

E350BR – Technical Datasheet

This document provides detailed chemical and mechanical properties of the Indian standard steel grade E350BR, along with its equivalent grades in international standards (EN, ASTM, JIS).

1. E350BR (IS 2062) Chemical and Mechanical Properties

Chemical Composition (Max %)

C	Mn	Si	P	S	CE (Carbon Equivalent)
0.20	1.55	0.45	0.045	0.045	~0.45

Mechanical Properties

Property	Value
Yield Strength (Min)	350 MPa
Tensile Strength	470 – 630 MPa
Elongation (Min)	≥ 22%
Impact Strength	Optional – 27J at Room Temp (25 ± 2°C)

2. Chemical Properties Comparison (Max %)

Grade Name	Carbon (C)	Manganese (Mn)	Silicon (Si)	Phosphorus (P)	Sulfur (S)	Carbon Equivalent (CE)
E350BR (IS 2062)	0.20	1.55	0.45	0.045	0.045	~0.45
S355JR (EN 10025-2)	0.20	1.60	0.55	0.035	0.035	~0.45
A572 Grade 50 (ASTM)	0.23	1.35	0.40	0.040	0.050	~0.47
SM490YB (JIS G3106)	0.18 – 0.23	1.35 – 1.65	0.30	0.030	0.030	Not Specified

3. Mechanical Properties Comparison

Grade Name	Yield Strength (MPa) Min	Tensile Strength (MPa) Range	Elongation (%) Min	Impact Energy (J) Min	Impact Test Temperature	Standard
E350BR (IS 2062)	350	470 – 630	22	27 (optional)	Room Temp (25 ± 2°C)	IS 2062:2011
S355JR (EN 10025-2)	355	470 – 630	20	27	Room Temp (~20°C)	EN 10025-2:2004
A572 Grade 50 (ASTM)	345	450 – 620	21	Optional (not specified)	Not Specified	ASTM A572 / A572M
SM490YB (JIS G3106)	325	470 – 570	22	27	Room Temp (~20°C)	JIS G3106

4. Common Applications

E350BR (IS 2062) (Standard: IS 2062:2011): Structural steel, bridges, construction, shipbuilding, heavy equipment

S355JR (EN 10025-2) (Standard: EN 10025-2:2004): Structural steel, bridges, construction, shipbuilding, heavy equipment

A572 Grade 50 (ASTM) (Standard: ASTM A572 / A572M): Structural steel, bridges, heavy equipment, general fabrication

SM490YB (JIS G3106) (Standard: JIS G3106): Structural steel, bridges, construction, shipbuilding

5. Disclaimer

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