JINDAL STEEL

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Scan the QR code to know more about **The Steel of India**

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JINDAL STEEL

FUTURE OF HOT ROLLED COIL

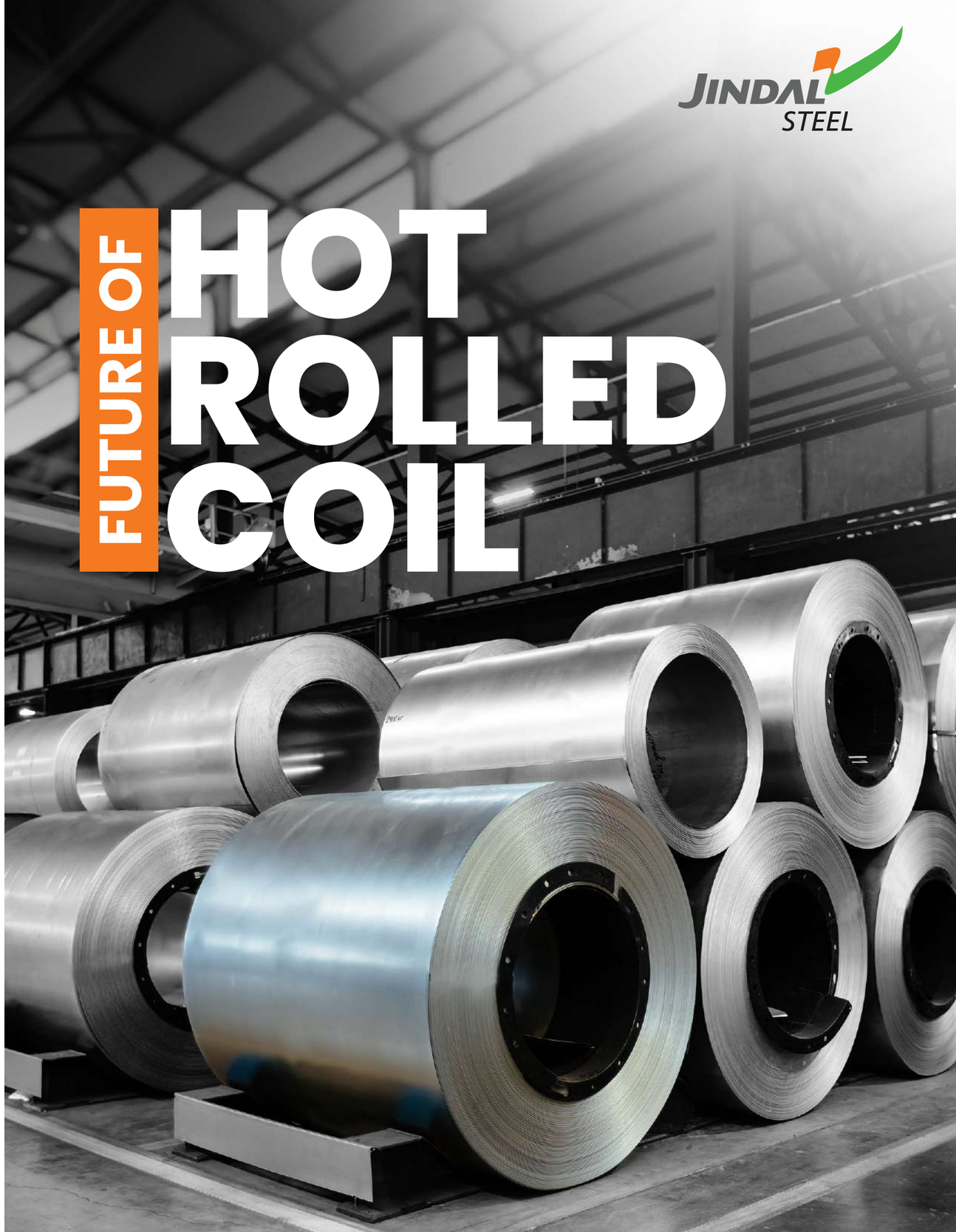


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ABOUT JINDAL STEEL

Jindal Steel is a prominent Indian business house with a significant presence in the steel, mining, and infrastructure sectors. The company operates globally, with business operations spanning India and Africa. Under the leadership of Chairman Mr Naveen Jindal, Jindal Steel has experienced remarkable growth, offering a product portfolio that caters to the entire steel value chain and supports the "Make in India" vision. The organisation emphasises innovation, enhancing capabilities, and enriching lives to drive its growth and commitment to building a self-reliant nation. With an investment of more than $12 billion across the globe, Jindal Steel has received numerous awards for its innovative business and social practices.

The company offers a wide range of customised and standardised high-quality steel products from its integrated steel plants in Angul, Raigarh & Patratu, India, utilising cutting-edge manufacturing facilities. Jindal Steel focuses on innovation, excellence, and sustainability, delivering eco-friendly and high-performance steel solutions. Its diverse product portfolio serves various sectors, including infrastructure, construction, and automotive, establishing a strong presence in over 80 countries.



ANNUAL PRODUCT LOCATION CAPACITY (IN MTPA*)

ANGUL

Hot Strip Mill, JINDAL STEEL

6 MTPA
Product - Hot Rolled Coil

Plate Mill

1.5 MTPA
Product - Hot Rolled Plate

Bar Mill

1.5 MTPA
Product - TMT Rebar

CRM Complex

1.2 MTPA
Product - Cold Rolled Coils

RAIGARH

Plate and Coil Mill

1.2 MTPA
Product - Plate and Coil

Rail Mill

1 MTPA
Product - Rail, Structural (Beam, Column)

Special Profile Mill

0.75 MTPA
Product - Structural (Beam, Column, Angle & Channels), Track Shoe, Sheet Pile

PUNJIPATRA
ANGUL
RAIGARH

Steel Structural Division

0.264 MTPA
Product - Fabricated Structure

PATRATU

Bar Mill

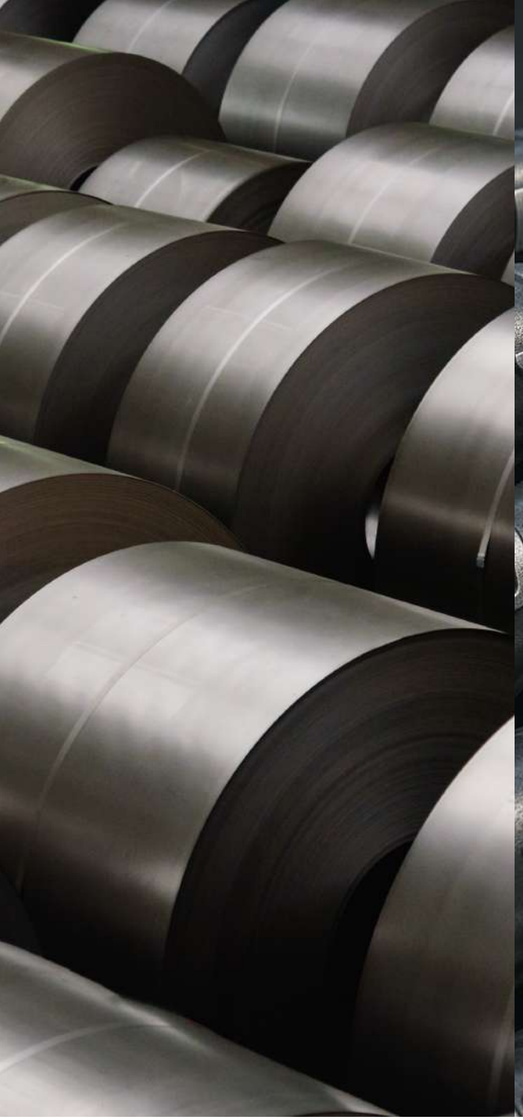
1 MTPA
Product - TMT Rebar

Wire Rod Mill

0.6 MTPA
Product - Wire Rod



*Million tons per annum








Product Offerings

With a strong commitment to excellence and innovation, Jindal Steel delivers steel products that cater to the evolving needs of various industries and encompass the entire steel value chain, ensuring reliability and sustainability in every offering.

Hot Rolled Coils, Cold Rolled Coils, Plates, Rails, Parallel Flange Beams & Columns, Angles & Channels, Square & Rectangular Hollow Sections, Wire Rods, Round Bars, Fabricated Sections, Speedfloor,Jindal Panther TMT Rebars, Cast Rounds, Value added Billets, Blooms & Slabs.

JINDAL STEEL PRODUCTION FACILITIES & CAPACITIES



Jindal Steel's integrated steel plants are located in Angul and Raigarh produce Hot Roll Coils. The capacity for the Plate and Coil Mill in Raigarh is 1.2 MTPA, while the capacity of the Hot Strip Mill in Angul is 6 MTPA.

Angul, Odisha

The Angul plant is India's most modern 6 MTPA (Million Tonnes Per Annum) integrated steel plant. It features India's largest 4.25 MTPA blast furnace and has set new global benchmarks in steelmaking. The plant is in the process of increasing its capacity to 12 MTPA, with a vision to establish Jindal Steel Angul as the world's largest integrated steel plant at a single location by the year 2030. The Angul facility also includes a 1.5 MTPA plate mill, a 1.5 MTPA bar mill. The plate mill can produce 5-meter-wide plates, which is the widest plate ever built in India.

Jindal Steel's Coal Gasification Plant-Direct Reduced Iron operation (CGP-DRI) in Angul stands as the world's largest. This environmentally friendly process, CGP-DRI, utilises coal gasification to produce synthesis gas, effectively minimising CO_2 emissions through carbon capture.

Sustainability

Jindal Steel Coal Gasification Plant-Direct Reduced Iron operation (CGP-DRI) in Angul stands as the world's largest. This environmentally friendly process, CGP-DRI, utilises coal gasification to produce synthesis gas, effectively minimising CO_2 emissions through carbon capture.

Hot Strip Mill, Jindal Steel

Introduced in 2024, the state-of-the-art Hot Strip Mill (HSM) aligns with the **'Make in India'** initiative or the **'Atmanirbhar Bharat Abhiyan'.** It is capable of producing ultra-thin hot-rolled steel coils up to 1.0mm thickness. The Hot Strip Mill can produce 1.0-20mm coils for a variety of applications. The HSM is 1,720 mm wide and has a capacity of 6 million tonnes per year. It can produce a range of steel grades, including high-strength low alloy (HSLA) steel, pipe grades, and silicon steels. The HSM is equipped with advanced technologies, including a transfer bar cooling system, a seven-stand finishing mill, and an AMOVA coil handling system. It's designed to produce thin hot strips efficiently and sustainably.

The HSM at Jindal Steel helps cater to a variety of sectors, including construction, automotive, oil & gas, downstream cold rolling, galvanising, colour coating, equipment manufacturing, pipes and tubes, boilers & pressure vessels. The HSM is equipped with advanced features to ensure top-notch flatness, uniform mechanical properties, and production of superior value-added grades. Jindal Steel – Angul has a state-of-the-art manufacturing facility at its 6 MTPA Hot Strip Mill, complying with ISO, NABL, BIS, & International certifications.

Benefits

The HSM at Jindal Steel Odisha Ltd., helps Jindal Steel cater to a variety of sectors, including **construction, automotive, oil & gas, downstream cold rolling, galvanizing, colour coating, equipment manufacturing, pipes and tubes, boilers & pressure vessels.**

The HSM is equipped with advanced features to ensure top-notch flatness, uniform mechanical properties, & production of superior value-added grades.



HR COILS AND SHEETS MANUFACTURING FACILITIES, JINDAL STEEL ODISHA LIMITED





HR Slitter

Thickness (mm):	1- 13
Width (mm):	800- 2000
Entrance Coil Inner Dia:	610-762 (mm)
Outer Dia:	850-2200 (mm)
Minimum Slit Width:	75 (mm)

Jindal Steel Odisha Limited (JSOL) – **Angul, has state of the art manufacturing facility at 6 MTPA Hot Strip Mill Complying to ISO, NABL, BIS, & International certifications**

Dimension : Strip Thickness (min-max), mm

Range : 1.0 - 20

Dimension : Strip Width (min-max), mm

Range : 800 - 1680

Dimension : Coil Inner Dia. (min), mm

Range : 760(+/-20)

Dimension : Coil Outer Dia. (max), mm

Range : 2150

Dimension : Coil Wt. (min-max), MT

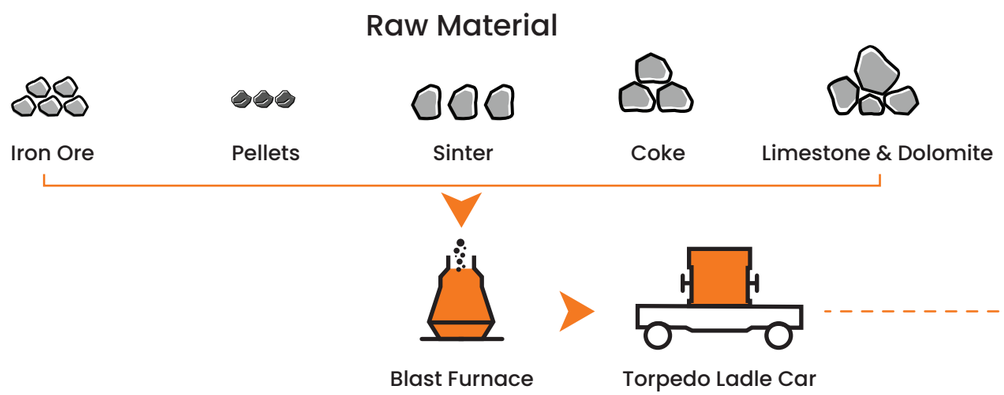
Range : 20 - 36

HR Cut to Length (CTL) Plates

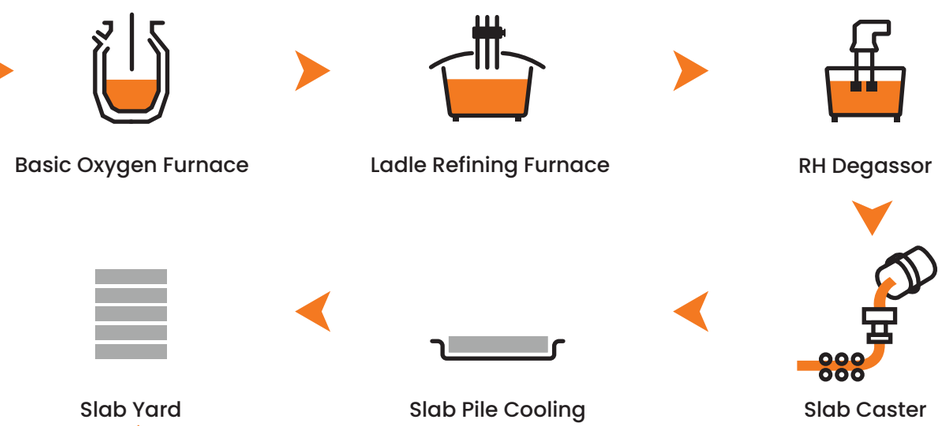
Thickness (mm):	1- 13
Width (mm):	800- 2000
Length (mm):	1000- 13,000
Package Weight (MT):	Max 15
Yield Strength:	Max 850 N/mm2 (1.00-6.00 mm) Max 700 N/mm2 (6.50-13.00 mm) Min 260 N/mm2
Flatness Tolerance:	Suitable with EN Norms
Supply Condition:	Black, Pickled & Oiled (up to 6 mm), Skin Passed

Angul Plant Cum Coil Mill Process Flow

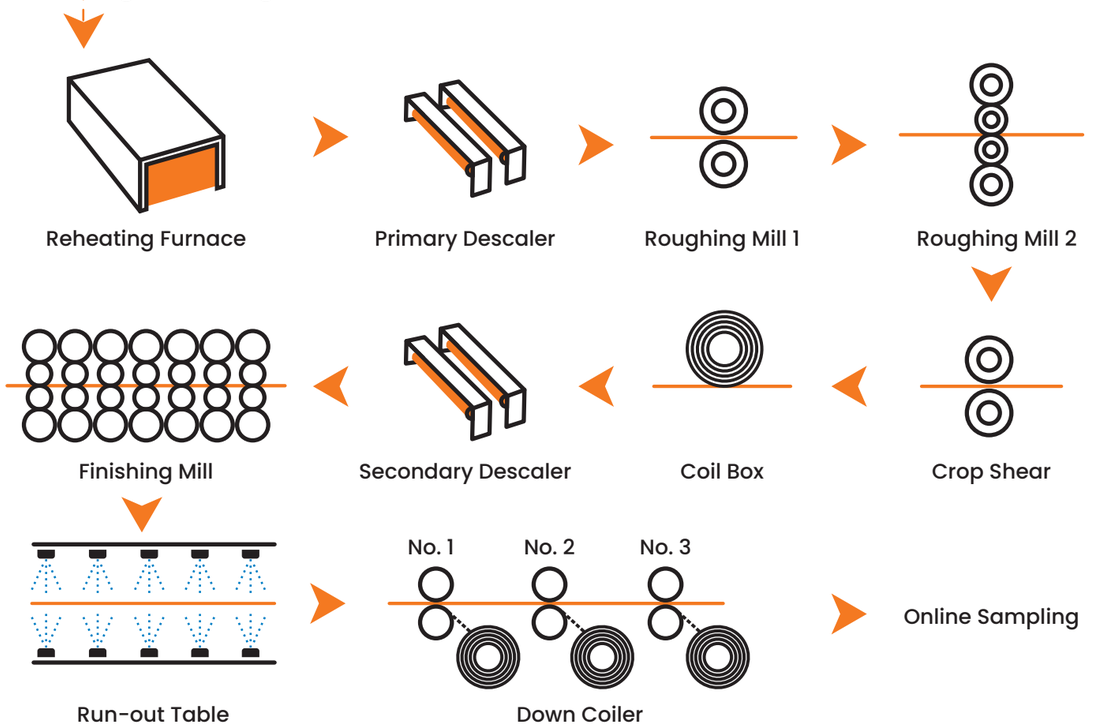
1. Iron Making



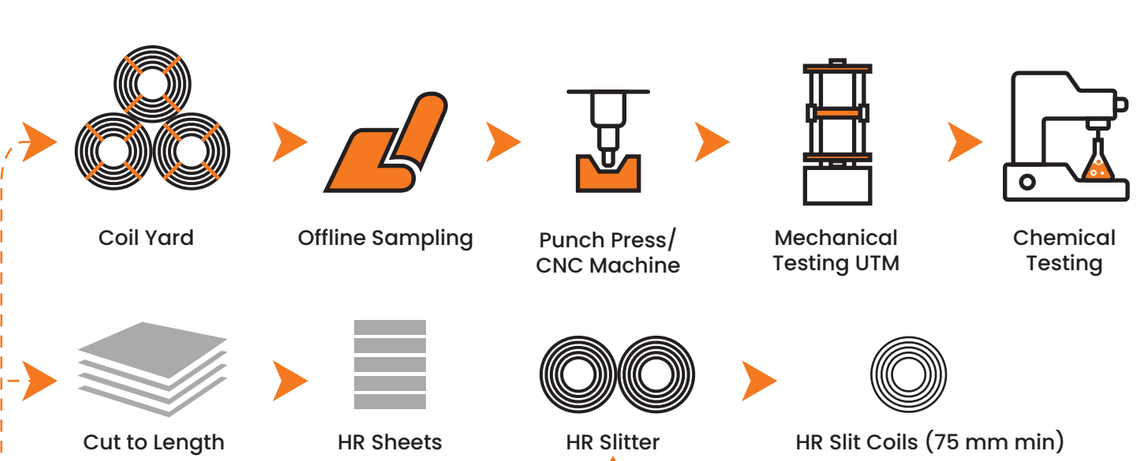
2. Steel making & Casting



3. Rolling & Coiling Process



4. Coil Testing & Quality Check



JSOL Features:

High Pressure Descaler	Entry & Exit Pyrometer in Finishing Mill and Downcoiler	Thickness Gauge	Width Gauge	Profile Gauge	Flatness Measurement	Surface Injection System

Major Equipment of the HSM

Main equipment includes the primary descaler, roughing stand No. 1 in 2-Hi design with attached edger, roughing stand No. 2 in 4-Hi design also with attached edger, transfer bar cooling system, HIBOX® heat preservation hoods, mandrel-less coilbox, edge heating equipment, drum shear, secondary descaler, a seven stand finishing mill, laminar cooling and three downcoilers. SMS's integrated business unit AMOVA supplied a coil conveying system, coil strapping machines, a marking machine and an inspection line.

Challenging Products

In the roughing mill section, slabs with a maximum length 12000mm, a thickness range from 180 to 260 millimetres and a width range from 800 to 1,680 millimetres are rolled down to transfer bar thickness. The range of hot strip thicknesses is 1.0 to 20.00 millimetres. In total, Jindal Steel's HSM is designed for an annual capacity of 6 million tons. The range of steel grades that are processed is very wide. These include, for example, sophisticated grades such as HSLA, pipe grades and silicon steels.



The share of harder material grades is more than 20 per cent. Furthermore, very thin strips can be rolled reliably and stably. This is possible through the implementation of various innovative rolling technologies.

Ground-Breaking Technology

Transfer Bar Cooling: For optimal temperature regulation in the roughing mill, SMS installed the newly developed transfer bar cooling system. The transfer bar cooling prevents uncontrolled air-cooling during oscillation and comes with favourable effects on temperature profiles.

HI_{BOX}® Heat Preservation Hoods: Jindal Steel's HSM is equipped with the latest generation heat panels of the HIBOX® type. This simplifies the inspection and maintenance of the elements and increases the service life by a factor of four compared to conventional preservation hoods.

Mandrel-Less Coilbox: Arranged between the second roughing stand and the finishing mill, the coilbox forms the transfer bar into coils and thereby equalises the temperature over the transfer bar length. The improved transfer bar temperature allows expansion of the product range to thinner gauges.

Edge Heater: The edge heater, located upstream of the finishing mill descaler, utilises inductive heating. The primary role is to enhance strip edge quality by maintaining optimal pre-rolling temperatures. This ensures flawless production, even for advanced grades.

Finishing Mill: The seven-stand finishing mill in 4-hi design is equipped with hydraulic adjustment systems, hydraulic loopers and the latest generation CVC® plus (Continuously Variable Crown) combined work roll shifting and bending systems. Also part of the supply was the X-Pact® Profile, Contour and Flatness process model (PCFC®), being able to cope with all requirements in terms of producing highly sophisticated products with an exceptionally wide range of properties and dimensions. The high-capacity HSM is completed by the laminar cooling system and three downcoilers. AMOVA, as an integrated business unit of SMS, supplied the coil conveying system, strapping machines, marking machine and inspection line.



Roughing mill No. 2 in 4 Hi-design with attached edger

The high-capacity HSM is completed by the laminar cooling system and three downcoilers. AMOVA as an integrated business unit of SMS supplied the coil conveying system strapping machines, marking machine and inspection line.



JINDAL STEEL's new high-capacity hot strip mill with the seven stand finishing mill.



The maintenance friendly modular insulating elements of the HIBOX® heat preservation hoods are mounted on the panels.



The finishing mill stands are provided with latest generation actuators for precise and efficient rolling operation.

BENCHMARKING EXCELLENCE

Key Features

Implementation of an automated slab yard management system:
Comprehensive coverage and control over equipment and processes.

Digital Automatic Furnace Control: Precise heating of slabs.

Deployment Of Automatic Gauge Control (AGC) Utilizing Hydraulic Mechanisms:
Consistent thickness maintenance.

Utilization of Automatic Width Control (AWC):
Real-time adjustments and maintenance of perfect width.

Implementation of Automatic Profile and Flatness Control (APFC):
Continuous monitoring and adjustment of flatness.

Automated Laminar Cooling:
Optimal coiling temperature and superior product quality.

Integration of an Online Surface Defect Inspection System:
Enhanced quality control.

BENCHMARKS

Introduction of the **Lowest Thickness Hot Strip Mill in India**

Implementation of a ZERO EFFLUENT discharge system for Green & Cleaner Environment

Establishment of the **Largest Run Out Table Hot Strip Mill in India**

Achieved the **Fastest Commissioning of a Hot Strip Mill in India**

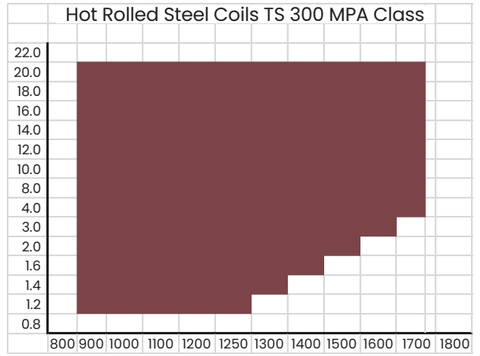


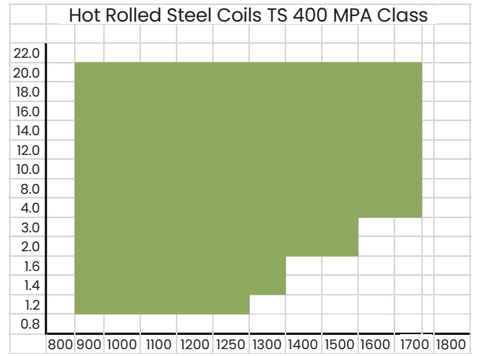
PRODUCT AND DIMENSIONAL CAPABILITIES

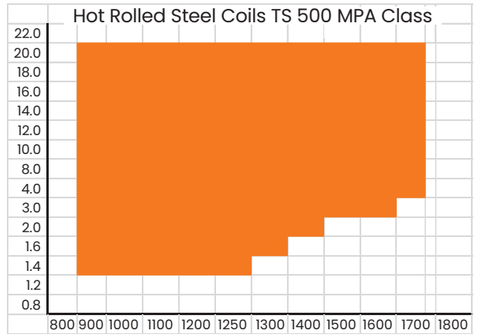
Product Capabilities

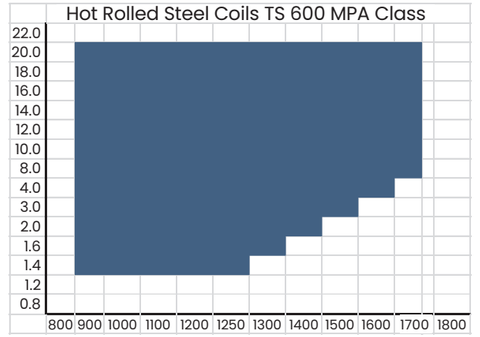
Sr. No.	Grade Group	Steel Grade	Width (mm)	Thickness (mm)
1	Cold Rolled Grade	Low Carbon	800-1680	1-12
2	Welded Tubes and Structural	Low & Medium Carbon	800-1680	1-20
3	Medium Carbon	C20-C60	800-1680	1.8-12
4	API Tubes	API (Up to X80)	800-1680	6-20
5	HSLA (YS: 270-550MPA)	Low Carbon	800-1680	1-12
6	Micro Alloyed (S3155MC - S700MC)	HSLA	800-1680	1.4-20
7	AHSS (DP600, DP800, FB450, FB590)	DP, FB	800-1680	2-8
8	Martensitic (UTS 1200)	Martensitic	800-1680	2-6
9	Silicon Steel (Up to 3.5% Si)	Silicon Steel	800-1680	2-3
10	Pressure Vessels	Low Carbon	800-1680	2-20
11	High Carbon	C65-C95	800-1680	2-5
12	Hot Stamping	22MnB5/26MnB5/30MnB5	800-1680	1-6
13	Automobile Grade	Auto Grade	800-1680	2-6

Available Dimensions

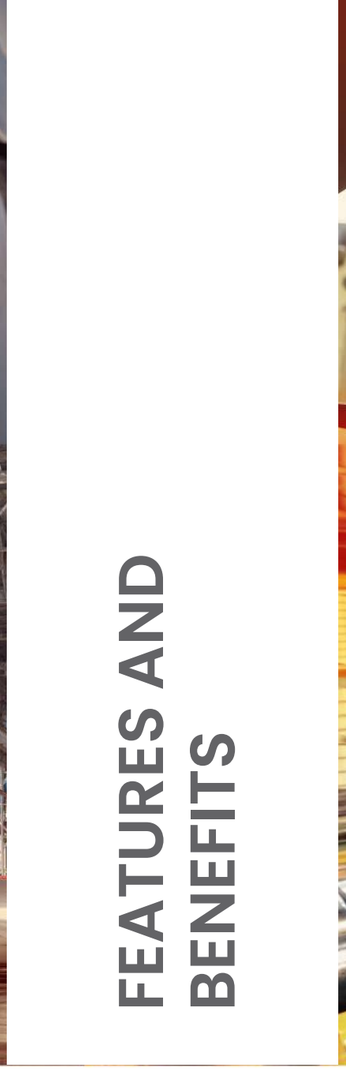












FEATURES AND BENEFITS



Diverse Size Range

Customizable Thickness & Width options

Exceptional Gauge Accuracy

Steel with Minimal Segregation & **Non-Metallic Inclusions for Purity**

Resilient Against the Impact of Low Temperatures

Precise Dimensional Tolerance Maintained for Width Specifications

Uniform product quality with Flatness Guaranteed

Superior Surface Finish & Aesthetic Appeal

Dedicated Product Application Support

"Made in India" Labelling on all HR Coils

Enhanced Paintability for Versatile Applications

PRODUCT APPLICATIONS



Automotive Segment

Yellow Goods & Mining Equipment



General Engineering,
Forming & Flanging





Agricultural Implements

Pipe & Tube



PRODUCT APPLICATIONS



Pressure Vessels & Boilers

Liquefied Gas Cylinder (LPG)



Transportation &
Containers





Pre Engineered Buildings &
Construction Segment

Cold Rolling &
General Engineering





APPROVALS & CERTIFICATIONS

Jindal Steel mills feature cutting-edge technologies and robust quality control measures, ensuring precise production and adherence to customer specifications. With state-of-the-art equipment and meticulous recording systems, they guarantee the delivery of materials that consistently meet customer requirements. For Customer Support, Jindal Steel has in-house Research & Development facilities and a Product Application Team.



Testing Capabilities

- **Chemical Composition**(by Spectroscopy)
- **Tensile Testing** (UTM)
- **Impact Testing** (CVN)
- **Drop Weight Tear Test** (DWTT)
- **Bend Test**
- **Hardness**
- **Erichsen Cupping Test**
- **Grain Size** (By Microscopy and Macroscopy)
- **Scanning Electron Microscope**
- **XRF** (X-Ray Flouroscence)

Certifications

Jindal Steel proudly holds various certifications that validate its adherence to international standards and affirm its dedication to delivering superior products and services to its valued customers.

- BIS License - IS 2062, IS 10748, IS 1079, IS 5986, IS 11513, IS 6240, IS 11587, IS 15911, IS 15914, IS 3502
- API & many other Grades

NETWORK AND PRESENCE

Corporate Office

Jindal Centre
12, Bhikaji Cama Place, New Delhi-110 066, Tel: +91 11 26188340-50, 4146000
Email Id: **info@jindalsteel.in**

Registered Office

O.P. Jindal Marg, Hisar-125 005, (Haryana), Tel: +91 1662 222471-84

Head Office

Jindal Centre
Plot No-2, Sector-32, Near Exit-10, Gurgaon-122 001, Haryana, Tel: +91 124 6612000 (Board)
Email Id: **marketing@jindalsteel.in**

Works

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Jindal Steel Limited, Chhendipada Road, SH-63, P.O.- Jindal Nagar, District- Angul, Angul-759111, (Odisha),
Tel: +91 6761 254191-95
Email Id: **jindalangul@angul.jspl.in**

Barbil
Jindal Steel Limited, Iron Ore Pellet Plant, Commercial Office, Plot No. 507/365, Barbil-Joda Highway, Barbil-758035, (Odisha), Tel: +91 6767 248621/248625

Patratu
Jindal Steel Limited, Balkudra, Patratu, Distt. Ramgarh, Jharkhand 829 143,
INDIA Tel: +91 6553 275724/275726

Raipur
Jindal Steel Limited, 13 K.M. Stone, GE. Road, Mandir Hasaud, Raipur - 492 101, (Chhattisgarh),
Tel: +91 771 2471205-07
Email Id: **jspl_raipur@rpr.jspl.in**

Raigarh
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SALES NETWORK

South

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Bengaluru : Jindal Steel Limited, 1002-03, 10th Floor, Prestige Meridian Tower 1, M. G. Road, Near Trinity Circle, Bengaluru–560001 (Karnataka)

Chennai : Jindal Steel Limited, AWFIS, Center Point 3, 6th Floor, No.2/4 Mount Poonamalle High Road, Manapakkam, Chennai-600089 (Tamil Nadu)

Kerala : Jindal Steel Limited, B1 (1st Floor), Springs Cascade, Opp. EMC Peringatt Road, Palarivattom, Kochi-682025 (Kerala)

Telangana : Jindal Steel Limited, Flat No-1007, 10th Floor, Jain Sadguru Images Capital Park, Plot No. 1-98/4/1 to 13, 28 & 29, Image Garden Road, Madhapur, Hyderabad-500081 (Telangana)

North

Noida : Jindal Steel Limited, Unit Numbers 1011 & 1012, 10th floor Office Tower, Bhutani City Centre, Plot No 58, Block BW, Sector 32, Noida-201301 (Uttar Pradesh)

Lucknow : Jindal Steel Limited, 506, 5th Floor, Shalimar Iridium, Shalimar Corporate Park, Vibhuti Khand, Gomti Nagar, Lucknow-226010 (Uttar Pradesh)

Chandigarh : Jindal Steel Limited, SCO-24, 1st floor Sector 26 Madhya Marg, Chandigarh-160019

Ludhiana : Jindal Steel Limited, SCS-132, 1st Floor Urban Estate Phase-1, Jamalpur, Ludhiana-141010

Jaipur : Jindal Steel Limited, Office No.-307, Bansal Tower, Rathore Nagar Scheme, Vaishali Nagar, Jaipur-302021 (Rajasthan)

Faridabad : Jindal Steel Limited, Shop No - 9, Bata A Colony, NIT, Faridabad-121001 (Haryana)

West

Bhopal : Jindal Steel Limited, E10-11, 8th Floor, Bansal One, Near Rani Kamlapati Railway Station, Bhopal-462016 (Madhya Pradesh)

Nagpur : Jindal Steel Limited, Block No.-302, M.G. House, 316-E, Ravindra Nath Tagore Marg, Civil Lines, Nagpur-440001 (Maharashtra)

Mumbai : Jindal Steel Limited, 3rd Floor, Jindal Mansion 5A, Dr. G. Deshmukh Marg (Pedder Road), Mumbai-400026 (Maharashtra)

Pune : Jindal Steel Limited, AWFIS, 17th Floor, Nyati Enthral, Mundhwa-Kharadi Bypass, Kharadi South Main Road, Kharadi, Pune-411014 (Maharashtra)

Ahmedabad : Jindal Steel Limited, B-2206 & 2207, 22nd Floor, B Block, Westgate By True Value, Nr. YMCA Club, SG Highway, Ahmedabad-380015 (Gujarat)

East

Ranchi : Jindal Steel Limited, Uma Bhawan, First Floor, House No. 359/A, Road No. 5/B, Ashok Nagar, Ranchi - 834002 (Jharkhand)

Bhubaneswar : Jindal Steel Limited, Plot No.- 3, Forest Park, Bhubaneswar-751009 (Odisha)

Patna : Jindal Steel Limited, 309, Vasundhara Metro Mall Rajapur Pul, Boring Canal Road, Patna-800001 (Bihar)

Kolkata : Jindal Steel Limited, Haute Street Building, 86 A Topsia Road, Kolkata-700046

Guwahati : Jindal Steel Limited, House No.-15, Rajgarh Road, Near Bank of Baroda, Guwahati-781007

Raipur : Jindal Steel Limited, 9th Floor, CBD Complex, Block C, Commercial Tower, Sector-21, Atal Nagar, Nava Raipur-492101 (Chhattisgarh)

For Domestic enquires : ho.crm@jindalsteel.in / ho.hrc@jindalsteel.in
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