

E2 E2 HIGH PRECISION TOOL MATERIAL	$\lambda=35^{\circ}\text{-}38^{\circ}$ $\gamma=10^{\circ}$ CUTTING ANGLES γ 35-38° γ 10°	$\phi < \phi > \phi > \phi$ 90° 45° CHAMFER $\phi < \phi > \phi > \phi$ 90° 45°	 DUAL DIRECTION HELICAL DRILL BIT	l_1 2.2xD 2.2XD DEPTH FOR TOOLS	 STANDARD TOOL WEAR INDICATOR
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MATERIAL COMPATIBILITY

●●● Excellent (3/3) ●● Good (2/3) ●○ Possible (1/3) ○○○ Not recommended

MATERIAL	SPECIFICATION	GRP	21102-9-10
Alloyed and non-alloyed steels Non-alloyed steels	Rm < 450 N/mm ²	1a	●○
	Rm 450–700 N/mm ²	1b	○○
	Rm 700–900 N/mm ²	1c	○○
	Rm > 1200 N/mm ²	1d	○○
Stainless steels Stainless steels	Rm < 650 N/mm ²	2a	○○
	Rm 650–950 N/mm ²	2b	○○
	Rm > 950 N/mm ²	2c	○○
Hardened steels Hardened steels	44–56 HRC	3a	○○
	57–67 HRC	3b	○○
Exotic materials Special alloys	< 32 HRC	4a	○○
	> 32 HRC	4b	○○
Graphite Industrial graphite		5	●○
Cast iron Grey / nodular cast iron	< 32 HRC	6a	○○
	> 32 HRC	6b	○○
Titanium Titanium alloys	Rm < 600 N/mm ²	7a	○○
	600 < Rm N/mm ²	7b	○○
Nickel alloys Inconel, Hastelloy	Rm < 1000 N/mm ²	8a	○○
	Rm > 1000 N/mm ²	8b	○○
Copper, brass, bronze Copper-based	Rm < 850 N/mm ²	9a	●●●
	Rm > 850 N/mm ²	9b	●●●
Aluminum Aluminum alloys	Si < 0.5%	10a	●●●
	0.5% < Si < 5%	10b	●●●
	Si > 5%	10c	○○
Synthetic materials Engineering plastics	Thermoplastic	11a	●●●
	Thermoset	11b	●●●
Composite materials Reinforced composites	Glass fiber / GFK	12a	●○
	Carbon fiber / KFK	12b	●○
Precious metals Gold, platinum, silver	Gold	13a	●●●
	Platinum	13b	○○

TECHNICAL DRAWING



DIMENSIONS

NOMINAL DIMENSIONS

D (0 / -0.01)	9 mm
d (h5)	10 mm
L	72 mm
l1	19 mm
l3	–
d3	–
R	–
e	–
Z	4
Chamfer K	0.1
w° collision	1.4°

