

E350A – Technical Datasheet

1. Chemical & Mechanical Properties

A. Chemical Properties of E350A

Element	Max %
Carbon (C)	0.20
Manganese (Mn)	1.50
Sulphur (S)	0.040
Phosphorus (P)	0.040
Carbon Equivalent (CE), max	0.45 for thickness \leq 20 mm

B. Mechanical Properties of E350A

Property	Value
Yield Strength (YS)	\geq 350 MPa
Tensile Strength (TS)	490–610 MPa
Elongation (%)	22% (minimum)
Impact Strength	Notch impact test not mandatory (optional at 27°C)
Test Temperature	Room Temperature (~27°C)

2. Equivalent / Alternative Grades

A. Equivalent Grades for E350A

Standard	Grade Name
ASTM	ASTM A572 Gr.50
EN	S355JR
JIS	SM490A

B. Chemical Properties of Equivalent Grades

Grade	C (%)	Mn (%)	P (%)	S (%)	Si (%)	Others
ASTM A572 Gr.50	0.23	1.35	0.04	0.05	0.40	Cu: 0.20 min (for some types)
S355JR	0.24	1.60	0.035	0.035	0.55	-
SM490A	0.20	1.60	0.035	0.035	0.55	-

C. Mechanical Properties of Equivalent Grades

Grade	YS (MPa)	TS (MPa)	Elongation (%) / Impact Test
ASTM A572 Gr.50	≥ 345	450–620	≥ 21 / Optional
S355JR	≥ 355	470–630	≥ 20 / 27J at +20°C
SM490A	≥ 325	490–610	≥ 17 / Usually not mandatory

3. Common Applications

- Structural construction (bridges, buildings, heavy machinery)
- Industrial fabrication
- Railways and infrastructure
- Offshore and onshore structures
- Wind turbine towers

4. Standard Conformance

- IS 2062:2011 – Indian Standard for Hot Rolled Medium and High Tensile Structural Steel

5. Disclaimer

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