

SAIL HARD – Technical Datasheet

1. Chemical & Mechanical Properties

A. Chemical Composition

Element	% Composition (Max / Range)
Carbon (C)	≤ 0.23
Manganese (Mn)	≤ 1.60
Silicon (Si)	≤ 0.50
Phosphorus (P)	≤ 0.050
Sulphur (S)	≤ 0.050
Aluminium (sol) (Al)	≤ 0.10
Chromium (Cr)	≤ 0.65
Nb + V + Ti (total)	≤ 0.15

B. Mechanical Properties

Property	Value
Hardness (Brinell)	≥ 200 HBW (core ≥ 180 HBW)
Yield Strength	≈ 250 MPa (typical)
Tensile Strength	430 – 560 MPa (typical)
Elongation	≥ 18 % (typical)

2. Equivalent / Alternative Grades

Standard / Brand	Grade	Key chemistry (max %)	Hardness min (HB)	Notes / Strength band
Tata Steel	TISCRA	C 0.23, Mn 1.6, Si 0.50, P/S 0.05	200	Indian 200 HB plate; chemistry identical
JSPL	JSP HARD	C 0.23, Mn 1.6, Si 0.50, P/S 0.05	200	Wear-plate from JSPL

Evonith (Uttam)	EVONITH HARD (AS-07)	C 0.23, Mn 1.6, Si 0.50, P/S 0.05	200	Low-C variant for sour environments
SSAB	Hardox 200	C 0.21, Mn 1.60, Cr 0.60	200	Global AR200 plate
Generic EN stock	200 BHN structural plate	similar to SAIL HARD	200	EU generic 200 HB wear plate

3. Common Applications

- Liner plates in hoppers, chutes and conveyor buckets
- Earth-moving & mining equipment (dump-body floors, loader buckets)
- Agricultural trailer beds and grab arms
- Truck/rail wagon side-walls where abrasion is moderate
- Structural members needing better dent / gouge resistance than IS 2062 E250 plates

4. Standard Conformance

SAIL HARD is a mill-proprietary abrasion-resistant steel produced by Steel Authority of India Ltd. It is supplied to internal specification “SAIL-HARD”, guaranteeing a core hardness ≥ 200 HBW with the chemistry shown above. No dedicated BIS or ASTM designation exists; designers specify by hardness and chemistry together.

5. Disclaimer

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