215.170	Ø 2.15	-	Ø 2.95	Ø 4.00	4.30	11.90	60.00
AD.90.220.170	Ø 2.20	-	Ø 3.00	Ø 4.00	4.40	13.80	60.00
AD.90.225.170	Ø 2.25	-	Ø 3.05	Ø 4.00	4.50	13.90	60.00
AD.90.230.170	Ø 2.30	-	Ø 3.10	Ø 4.00	4.60	14.00	60.00
AD.90.233.170	Ø 2.33	-	Ø 3.15	Ø 4.00	4.66	14.10	60.00
AD.90.235.170	Ø 2.35	-	Ø 3.15	Ø 4.00	4.70	14.10	60.00
AD.90.2381.170	Ø2.381	3/32"	Ø 3.20	Ø 4.00	4.76	14.20	60.00
AD.90.240.170	Ø 2.40	-	Ø 3.20	Ø 4.00	4.80	14.20	60.00
AD.90.245.170	Ø 2.45	-	Ø 3.25	Ø 4.00	4.90	14.40	60.00
AD.90.250.170	Ø 2.50	-	Ø 3.30	Ø 4.00	5.00	14.50	60.00

Article number	D1 k6 (mm)	D1 (inch)	D2 (mm)	D3 h6 (mm)	L1 (mm)	L2 (mm)	GL (mm)
AD.90.255.170	Ø 2.55	-	Ø 3.35	Ø 4.00	5.10	14.60	60.00
AD.90.260.170	Ø 2.60	-	Ø 3.40	Ø 4.00	5.20	14.70	60.00
AD.90.265.170	Ø 2.65	-	Ø 3.45	Ø 4.00	5.30	15.70	60.00
AD.90.270.170	Ø 2.70	-	Ø 3.50	Ø 4.00	5.40	15.80	60.00
AD.90.275.170	Ø 2.75	-	Ø 3.55	Ø 4.00	5.50	15.90	60.00
AD.90.280.170	Ø 2.80	-	Ø 3.60	Ø 4.00	5.60	16.00	60.00
AD.90.285.170	Ø 2.85	-	Ø 3.65	Ø 4.00	5.70	16.10	60.00
AD.90.290.170	Ø 2.90	-	Ø 3.70	Ø 4.00	5.80	16.20	60.00
AD.90.295.170	Ø 2.95	-	Ø 3.75	Ø 4.00	5.90	16.40	60.00
AD.90.300.170	Ø 3.00	-	Ø 3.80	Ø 4.00	6.00	17.20	65.00
AD.90.310.170	Ø 3.10	-	Ø 3.90	Ø 4.00	6.20	17.40	65.00
AD.90.310.170	Ø 3.15	-	Ø 4.00	Ø 4.00	6.30	17.70	65.00
AD.90.3175.170	Ø 3.175	1/8"	Ø 4.00	Ø 4.00	6.35	17.70	65.00
AD.90.320.170	Ø 3.20	-	Ø 4.00	Ø 4.00	6.40	17.70	65.00
AD.90.325.170	Ø 3.25	-	Ø 4.10	Ø 6.00	6.50	17.90	65.00
AD.90.330.170	Ø 3.30	-	Ø 4.10	Ø 6.00	6.60	17.90	65.00
AD.90.340.170	Ø 3.40	-	Ø 4.20	Ø 6.00	6.80	18.10	65.00
AD.90.350.170	Ø 3.50	-	Ø 4.30	Ø 6.00	7.00	18.30	65.00
AD.90.360.170	Ø 3.60	-	Ø 4.40	Ø 6.00	7.20	18.60	65.00
AD.90.365.170	Ø 3.65	-	Ø 4.50	Ø 6.00	7.30	18.80	65.00
AD.90.370.170	Ø 3.70	-	Ø 4.50	Ø 6.00	7.40	18.80	65.00
AD.90.380.170	Ø 3.80	-	Ø 4.60	Ø 6.00	7.60	19.00	65.00
AD.90.390.170	Ø 3.90	-	Ø 4.70	Ø 6.00	7.80	19.20	65.00
AD.90.3968.170	Ø 3.968	5/32"	Ø 4.80	Ø 6.00	7.94	19.50	65.00
AD.90.400.170	Ø 4.00	-	Ø 4.80	Ø 6.00	8.00	19.50	65.00
AD.90.410.170	Ø 4.10	-	Ø 5.10	Ø 6.00	8.20	21.30	65.00
AD.90.420.170	Ø 4.20	-	Ø 5.20	Ø 6.00	8.40	21.00	65.00
AD.90.430.170	Ø 4.30	-	Ø 5.30	Ø 6.00	8.60	21.60	65.00
AD.90.440.170	Ø 4.40	-	Ø 5.40	Ø 6.00	8.80	21.70	65.00
AD.90.450.170	Ø 4.50	-	Ø 5.50	Ø 6.00	9.00	27.00	70.00
AD.90.460.170	Ø 4.60	-	Ø 5.60	Ø 6.00	9.20	27.10	70.00
AD.90.465.170	Ø 4.65	-	Ø 5.70	Ø 6.00	9.40	27.30	70.00
AD.90.470.170	Ø 4.70	-	Ø 5.70	Ø 6.00	9.40	27.30	70.00
AD.90.4762.170	Ø 4.762	3/16"	Ø 5.80	Ø 6.00	9.52	27.40	70.00
AD.90.480.170	Ø 4.80	-	Ø 5.80	Ø 6.00	9.60	27.40	70.00
AD.90.490.170	Ø 4.90	-	Ø 5.90	Ø 6.00	9.80	27.60	70.00
AD.90.500.170	Ø 5.00	-	Ø 6.00	Ø 6.00	10.00	27.70	70.00
AD.90.510.170	Ø 5.10	-	Ø 6.10	Ø 8.00	10.20	27.90	70.00
AD.90.520.170	Ø 5.20	-	Ø 6.20	Ø 8.00	10.40	28.00	70.00
AD.90.530.170	Ø 5.30	-	Ø 6.30	Ø 8.00	10.60	28.10	70.00
AD.90.540.170	Ø 5.40	-	Ø 6.40	Ø 8.00	10.80	28.30	70.00
AD.90.550.170	Ø 5.50	-	Ø 6.50	Ø 8.00	11.00	28.40	70.00
AD.90.5556.170	Ø 5.556	7/32"	Ø 6.60	Ø 8.00	11.12	28.60	70.00
AD.90.560.170	Ø 5.60	-	Ø 6.60	Ø 8.00	11.20	28.60	70.00
AD.90.570.170	Ø 5.70	-	Ø 6.70	Ø 8.00	11.40	28.70	70.00
AD.90.580.170	Ø 5.80	-	Ø 6.80	Ø 8.00	11.60	28.90	70.00
AD.90.590.170	Ø 5.90	-	Ø 6.90	Ø 8.00	11.80	29.00	70.00
AD.90.600.170	Ø 6.00	-	Ø 7.00	Ø 8.00	12.00	29.10	70.00
AD.90.620.170	Ø 6.20	-	Ø 7.40	Ø 8.00	12.40	30.00	70.00

Article number	D1 k6 (mm)	D1 (inch)	D2 (mm)	D3 h6 (mm)	L1 (mm)	L2 (mm)	GL (mm)
AD.90.6350.170	Ø 6.350	1/4"	Ø 7.40	Ø 8.00	12.70	30.00	70.00
AD.90.660.170	Ø 6.60	-	Ø 8.00	Ø 8.00	13.20	-	70.00
AD.90.670.170	Ø 6.70	-	Ø 8.00	Ø 8.00	13.40	-	70.00
AD.90.680.170	Ø 6.80	-	Ø 8.00	Ø 8.00	13.60	-	70.00
AD.90.690.170	Ø 6.90	-	Ø 8.00	Ø 8.00	13.80	-	70.00
AD.90.700.170	Ø 7.00	-	Ø 8.00	Ø 8.00	14.00	-	70.00
AD.90.720.170	Ø 7.20	-	Ø 8.00	Ø 8.00	14.00	-	70.00

Available from stock

Positional accurate piloting / drilling despite "burrs" or uneven surfaces

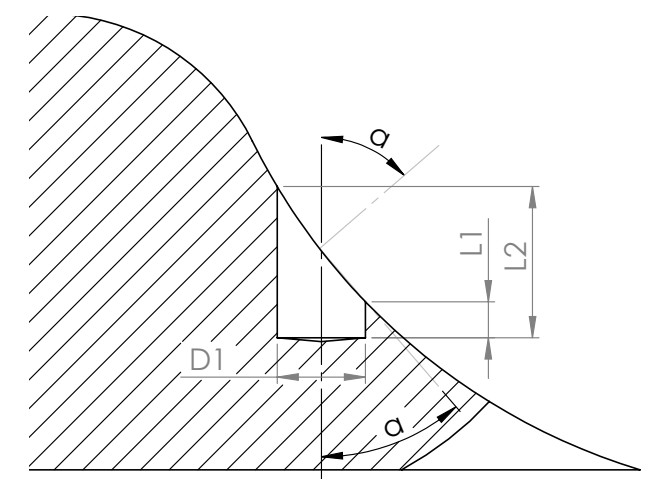


This ensures that the drilling no longer deviates.



Piloting/pre-drilling on the incline

without having to "spot face" with a mill



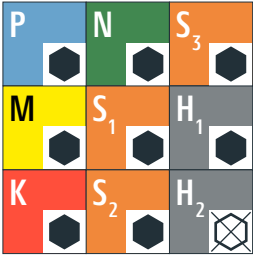
Calculation of the "short web width":

Formula: $L1 = 2 \times D - D \times \tan(\alpha)$

Calculation example:

Incline of 45°; drill Ø 1.85

$L1 = 2 \times 1.85 \text{ mm} - 1.85 \text{ mm} \times \tan(45^\circ) = 1.85 \text{ mm}$



Material group	Material group	Mat. no.	DIN	AISI/ASTM/UNS
P	Steels up to RM < 1200N/mm ²	1.0044	S275JR	AISI 1020
		1.0715	11SMn30	AISI 1215
		1.7131	16MnCr5	AISI 5115
		1.3505	100Cr6	AISI 52100
		1.7225	42CrMo4	AISI 4140
M	Stainless steels: ferritic, martensitic, austenitic	1.4034	X46Cr13	AISI 420C
		1.4542	X5CrNiCuNb 16-4	AISI 630 / ASTM 17-4 PH
		1.4545	X5CrNiCuNb 15-5	ASTM 15-5 PH
		1.4301	X5CrNi 18-10	AISI 304
		1.4435	X2CrNiMo 18-14-3	AISI 316L
K	Cast iron	0.6020	GG20	ASTM 30
		0.6030	GG30	ASTM 40B
		0.7040	GGG40	ASTM 60-40-18
		0.7060	GGG60	ASTM 80-60-03
N	Non-ferrous metals	3.2315	AlMgSi1	ASTM 6351
		2.0065	Cu-ETP / CW004A	UNS C11000
		2.0321	CuZn37 CW508L	UNS C27400
		2.0401	CuZn39Pb3 / CW614N	UNS C38500
		2.0966	CuAl10Ni5Fe4	UNS C63000
S (S1, S2, S3)	Heat-resistant steels, titanium, CrCo	2.4617	NiMo28	Hastelloy B-2
		2.4665	NiCr22Fe18Mo	Hastelloy X
		3.7165	TiAl6V4	ASTM B348 / F136
		9.9367	TiAl6Nb7	ASTM F1295
		2.4964	CoCr20W15Ni	Haynes 25
H	Hardened steels ≥ 55 HRC		CrCoMo28	ASTM F1537
		1.2510	100MnCrMoW4	AISI O1
		1.2379	X153CrMoV12	AISI D2

Recommended use Highly suitable Partially suitable Not recommended

from Ø 0.3 mm		from Ø 1.2 mm		from Ø 1.8 mm		from Ø 2.5 mm		from Ø 3.0 mm - Ø 7.2 mm	
vc [m/min]	f [mm/U]	vc [m/min]	f [mm/U]	vc [m/min]	f [mm/U]	vc [m/min]	f [mm/U]	vc [m/min]	f [mm/U]
60-130	0.021- 0.033	60-130	0.061 - 0.064	60-130	0.064 - 0.091	60-140	0.065 - 0.116	60-160	0.110 - 0.140
60-120	0.021- 0.028	60-120	0.060 - 0.061	60-130	0.064 - 0.091	60-120	0.065 - 0.101	60-150	0.100 - 0.130
50-120	0.012 - 0.02	50-120	0.021 - 0.027	50-120	0.030 - 0.040	50-100	0.037 - 0.049	50-120	0.057 - 0.092
50-80	0.01 - 0.019	50-80	0.020 - 0.034	50-90	0.025 - 0.035	50-90	0.037 - 0.042	50-100	0.057 - 0.087
80-140	0.015 - 0.021	80-140	0.03 - 0.057	80-160	0.050 - 0.067	80-160	0.063 - 0.072	80-180	0.072 - 0.105
80-160	0.021 - 0.033	80-160	0.048 - 0.061	80-160	0.066 - 0.09	80-160	0.068 - 0.086	80-180	0.100 - 0.125
80-140	0.023 - 0.044	80-140	0.049 - 0.061	80-160	0.066 - 0.105	80-160	0.067 - 0.082	80-180	0.100 - 0.126
80-120	0.016 - 0.044	80-120	0.033 - 0.061	80-140	0.042 - 0.060	80-120	0.066 - 0.081	80-160	0.097 - 0.121
15 - 50	0.012 - 0.022	15 - 50	0.024 - 0.030	15 - 60	0.030 - 0.036	15 - 70	0.031 - 0.076	15 - 80	0.040 - 0.049
15 - 50	0.012 - 0.022	15 - 50	0.024 - 0.030	15 - 60	0.030 - 0.036	15 - 70	0.031 - 0.078	15 - 80	0.040 - 0.049
15 - 50	0.010 - 0.012	15 - 50	0.025 - 0.030	15 - 50	0.026 - 0.036	15 - 60	0.027 - 0.004	15 - 75	0.038 - 0.049
15-32	0.003 - 0.004	15-32	0.003 - 0.005	15-32	0.003 - 0.006	15-35	0.004 - 0.007	15-40	0.0045 - 0.009
no data available									

ACTIONDRILL®
by HB microtec *INOX-170Pilot*



HB microtec®
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