



Steel that moves the Earth

ROCKSTAR 400 is an abrasion-resistant, quenched, and tempered steel plate. Intended for applications in a tough operating environment. It is available in a wide range of dimensions from 3 mm to 80 mm thickness, 1,500 mm to 3,500 mm width, and length between 3 metres and 12 metres. Meeting the ever-present risk and unpredictability with steely resilience. That's what defines ROCKSTAR.

Ingeniously designed and engineered to endure; with ROCKSTAR 400 by your side, you have a lot less to worry about!

Product Description

- Wear-resistant, quenched, and tempered
- Excellent combination of hardness, formability, weldability, and toughness
- Relatively low carbon equivalent for better weldability

Product Applications



Dimensions

Thickness (mm)	Width (mm)
3.0–80.0	Up to 3,500 mm; higher width can be provided on a case-to-case basis, depending on thickness
Delivery Condition	Quenched / Quenched and Tempered. The plates are delivered with sheared or thermally cut edges. Untrimmed edges can also be delivered on agreement. Plates can be delivered in shot-blasted and primer-coated surface conditions.

Tolerances

Thickness tolerance as per EN 10029. Narrow tolerances can be offered. Width and Length tolerance as per EN 10029, Flatness as per EN 10029 Class N:2010, and Surface properties as per EN 10163-2 Class A, Sub Class 1.

Chemical Composition (Ladle Analysis)

Plate Thickness (mm)	C Max %	Mn Max %	P Max %	S Max %	Si Max %	Cr Max %	Ni Max %	Mo Max %	B Max %	CE* Max %	PCM** Max %
3.0–20.0	0.16	1.60	0.025	0.010	0.70	0.50	0.25	0.25	0.0040	0.45	0.28
20.1–32.0	0.18	1.60	0.025	0.010	0.70	1.00	0.25	0.25	0.0040	0.48	0.29
32.1–50.0	0.22	1.60	0.025	0.010	0.70	1.40	0.50	0.60	0.0040	0.57	0.33
50.1–80.0	0.22	1.60	0.025	0.010	0.70	1.40	0.50	0.60	0.0040	0.65	0.40

*CE = C + Mn/6 + (Cr + Mo + V)/5 + (Cu + Ni)/15

**PCM = C + Si/30 + (Mn + Cu + Cr)/20 + Ni/60 + Mo/15 + V/15 + 5 * B

Mechanical Properties

Hardness	360–430 BHN (On a milled surface 0.5–2.0 mm below the plate surface)			
Parameters	Yield Strength (MPa)	Tensile Strength (MPa)	% Elongation (L0=50 mm)	Impact at –30°C (in joules)
Typical values for 20 mm plate thickness	1,000	1,250	12	40

Orientation of tensile specimen is transverse and impact is longitudinal to rolling direction

Cold Forming

Bend radius is dependent on the direction of bending to rolling direction (t = Plate thickness)	Bend angle	Transverse	Parallel
	180°	3xt	4xt

Kindly reach the company representative for any further requirements and details.

Heat Treatment and Fabrication Guidelines

Rockstar 400 plates have obtained their mechanical properties by quenching, and when required, by subsequent tempering. The properties of the supply condition cannot be retained after exposure to service or preheating temperatures in excess of 250°C. Rockstar 400 is not intended for further heat treatment.

Welding and Cutting

All conventional welding methods like manual electric welding, submerged arc welding and inert gas welding can be used. Preheating temperature for welding and cutting to a maximum of 200°C for thicknesses greater than 20 mm is recommended.

Essar Steel

Essar Steel India is one of India's leading integrated steel producers with an annual production capability of 10 million tonnes that is supported by a 20-million-tonne pellet-making capability. The state-of-the-art facilities comprise iron ore beneficiation, pellet-making, iron-making, steel-making, and downstream facilities, including a cold rolling mill, a galvanizing and pre-coated facility, an extra-wide plate mill, three pipe mills with coating facilities, and steel-processing facilities.

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