RAUNAQ STEELS TRADING PRIVATE LIMITED

IS_2041_R355 – Technical Datasheet

1. Chemical & Mechanical Properties

A. Chemical Composition

Element	% Composition
Carbon (C)	≤ 0.22%
Manganese (Mn)	≤ 1.50%
Phosphorus (P)	≤ 0.045%
Sulphur (S)	≤ 0.045%
Silicon (Si)	0.15 – 0.40%

B. Mechanical Properties

Property	Value
Yield Strength (YS)	≥ 355 MPa
Tensile Strength (TS)	470 – 630 MPa
Elongation	≥ 22%
Hardness	150 – 180 HB (typical)
Impact Test	Optional or application dependent

2. Equivalent / Alternative Grades

A. Chemical Composition Comparison

Standard	Grade	C (%)	Mn (%)	P (%)	S (%)	Si (%)	Cu (%)
IS 2041	R355	≤ 0.22	≤ 1.50	≤ 0.045	≤ 0.045	0.15 – 0.40	-
EN 10025-2	S355JR	≤ 0.22	≤ 1.60	≤ 0.035	≤ 0.035	≤ 0.55	-

ASTM A572	Gr 50	≤ 0.23	≤ 1.35	≤ 0.040	≤ 0.050	≤ 0.40	-

B. Mechanical Properties Comparison

Standard	Grade	Yield Strength (MPa)	Tensile Strength (MPa)	Elongation / Impact
IS 2041	R355	≥ 355	470 – 630	≥ 22% / Optional
EN 10025-2	S355JR	≥ 355	470 – 630	≥ 22% / 27J @ 20°C
ASTM A572	Gr 50	≥ 345	450 – 620	≥ 21% / 20J @ RT

3. Common Applications

- Structural steel for bridges, buildings, and construction

- Heavy machinery and fabrication parts

- Automotive and shipbuilding components

4. Standard Conformance

IS 2041: Specification for Hot Rolled Steel Bars, Rods and Sections – Medium Carbon Steel Grades.

Grade Code Meaning:

R: Rolled steel product; 355: Minimum yield strength in MPa

5. Disclaimer

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