

Jindal Blade Steel





THE GROUP

Jindal Organization, set up in 1970 by the visionary Mr. O P Jindal, has grown from an indigenous single-unit steel plant in Hisar, Haryana to the present multi-billion, multi-national and multi-product steel conglomerate. The organization is expanding, integrating, amalgamating and growing.

The group places its commitment to sustainable development, of its people and the communities in which it operates, at the heart of its strategy and aspires to be a benchmark for players in the industry the world over. The JSL Organization today is a global player. Its relentless quest for excellence has reaped rich benefits and it is today one of the world's most admired and respected groups within the stainless steel fraternity.

JINDAL STAINLESS

A part of the O.P. Jindal group, Jindal Stainless is India's largest fully integrated stainless steel manufacturer. Jindal Stainless is versatile in its thought process, strong and unrelenting in its operations, environment friendly in its manufacturing process, bright, shining and beautiful in its community support activities. The list of the properties of stainless steel is endless, just as our values are all encompassing.

Jindal Stainless, an ISO 9001:2008, PED 97/23/EC, AD W0, ISO 14001:2004 and BS OHSAS 18001:2007 company, is the leading producer of Stainless Steel flat products in Austenitic, Ferritic, Martensitic and Duplex grades and global leader in Chrome Manganese (Cr-Mn) 200 Series Stainless Steel grades. The company has strong export market and has presence in over 50 countries including US, Europe, China, Middle-East and South Asian countries.

Jindal Stainless, while leading the Indian Stainless steel industry is also among the top 10 Stainless Steel producers worldwide and has always been committed to innovation and progression, research and development. Our innovations are admired beyond the geographical boundaries of our country. No wonder we are the strategic partners of global leaders by choice. Our achievements narrate a story of our determination to succeed and our passion to win. We will continue to leverage our opportunities in creating excellence.



A photograph of a worker in a white hard hat and orange safety vest operating industrial machinery in a factory. The worker is standing next to a large machine with a control panel featuring many buttons. The machine is processing a metal strip. The background shows more industrial equipment and a bright light source.

SPECIAL PRODUCTS DIVISION

CAPACITY TO PRODUCE 72,000 MT OF HIGHLY SPECIALISED GRADES OF COLD ROLLED PRECISION STRIPS WHICH INCLUDE AUSTENITIC, FERRITIC AND MARTENSITIC STAINLESS STEEL.

Special product Division (SPD) at JINDAL STAINLESS Hisar have state of the art precision rolling and slitting equipments to produce stainless steel precision strips down to minimum thickness of 0.05mm in maximum width of 600mm. In addition, SPD also have an independent line for production of cold rolled Razor Blade Strips to minimum thickness of 0.074 mm, and width down to 4mm specially for Single Edge Blades and 0.09/0.10 mm thick strips for Double edge Blades.

This division focuses on the production of customized products through various specialized processing equipment, primarily for annealing, rolling and finishing. There is an option of using either a Bell annealing or a Bright annealing or even Horizontal annealing depending on the grade and finish of stainless steel being produced. Fully Automatic 4-Hi mills and Sendzimir mills are equipped with automatic gauge control system & are used for making ultra-thin gauges with close thickness tolerances. To impart various finishes in the final product the complex has Strip Grinding Line, Skin Pass Mill and Tension Leveler. The finish coils from different processes are finally passed through the Precision slitters to attain precise dimensions as per customer's requirement.

The division houses a sophisticated vertical Bright Annealing (BA) line equipped with highly advanced features to achieve the desired mechanical properties along with a flat strip and bright surface. The line also has an online degreasing unit to ensure good surface cleanliness.

Especially for precision strips, a tension leveling unit is available to get table top flatness without affecting the quality of strip surface. An online flatness measurement helps produce strips with a flatness of the level of low "I" units.

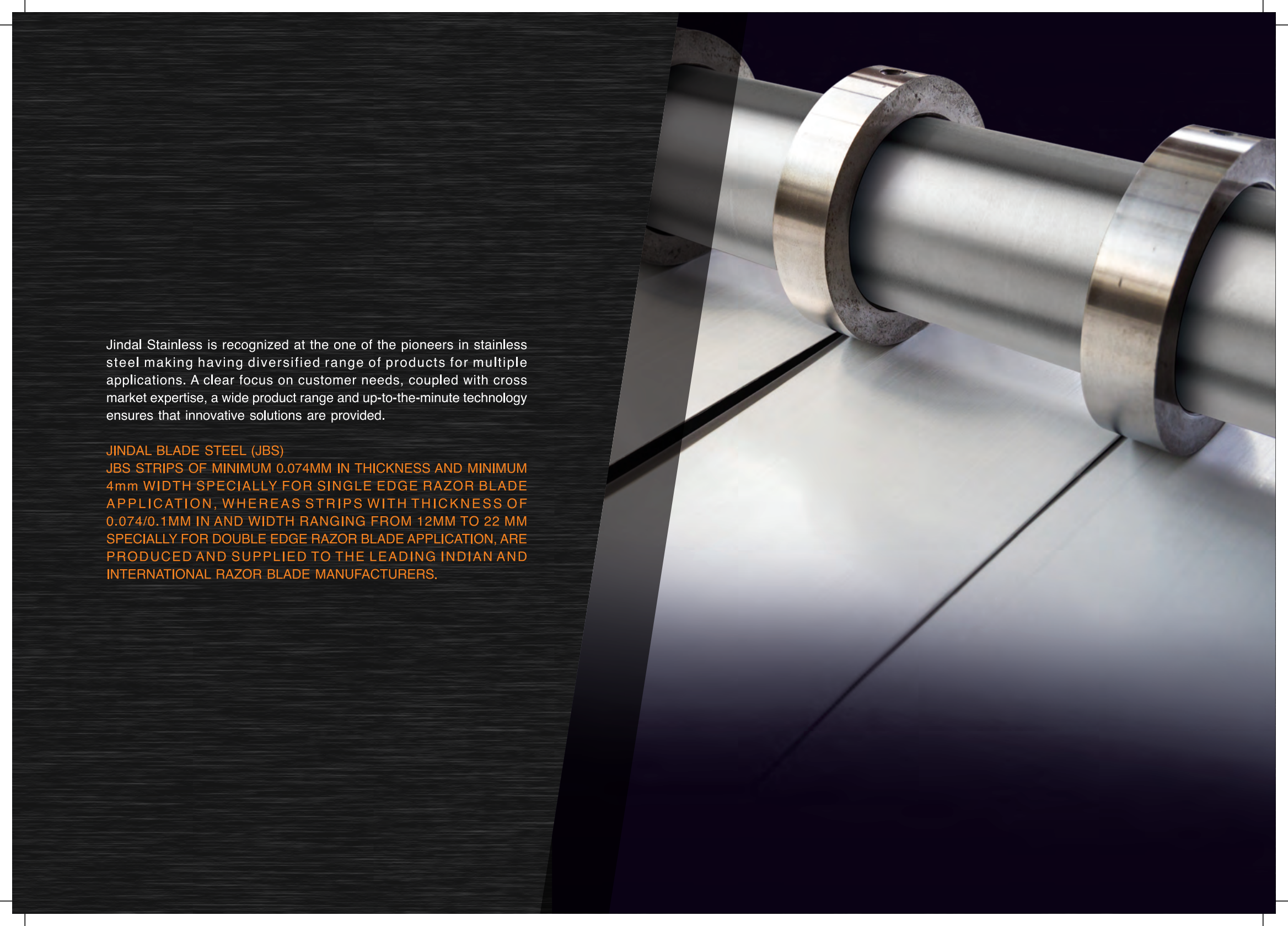
The final slitting comprises precision slitters that can slit strips in highly precise widths as per the requirement of any of customer to different segments.



A large, glowing orange-red coil of steel is the central focus of the image. It is set against a dark, industrial background with visible structural elements and some distant lights. The coil's intense heat is evident from its bright, fiery color.

THE DEVELOPMENT OF RAZOR BLADE STEEL

Jindal Stainless is a major producer of stainless razor blade steel in the world catering to a major portion of the globe. It has achieved consistent progress in quality over the years with respect to dimensional and metallurgical properties of steel. The microstructure of our strips is designed to optimize / facilitate hardening, sharpening and honing operations at the customers end and to develop the ideal characteristics for the intended end applications. These are achieved with stringent quality checks utilizing modern and sophisticated testing equipment such as the metallurgical microscope with advanced image analyzer, digital micro-hardness tester, microprocessor controlled tensile testing machine and scanning electron microscope. Persistent R & D activity has helped the product attain international standards. Flexibility to customize the product to match each individual customer's requirement sets us apart.



Jindal Stainless is recognized as one of the pioneers in stainless steel making having a diversified range of products for multiple applications. A clear focus on customer needs, coupled with cross market expertise, a wide product range and up-to-the-minute technology ensures that innovative solutions are provided.

JINDAL BLADE STEEL (JBS)

JBS STRIPS OF MINIMUM 0.074MM IN THICKNESS AND MINIMUM 4mm WIDTH SPECIALLY FOR SINGLE EDGE RAZOR BLADE APPLICATION, WHEREAS STRIPS WITH THICKNESS OF 0.074/0.1MM IN AND WIDTH RANGING FROM 12MM TO 22 MM SPECIALLY FOR DOUBLE EDGE RAZOR BLADE APPLICATION, ARE PRODUCED AND SUPPLIED TO THE LEADING INDIAN AND INTERNATIONAL RAZOR BLADE MANUFACTURERS.



THE PRODUCTION PROCESS FOR JBS STRIPS

THE STRENGTH OF JINDAL STAINLESS LIES IN HAVING A FULLY INTEGRATED OPERATION AT HISAR.

The production of Blade steel strips begins with state of the art melt and casting shops where melting of ferrous scrap and terra-alloys in the UHP Electric Arc Furnace, followed by secondary refining in AOD/VOD units. The liquid steel thus obtained, is cast into ingots/blooms. These ingots/blooms are subjected to stringent quality checks and then hot rolled in the Tandem Strip Mill comprising reheating furnace, roughing stand and multiple finishing stand with down coilers.

The Hot Rolled Coils are transferred to the Special product division where the hot rolled coils continuously go through the processes like spheroidising annealing (bell annealing), shot-blasting, pickling and cold rolling to achieve desired thickness. The coils are further cold rolled in multiple stages to ultra thin thickness and precise widths as per customer's requirement.

SPD have an exclusive cold rolling mill setup for blade steel coils. The facilities for production of these strips are equipped with Bell Annealing and Continuous Bright Annealing lines to ensure uniform distribution of fine secondary carbides and to ensure metallurgical properties in the material as per international standards/customers specification. The as rolled finish products in JBS grade are as per end application ranging from 0.074mm to 0.10mm in thickness and 5mm to 24mm in width, covering the Single as well as Double Edge blade requirements.

JINDAL BLADE STEEL SPECIFICATIONS

This Cold Rolled martensitic stainless steel strip is specially manufactured to meet the requirement for the manufacturing of Single Edge and Double Edge Blades

CHEMICAL COMPOSITION, TYPICAL (in weight %)

GRADE	C	Mn	P(max)	s(max)	Cr	Si
JBS	0.67	0.65	0.025	0.020	13.0	0.40

MICRO STRUCTURE : Cold rolled stainless steel with evenly distributed fine spheroidized chromium carbide in the ferrite matrix.

PRIMARY CARBIDES : No detrimental primary carbide shall be present in micro structure,

SECONDARY CARBIDES : Min 50 per 100 sq at 1000 x magnification

NON-METALLIC INCLUSIONS : Steel shall be free from any harmful non metallic inclusions,

MATERIAL SPECIFICATIONS

MECHANICAL PROPERTIES :

- ▶ Ultimate tensile strength 1080 +/- 100 N/mm².
- ▶ Hardness: 280-350

STRIP DIMENSIONS:

	Thickness Range	Width range (mm)
Double Edge	0.076 to 0.100 mm	12 to 22 mm
Single Edge	0.074 to 0.076 mm	4 to 8 mm

- ▶ Maximum transverse variation of thickness: 0.005 mm.
- ▶ Width. Between 5 mm to 24 mm, as per customers specific requirement with tolerance ± 0.025 mm.

SURFACE

- ▶ Surface finish: Semi Matt Finish with max Ra-0.125 μ m.

SLIT EDGE

- ▶ Ripple free slit edge with maximum Burr height of 0.005 mm.

**Can be customized to individual requirements.*

STRAIGHTNESS

Strip width (mm)	Maximum allowed deviation in straightness (mm)	
	In 1.2 meter length	In 2.5 meter length
0.74 to < 8 mm	5.0	12.0
8 to < 20 mm	4.0	9.0
20 to 22.40 mm	3.0	6.0

DELIVERY CONDITIONS :

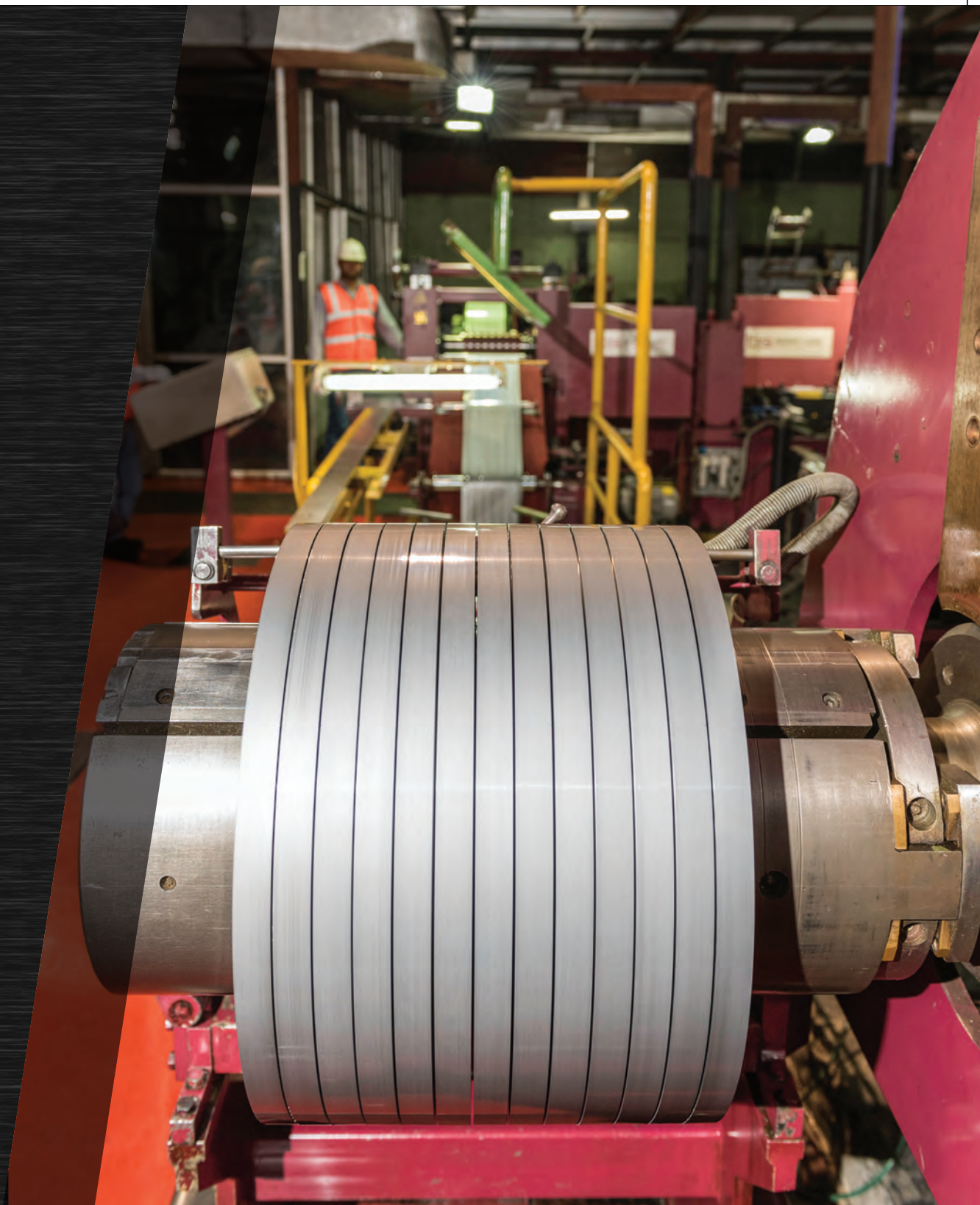
- ▶ Razor blade strip is wound into a pancake.
- ▶ Coils, on plastic cores, with an inner diameter of 280 ± 2 mm.
- ▶ Max Coil Outer Diameter can be 850mm.
- ▶ Two or Three Equidistant PVC strapping is done through the eye of the coil, to ease handling.

RUST PROTECTION:

- ▶ A thin layer of anti-corrosion oil is applied,

TEST CERTIFICATE:

- ▶ Test certificates are issued giving the details of coil no., heat no., composition, size and mechanical properties along with a packing list.





OSCILLATE WOUND COIL:

Oscillate wound coils are best known to increase the productivity as they facilitate longer and continuous operations in the system. This type of winding provides many benefits like fewer changeovers, reduced start-up problems and generation of lesser scrap. Out of the many segments, requirement of oscillate wound coils in Single Edge blade steel is norm, where the steel strips with a width as low as 5 mm is oscillate wound. A coil weight range of 250 kgs can be achieved which is many times more than the normal ribbon/pancake type of packaging.

PACKAGING

Jindal Stainless have adopted a packaging standard that ensures a 'safe & sound' arrival of the products at customer's workplace. JSL's packaging standard has won approvals from many of our customers. Yet flexible packaging process allows incorporation of customers' new and specific requirement, if any.

MARKING

Labels on each coils show information about the material like grade, coil no, slit no. and heat no, size and net weight.

MASTER SAMPLE

Master samples are packed in separate boxes and marked "MS" (if required).

A STATE OF THE ART ROBOTIC PACKAGING FACILITY HELPS IN DELIVERING A CONSISTENT DAMAGE FREE QUALITY PRODUCT OVER AND OVER AGAIN.

Jindal Stainless have fully automatic robotic packaging facility to pack slits of coil weights ranging from 204<gs to 100Kgs, with capacity to pack 1200 slits/day. Both, Bare and VCI wrap type of packaging (as per individual customer's requirement) is possible through this machine. it can pack slits with width ranging from 5mm to 30mm,

The coils are wound on plastic sleeves, and properly packed in steel/wooden boxes with a centre support core and silica gel desiccant.

Packaging features

- Coils stacked with eyes vertical on wooden pallet.
- Use of VCI coated board spacers to prevent coil edge from damage.
- Cardboard core in the inside diameter.
- Cover with VCI polythene bag for protection from moisture.





QUALITY AND R&D

HALLMARK OF OUR SUCCESS

QUALITY ASSURANCE AND QUALITY CONTROL

THE MARKET DRIVEN JSL CULTURE ENSURES THAT INNOVATION IS CUSTOMER FOCUSED.

Quality Assurance and Quality Control at Jindal Stainless starts with understanding the customer's requirements, developing/supplying high quality products as per customer's requirement and constantly monitored till the customer is satisfied with the delivery of products and services. The finished products are thoroughly inspected and tested. Modern and sophisticated testing equipment helps in assuring a product of the desired quality to customers.

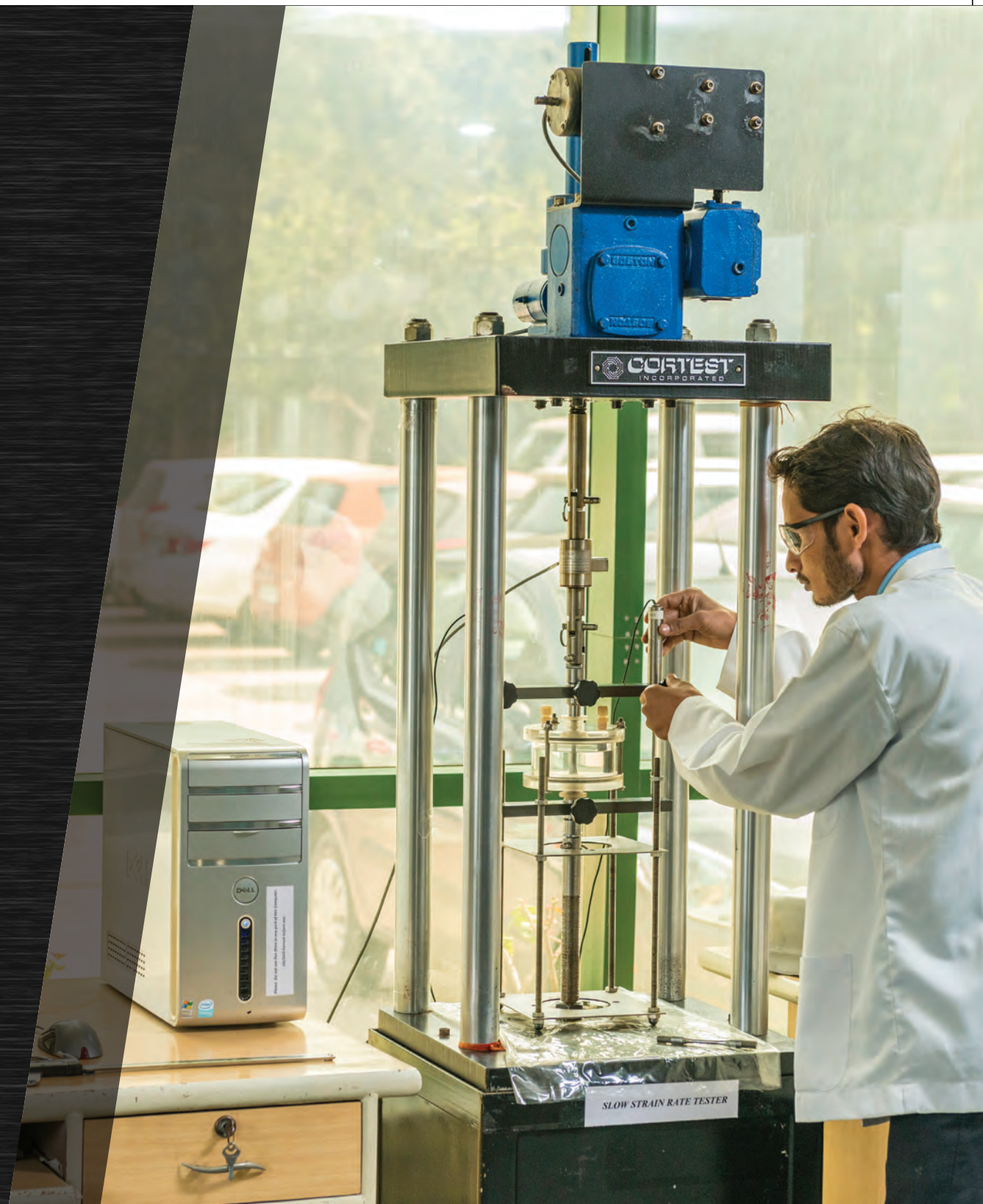
Behind our products and services lie the massive resources of one of the great metal producers. A clear focus on customer needs coupled with cross market expertise, a wide product range and up to the minute technology ensures that innovative solutions are provided.

RESEARCH AND DEVELOPMENT

CONTINUOUS UP-GRADATION OF QUALITY, PROCESSES, AND SERVICES THROUGH PRODUCT INNOVATION TO DEVELOP NEW PRODUCTS AT COMPETITIVE COSTS HAS BEEN A CORNERSTONE OF OUR PHILOSOPHY.

The R&D division plays a pivotal role in retaining and consolidating company's leadership position in the Stainless Steel industry. This is achieved through Cross-fertilisation of knowledge between production, quality control and commercial units in order to maintain global standards has been the guiding principle of the R&D function.

The R & D center at Hisar is focusing on development and enhancement of new and existing products of the company. Modified 200 series grades have been evolved to meet low cost alternates of 304 (austenitic stainless steel). Continuous efforts are made by R & D team to reduce the cost of production and improve on the existing grades.



CERTIFICATIONS

ISO 9001:2008 certification of JINDAL STAINLESS is a testimony to our commitment to consistent quality. In addition, Hisar operations are also certified for AD 2000-Merkblatt WO and RED 97/23/EC to enable us becoming a preferred and certified supplier of Stainless Steel Flat I-1R & CR products for Pressure Vessel, Processing & Allied Industries. ISO 14001:2004 and BS OHSAS 18001:2007 Systems Certification of the plant assure our commitment towards the environment and for providing a safe workplace for our employees. For ensuring quality at every step, the production processes are constantly monitored and controlled ensuring that the finished products are as per customer's requirements.

TESTING FACILITIES

In order to deliver assured quality, all input material including raw material is inspected and tested before use. The Quality Control Laboratories are well equipped with modern equipment such as Scanning Electron Microscope, Optical Emission Spectrometers, X-Ray Fluorescence Analyzer, Ledo-Analyzers, Corrosion Testing facilities, UT testing facility, image Analyzer, Surface energy measurement device and many more like hardness testers and Tensile testing machines.

The R&D division plays a pivotal role in retaining and consolidating Jindal's leadership position in the stainless steel.

In addition to the above, the R&D division closely interacts with reputed national and international laboratories / scientific institutions / Universities to avail expert services and knowledge for critical investigations.



An ISO 9001:2008, PED 97/23/EC, AD WO, ISO 14001:2004 and BS OHSAS 18001:2007.

JINDAL BLADE STEEL (JIBS) OFFERS THE FOLLOWING ADVANTAGES:

- Excellent metallurgical properties
- Close tolerances
- Smooth surface, extra accuracy on flatness and straightness
- Good blanking properties
- Good hardening properties
- Good grinding and honing properties, facilitating the manufacture of high quality edges
- Good corrosion resistance (hardened and tempered condition)

CONSISTENT MATERIAL PROPERTIES FROM COIL TO COIL, FROM DELIVERY TO DELIVERY.









OUR CORPORATE OFFICES:

New Delhi Jindal Centre, 12, Bhikaiji Cama Place, New Delhi - 110066, India
Fax: +91-011 41659169

Gurugram Stainless Centre, 1st floor, Plot No. 50,
Sector-32, Gurugram-122001

OUR MANUFACTURING FACILITIES:

Haryana O.P. Jindal Marg, Hisar- 125 005 (Haryana) India
01662- 222471-83, 01662 -220476, 220499

Orissa Kalinga Nagar Industrial Complex, Duburi Dist. Jajpur- 755 026, Orissa, India
+91 993781183

OUR SERVICE CENTRES:

Gurugram VPO - Pathredi, Bilaspur - Tauru Road, Gurugram – 122413
+91 – 9560885892, +91 – 124 – 4127700, +91 – 124 – 4127729

Gujarat Office No. 902/903, Samanvay Silver, Shivaji Circle, Mujmahuda, Akota, Vadodara, Gujarat- 390020
+91 – 7600818230, +91 – 265 – 2225004, +91 – 265 – 2225004

Maharashtra Plot No. N-13, Addl., Patalganga Ind Area, Tal - Khalapur, Dist- Raigad (Maharashtra)
+91 – 9665061222, +91 – 02192-252065

Chennai Survey No. 2 of No. 19, Chinna Puliyar Village, Gummidipoondi Taluk, Distt. Thiruvallur, Chennai - 601201
+91 – 9916800034, +91 – 44 – 26221497, +91 – 44 – 26221497

Please consult with our representative for any queries

