

# JSPL\_Hard – Technical Datasheet

## **1. Chemical & Mechanical Properties**

#### **A. Chemical Composition**

Element	% Composition				
Carbon (C)	0.18 – 0.22% (approximate)				
Manganese (Mn)	1.20 – 1.60% (approximate)				
Phosphorus (P)	≤ 0.035%				
Sulphur (S)	≤ 0.035%				
Silicon (Si)	0.30 – 0.50% (approximate)				

#### **B. Mechanical Properties**

Property	Value			
Yield Strength (YS)	460 – 550 MPa (approximate)			
Tensile Strength (TS)	600 – 740 MPa (approximate)			
Elongation	≥ 16%			
Hardness	180 – 220 HB (typical)			
Impact Test	Not typically specified			

## 2. Equivalent / Alternative Grades

#### A. Chemical Composition Comparison

Standard	Grade	C (%)	Mn (%)	P (%)	S (%)	Si (%)	Cu (%)
IS 2062	E450BR	≤ 0.22	≤ 1.65	≤ 0.045	≤ 0.040	≤ 0.45	-
	/ E450C						
ASTM	Gr 60 /	≤ 0.26	≤ 1.35	≤ 0.040	≤ 0.050	≤ 0.40	-
A572	65						

Standard	Grade	Yield Strength (MPa)	Tensile Strength (MPa)	Elongation / Impact
IS 2062	E450BR /	≥ 450	540 - 670	≥ 18% / 27J @
	E450C			20°C
ASTM A572	Gr 60 / 65	≥ 415	550 – 700	≥ 18% / 20J @
				RT

#### **B. Mechanical Properties Comparison**

#### **3. Common Applications**

- Construction and structural steel
- Heavy machinery and fabrication
- Automotive parts
- Infrastructure projects

#### 4. Standard Conformance

Conforms broadly to IS 2062 specifications for structural steel grades. Proprietary to JSPL with specialized processing.

Grade Code Meaning:

JSPL proprietary grade with higher hardness and tensile strength characteristics.

### 5. Disclaimer

All chemical compositions, mechanical properties, dimensions and other technical data presented on this page are provided by Raunaq Steels Trading Pvt. Ltd. for **general reference only**. While we endeavour to ensure that the information is as accurate and up-to-date as possible, **no warranty, express or implied, is given** as to its completeness, correctness or fitness for any particular purpose. Raunaq Steels Trading Pvt. Ltd. **accepts no liability** for any loss or damage arising directly or indirectly from the use of, or reliance upon, the information contained herein.

For **authoritative** and **legally binding** specifications, users must refer to the **official publications** of the relevant standards—such as the BIS, ASTM, EN or JIS standards—available through their respective websites or published documents.