Rockhard 450 – Technical Datasheet

1. Chemical & Mechanical Properties

Property	Value
Carbon (C)	≤ 0.25%
Manganese (Mn)	≤ 1.60%
Sulphur (S)	≤ 0.010%
Phosphorus (P)	≤ 0.025%
Silicon (Si)	≤ 0.70%
Chromium (Cr)	≤ 1.50%
Molybdenum (Mo)	≤ 0.50%
Boron (B)	≤ 0.005%
Yield Strength (YS)	≥ 1100 MPa
Tensile Strength (TS)	1400 – 1600 MPa
Elongation (%)	≥ 10
Hardness (HB)	420 – 480
Impact Test	30J min at -40°C

2. Equivalent / Alternative Grades

Standard	Grade	C (%)	Mn (%)	P (%)	S (%)	Si (%)	Cr (%)	Mo (%)	B (%)	YS (MPa)	TS (MPa)	Elongation (%)	Hardness (HB)
EN 10029 / EN 10051	Hardox 450	≤0.25	≤1.60	≤0.025	≤0.010	≤0.70	≤1.50	≤0.50	≤0.005	≥1100	1400-1600	≥10	420-480
ASTM A6 / ASTM A514	AR450	≤0.25	≤1.60	≤0.025	≤0.010	≤0.70	≤1.50	≤0.50	≤0.005	≥1100	1400-1600	≥10	420-480
JIS G3106	SM450	≤0.25	≤1.60	≤0.030	≤0.010	≤0.70	≤1.50	≤0.50	≤0.005	≥1100	1400-1600	≥10	420-480
ISO 3580	AR450	≤0.25	≤1.60	≤0.030	≤0.010	≤0.70	≤1.50	≤0.50	≤0.005	≥1100	1400-1600	≥10	420-480
DIN 17102	Hardox 450	≤0.25	≤1.60	≤0.025	≤0.010	≤0.70	≤1.50	≤0.50	≤0.005	≥1100	1400-1600	≥10	420-480

3. Common Applications

- Loader buckets

- Chutes and conveyors

- Heavy-duty industrial wear parts

- Wear-resistant components in construction machinery

4. Standard Conformance

Proprietary abrasion-resistant steel grade engineered for superior wear resistance and durability.

Commonly used in heavy machinery requiring higher hardness and toughness than Rockhard 400.

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.