



Steel that strengthens your defence

ARMAPRO 500 is an armour plate with high hardness (500 HBN) and excellent ballistic resistance properties, strength, and workability. It is available in a wide range of dimensions from 3 mm to 25 mm thickness, 1,500 mm to 3,000 mm width, and length between 3 metres and 12 metres, and given that it works across a wide range of applications, it is guaranteed to keep you safe and secure.

Product Benefits

- Superior fabrication properties
- Sturdy steel made to last
- Ballistic protection
- Lightweight design that offers flexibility without compromising on protection

Product Applications



Dimensions

Thickness (mm): 6.0 – 25.0 mm; **Width (mm):** 1500 – 3000 mm

Tolerances

Thickness tolerance as per EN 10029:2010, Width as per EN 10029:2010, Flatness as per EN 10029 Class N:2010, and Surface quality as per EN 10163-2 Class B, Sub Class 3.

Ultrasonic testing according to EN 10160 class S1E1 on each plate.

Chemical Composition (Ladle Analysis)*

C	Mn	S	Si	Cr	Ni	Mo	CE**
0.32	1.20	0.010	0.70	1.80	1.80	0.70	0.70

**CE (Carbon equivalent) = $C + Mn/6 + (Cr+Mo+V)/5 + (Cu+Ni)/15$

*Typical maximum values in % weight

Mechanical Properties

Nominal thickness (mm)	Hardness ⁽¹⁾ (HBW)	YS (MPa)	UTS (MPa)	% Elongation (GL=50mm)	Charpy 'V' Notch at -40°C ⁽²⁾ (Avg. Value in joules)
6.0–25.0	480–540	≥1,250	≥1,450	≥ 8	≥ 25

1) Hardness is measured on 0.3–2.0 mm below plate surface after milling. 2) Sample orientation transverse to rolling direction. Single value min. 70% of specified average. 3) Requirement below 6.0 mm can be discussed and offered on case-to-case basis

Supply Condition

Quenched & Tempered, Shot Blasted and Primed

Ballistic Testing

Standard*	Type of Bullet	Velocity (minimum)	Nominal Plate Thickness
NIJ Level – III	7.62 x 51 M80 NATO Ball	838±15m/sec	6.00 mm
NIJ Level – IV	0.30 Caliber AP M2	868±15m/sec	14.50 mm
STANAG 4569 Level – I	5.56 x 45 mm NATO Ball (M193)	937±20m/sec	9.20 mm
	5.56 x 45 mm NATO Ball (SS109)	900±20m/sec	6.50 mm
	7.62 x 51 mm NATO Ball (M80)	833±20m/sec	6.50 mm
STANAG 4569 Level – II	7.62 x 39 API BZ	695±20m/sec	12.20 mm
EN1522 FB6	7.62 x 51 M80 NATO Ball	830±10m/sec	6.0 mm
EN1522 FB7	7.62 x 51 P80 NATO AP	820±10m/sec	14.5 mm

6.0 mm tested successfully as per VPAM PM7. *Other ballistic requirements to be agreed upon, on a case to case basis

Cold Forming

Sample Orientation	Bend Angle	Bend Radius
Transverse to rolling direction	90°	6xt
Longitudinal to rolling direction	90°	6xt

(t = Plate thickness)

Welding and Cutting

The properties of ARMAPRO 500 cannot be retained after exposure to temperatures in excess of 170°C. It is not intended for further heat treatment and is commonly welded using normal welding techniques, i.e., GMAW & SMAW.

Water jet cutting is always preferred to maintain the properties of the steel; however, laser and plasma cutting can also be used. Mechanical cutting can be done with cutting tools that are sufficiently hard and the equipment should be rigid.

ArcelorMittal Nippon Steel India

Steel for infrastructure, automotive, white goods, shipbuilding, power plants, or defence, we have it all. From hot rolled, cold rolled, and galvanized to colour-coated steel, heavy plates and welded pipes, we have it the way you want it. AM/NS India offers over 300 grades of high quality steel products to meet your every need. What's more, if it is not already in our product portfolio, we will create and customize it for you. We are one of India's largest integrated steel makers with a capacity of 8.6 MTPA, and straddle the entire steel value chain with a strong commitment to sustainable development, zero waste, and zero discharge.

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