

E2 E2 HIGH PRECISION TOOL MATERIAL	$\lambda=32^{\circ}-38^{\circ}$ $Y=10^{\circ}$ ADJUSTABLE CUTTING ANGLES 32°-38°	$\phi < 6$ $\phi > 6$ 90° 45° CHAMFER $\phi < 6$ $\phi > 6$ 90° 45°	DUAL DIRECTION HELICAL DRILL BIT	h 2.2xD 2.2XD DEPTH FOR TOOLS	STANDARD TOOL WEAR INDICATOR	ADJUSTABLE ANGLE ICON	VARIABLE HELIX DRILL BIT
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MATERIAL COMPATIBILITY

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

MATERIAL	SPECIFICATION	GRP	21302A-12
Alloyed and non-alloyed steels <small>Non-alloyed steels</small>	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 <small>Stainless steels</small>	Rm < 650 N/mm ²	2a	●●●
	Rm 650–950 N/mm ²	2b	●●●
	Rm > 950 N/mm ²	2c	●●●
Hardened steels <small>Hardened steels</small>	44–56 HRC	3a	○○○
	57–67 HRC	3b	○○○
Exotic materials <small>Special alloys</small>	< 32 HRC	4a	●●○
	> 32 HRC	4b	●●○
Graphite <small>Industrial graphite</small>		5	●●○
Cast iron <small>Grey / nodular cast iron</small>	< 32 HRC	6a	●●○
	> 32 HRC	6b	●●○
Titanium <small>Titanium alloys</small>	Rm < 600 N/mm ²	7a	●●●
	600 < Rm N/mm ²	7b	●●●
Nickel alloys <small>Inconel, Hastelloy</small>	Rm < 1000 N/mm ²	8a	●●○
	Rm > 1000 N/mm ²	8b	●●○
Copper, brass, bronze <small>Copper-based</small>	Rm < 850 N/mm ²	9a	●○●
	Rm > 850 N/mm ²	9b	●○●
Aluminum <small>Aluminum alloys</small>	Si < 0.5%	10a	●○●
	0.5% < Si < 5%	10b	●○●
	Si > 5%	10c	●●○
Synthetic materials <small>Engineering plastics</small>	Thermoplastic	11a	○○○
	Thermoset	11b	○○○
Composite materials <small>Reinforced composites</small>	Glass fiber / GFK	12a	●●○
	Carbon fiber / KFK	12b	●●○
Precious metals <small>Gold, platinum, silver</small>	Gold	13a	●○●
	Platinum	13b	●○●

TECHNICAL DRAWING



DIMENSIONS

NOMINAL DIMENSIONS	
D (0 / -0.01)	12 mm
d (h5)	12 mm
L	83 mm
l	26 mm
l3	–
d3	–
R	–
e	–
Z	3
Chamfer K	0.1
w° collision	–

