

BISPLATE® HIGH HARDNESS ARMOUR PLATE

INTRODUCTION

BISPLATE® High Hardness Armour (BISPLATE® HHA) is a quenched and tempered steel armour plate suitable for use in both military and civil applications where light weight and resistance to ballistic projectiles is required.

METHOD OF MANUFACTURE

BISPLATE® HHA is a hot rolled steel product that is subsequently heat treated to promote its high strength and toughness, high hardness and ballistics properties.

BRINELL HARDNESS

THICKNESS (mm)	SPECIFICATION	TYPICAL
5 - 50*	477 - 534HB	500HB

*Other thicknesses may be available on request

TENSILE PROPERTIES

PROPERTY	TYPICAL
0.2% Proof Stress	1350 MPa
Tensile Strength	1640 MPa
Elongation in 50mm G.L.	14%

CHARPY IMPACT VALUES

THICKNESS (mm)	TEST PIECE	TEST TEMP	MIN. ENERGY (TRANSVERSE)	MIN. ENERGY (LONGITUDINAL)
5	10 x Thk	-40°C	By Agreement	By Agreement
6 - <9.5	10 x 5	-40°C	8J	10J
9.5 - <12	10 x 7.5	-40°C	12J	15J
≥12	10 x 10	-40°C	16J	20J

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MECHANICAL TEST FREQUENCIES

TEST	FREQUENCY
Hardness	Per Plate
Charpy (L)	Per Batch
Charpy (T)	Per Batch
Tensile Testing	By Agreement
Thickness Testing	Per Plate
Ballistic Testing	By Agreement

CHEMISTRY

The chemical specification conforms with the requirements of MIL-DTL-46100, although it is tighter than the requirements of that specification so as to optimise the material's performance. Product chemical analyses are taken on a per-heat basis.

Chemical analysis is as follows:

CHEMICAL COMPOSITION

THICKNESS (mm)		C	P	Mn	Si	S	Ni	Cr	Mo	B	CE(IIW)*	CET*
5 - 50 ¹	Maximum	0.32	0.025	0.80	0.50	0.005	0.50	1.20	0.30	0.002	0.61	0.40

*Note: Nickel and Vanadium are intentionally added.

*Typical Average

¹ Other thicknesses may be available on request.