

# RECOMMENDED QUALITY & HIGH PERFORMANCE

*CARBON STEEL BQ AND STRUCTURAL STEEL PLATES*



## SEEPL

**STATIC ENGINEERING EQUIPMENTS PVT LTD**

स्टॅटिक इंजिनियरिंग इक्विपमेंट्स प्रायवेट लिमिटेड

STATIC ENGINEERING

Your Engineering Partner for Premium Quality Products

[www.staticengineering.com](http://www.staticengineering.com)

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Ambarnath (West)-421 505, Dist.-Thane, Maharashtra, INDIA.

SEEPL is leading supplier, exporter of Jindal / AMNS / SAIL / UTTAM Steel products.

Our product range includes bloom, coils, plates, sheets, precision strips.

## PRODUCT RANGE

Dimension (in mm)	As Rolled	Furnace Normalised	Quenched & Tempered
Thickness	8-150	8-150	8-100
Width	1500-4800	1500-4800	1500-4800
Length	6000-19000	6000-19000	6000-19000

\* Maximum Slab Weight - 26 MT

\*\* Normalised Plates with thickness > 100-150 mm will be supplied upto 3000 mm width

\*\*\* Thickness >100-150mm shall be discussed on case to case basis



## CONSTRUCTION / GERNERAL ENGINEERING

Plates for bridges, dams, highway, building & civil structures and for industrial fabrication Work.

### Specifications

STANDARD	GRADE	MAX THICKNESS (mm)
IS 2062	E 250, E 275, E 350	150
	E 410	120
	E 450	80
	E 550	50
EN 10025	S 235 , S 275, S 355	150
	S 420N/NL	120
	S 460N/NL	50
ASTM	A36	150
	A283/285	100
	A588	100
ASTM	A 572 Gr. 50	150
	A 572 Gr. 55	120
	A 572 Gr. 60	120
	A 572 Gr. 65	80
ASTM	A 656 Gr. 50	150
	A 656 Gr. 60	120
	A 656 Gr. 70	50
	A 656 Gr. 80	50
ASTM	A 709	40

\* Supply conditions will be confirmed at the enquiry stage.

### Mechanical Properties :

- High Strength & Toughness
- Good Weldability
- Corrosion and fatigue resistance
- Tight dimensional tolerance

### Supply Condition :

- As rolled
- Normalised rolled
- Thermo mechanically controlled process
- Quenched and tempered
- Furnace normalised

## BOILER AND PRESSURE VESSEL

*Plates for Boilers and Pressure vessels for super critical applications, Low temperature, Moderate temperature & high temperatures applications.*

### Specifications

STANDARD	GRADE	MAX THICKNESS (mm)
IS 2041	R220/R260/R355	150
IS 2002	Grade 1, 2, 3	150
ASTM	A 537 Class 1	50
ASTM	A 387 Grade 22/12/11 Class 1 and 2	100
ASTM	A 516 Gr60/65/70	150
EN10028	P235GH/P295GH/P355GH	120
EN10028	P355M/ML1/ML2 P420M/ML1/ML2 P460M/ML1/ML2	60
ASTM	A 515 Gr. 60/65/70	150
ASTM	A 537 Class 2	100

\* Supply conditions will be confirmed at the enquiry stage.

### Mechanical Properties :

- Excellent weldability with low carbon equivalent.
- Low S&P, NACE & HIC Applications.
- Through thickness tested plates.
- High toughness.
- High corrosion resistance.
- High creep resistance.

### Supply Condition :

- As rolled
- Normalised rolled
- Quenched and tempered
- Furnace normalised
- Normalised and tempered

## LINE PIPES AND OFFSHORE PLATFORMS

*Plates as per international standards especially API grade steel for making line pipes for transportation of oil, gas and for offshore applications.*

### Specifications

STANDARD	GRADE	MAX THICKNESS (mm)
API	B, API 5L X-42M/X-46M/ X-52M/X-56M	40
	X-60M/X-65M/X-70M	30
	X-80M	25
API	X52MS/X56MS/X60MS/ X65MS	25
API	2W GR50/60	60
	2Y GR 50/60	80
	2H GR 50/60	100
EN10025	S355+N, S355+M	150
	S420 M	120
	S460 M	60

*\* Supply conditions will be confirmed at the enquiry stage.*

### Mechanical Properties :

- High strength and toughness
- Low temperature toughness
- Corrosion and fatigue resistance
- Wear and abrasion resistance
- Tight dimensional tolerances

### Supply Condition :

- Thermo mechanically controlled process.
- Normalised rolled
- Quenched and tempered
- Through thickness test (Z-Test)
- Drop weight wear test (DWTT) and CTOD test.
- Impact tested & stringent UT as per requirements.

## **THERMO-MECHANICAL CONTROLLED ROLLING WITH DIRECT QUENCHING & SELF TEMPERING**

A combination of thermo-mechanical controlled rolling and a very high rate of cooling is known as direct quenching. Direct quenching is an online cooling technique (MULPIC) that helps in achieving very high cooling rates to substitute quenched and tempered steel plates.

Depending on critical applications, the unit also has advanced mathematical models for performing quenching as well as self tempering. The self tempering helps in improving ductility and impact toughness.

## **FURNACE NORMALIZED**

Furnace Normalizing is a heat treatment procedure adopted to improve the mechanical properties of rolled steel plates. The principle of Furnace normalizing is heating the steel plates above Ar<sub>3</sub> temperature (Approx 910°C), soaking at that temperature and then allowing it to cool in still air. This process helps in reducing the internal stresses, microstructural bonding, in refining the grains to produce fine grain and homogeneous micro structures. The normalized plates offer improved ductility, fine grained microstructures, and excellent impact toughness.

## **QUENCHING (HARDENING) AND TEMPERING**

Quenching is a heat treatment process of heating the steel plates above Ar<sub>3</sub> (Approx 910°C), soaking for a stipulated duration at a very high rate of cooling. The Quenched steel plates are very hard, low on ductility & toughness. The steel plates are further heat treated in a furnace in a wide range of temperature viz. 150°C to 700°C to produce steel plates with desired properties. The tempering is done to improve the ductility, impact toughness and achieving desired hardness.

# Normalizing, Quenching and Tempering

## PROCESS CAPABILITY

Equipment	Entry Temperature	Exit Temperature (°C)
Normalizing/Austentising Furnace	Ambient	880-950
Quenching Machine	Above AC3	Ambient
Tempering Furnace	Ambient	250-750

## PLATES HEAT TREATMENT DIMENSIONAL CAPABILITY

Equipment	Thickness Range (mm)	Width Range (mm)	Length Range (mm)	Capacity (Tons/Annum)
Normalizing	5-100**	1500-4800	6000-19000	125,000
Quenching	5-100	1500-4800	6000-19000	62,500
Tempering	5-100	1500-4800	6000-19000	137,500

\*\*Thickness: >100-150mm shall be discussed on case to case basis.

## EXPORT SHIPMENT



## CARBON STEEL STORAGE FACILITY



### Available MAKE

- 1) **ESSAR / AMNS, INDIA**
- 2) **SAIL**
- 3) **JSPL**

### Running Materials

**SA 516 GR 60 / 70**

**SA 36 / SA 283 / SA 285**

**SA 537 CLASS 1 / 2**



# KEY CONTACTS

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