

CRAFTED WITH
PRECISION.
CUSTOMIZABLE FOR
CRITICAL APPLICATIONS.



International
Quality Standard



Globally
available

LEGACY AND LEADERSHIP

JINDAL STAINLESS (HISAR) LIMITED

Founded by Shri O.P. Jindal in 1970, Jindal Stainless is one of the largest stainless steel conglomerates in India and ranks among the top 10 stainless steel conglomerates in the world. It's not only the magnitude of our operations that determines our credibility and name, but we remain inspired by our vision for innovation and enriching lives. Jindal Stainless group has an actual crude steel capacity of 2.9 MTPA and the group has an annual turnover of approx. USD 4 billion.

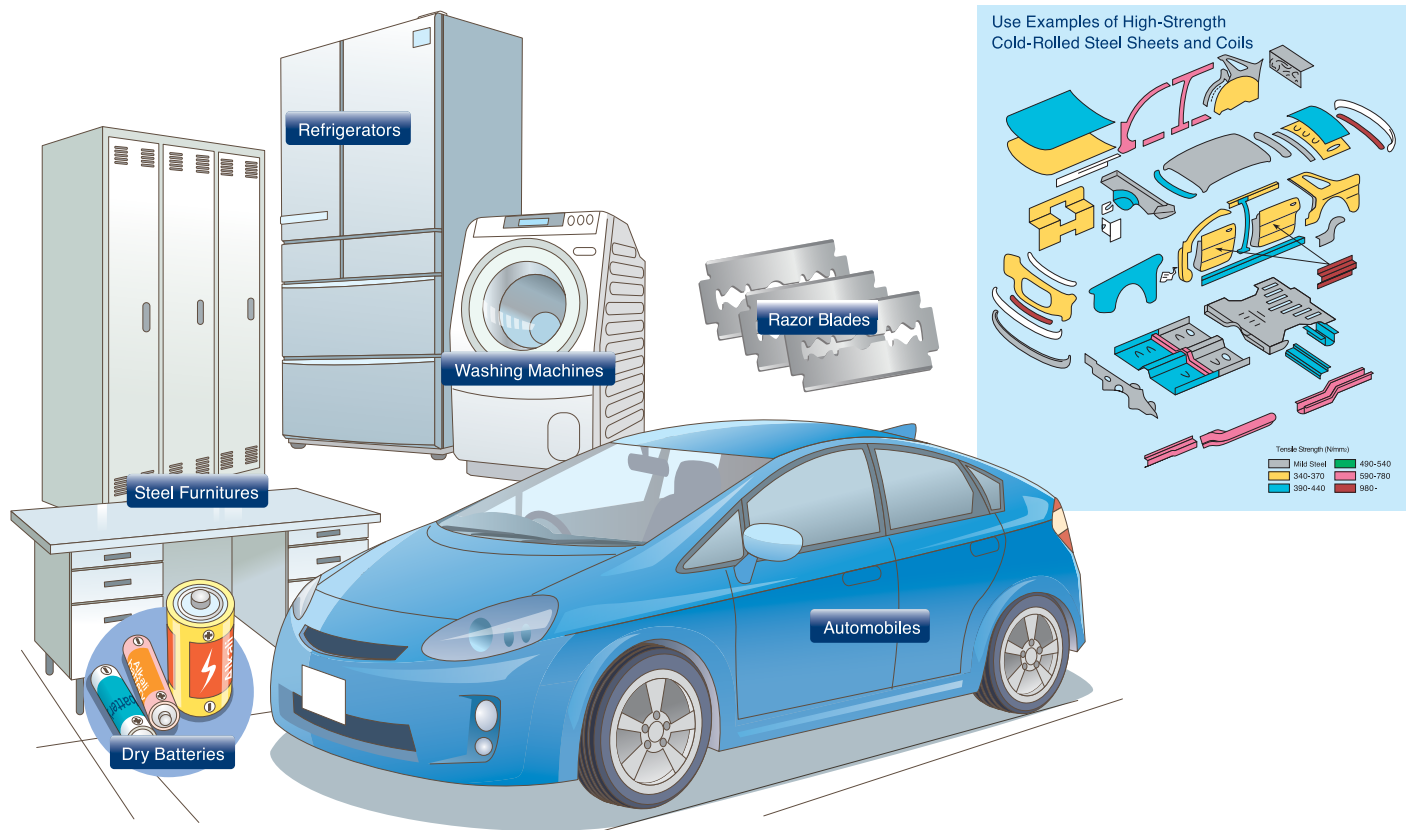




SPECIAL PRODUCTS DIVISION - WHERE IT ALL HAPPENS

The Special Products Division at Jindal Stainless is primarily focused on catering to the requirements of high precision and critical applications. The division focuses on manufacturing the Precision Strips & Blade steel with an annual capacity of approx. 62,000 MT. Jindal Precision Strips are produced in a wide range of stainless steel grades with excellent properties in terms of corrosion resistance, strength, workability and suitability for high temperature applications.

With full control of metallurgy and our own strip production, we manage the whole production process from steel melt to the finished products using the most modern and proven technology. And, with a strong R&D and product development team, we can customize the products to meet the specific customer demands.



WHY CHOOSE JINDAL STAINLESS PRECISION STRIPS

BORN TO BE CUSTOMIZED. BORN TO BENEFIT EVERYONE.

- 1 **Flexibility and customisation of products as per customer's requirement:** Apart from the generic grades, if there is a special requirement in terms of material properties, Jindal Stainless customises the material (e.g. chemistry) to achieve the required properties.
- 2 **Wide domestic and International presence:** Internationally, we are supplying from our international WH for JIT delivery in Europe, USA & Canada, Mexico and the Sales representatives in all the countries/regions.
- 3 **Established supplier to the major OEMs in the category across various applications and categories.**

WHAT ARE PRECISION STRIPS?

Precision Strips are cold rolled strips of stainless steel in thickness between 0.03 mm to 0.60 mm.

Precision Strips from Jindal Stainless come in various finishes like Bright Annealed (BA), 1BA, 2B, 2D and Temper Rolled and are designed to meet the specific requirements for your application.

WHAT MAKES JINDAL PRECISION STRIPS SPECIAL?

Jindal Precision Strips form the critical components for the Automotive, Electronics and Telecommunication, Consumer Durables, Petrochemical Industries and many other applications.

PRECISION CONTROLLED
CHEMICAL COMPOSITION

CUSTOMIZED
MECHANICAL PROPERTIES

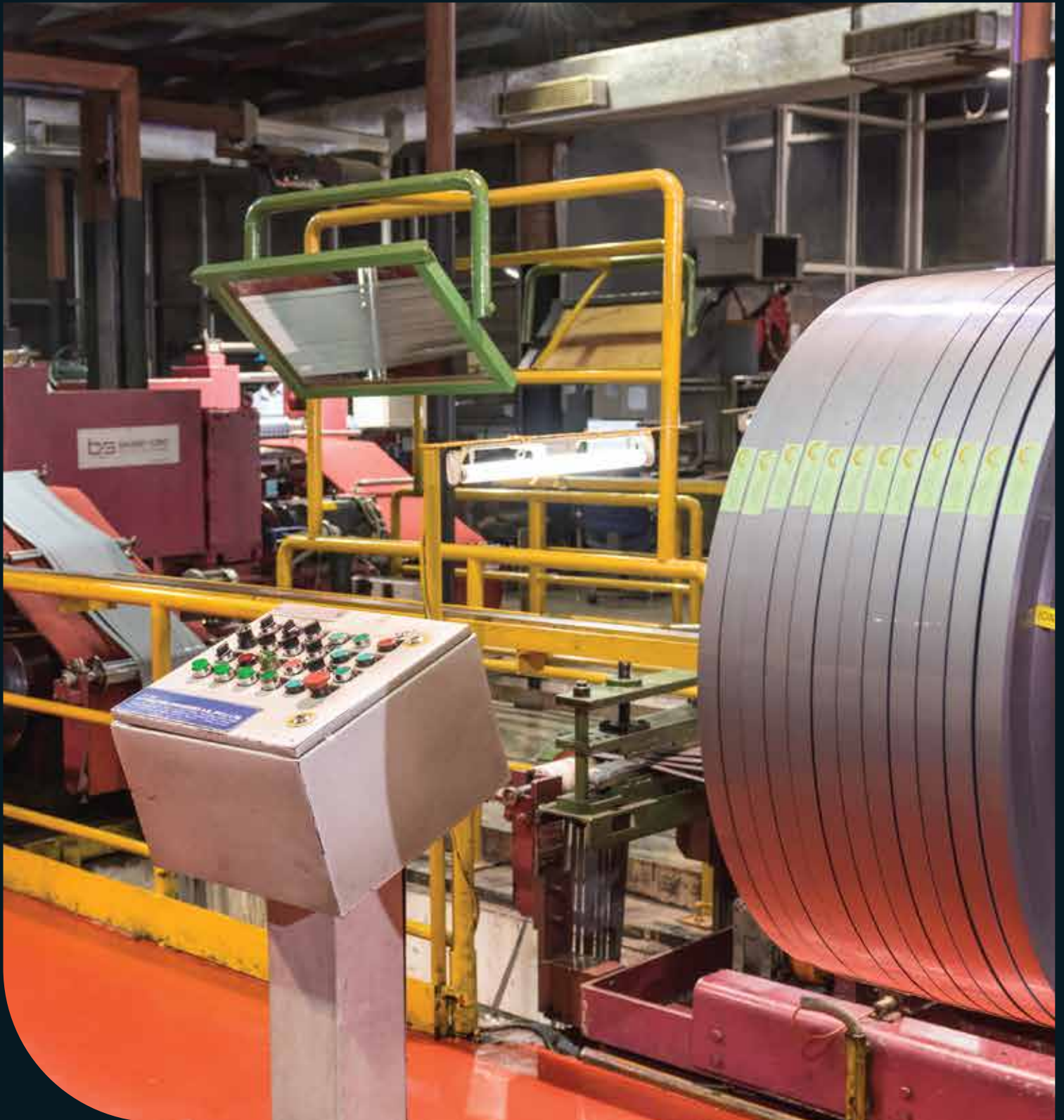
PRECISE DIMENSIONAL
AND SHAPE TOLERANCES

And, apart from having world class equipment to produce such products, we are backed up by strong R&D coupled with a customer focused approach, to provide customized solutions.



STATE-OF-THE-ART FACILITY. LATEST TECHNOLOGY.

Making Precision Strips is all about customization and precision, which needs advanced tools, machinery and technology.

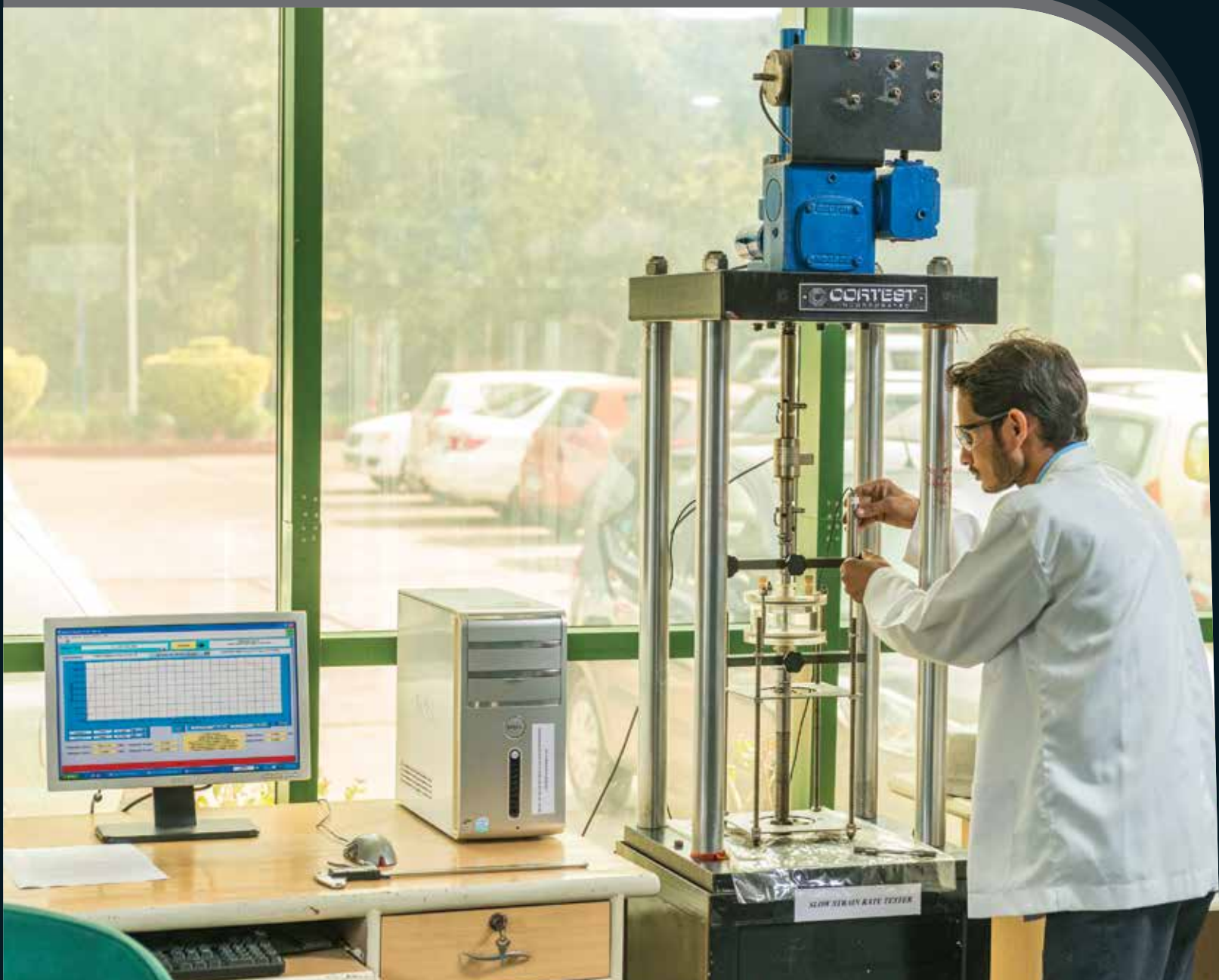


RESEARCH AND DEVELOPMENT

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.





PRODUCT RANGE

Stainless Steel grades	across series, grades,
Finish	BA, 2B, Tempered (as rolled), 1BA (customised finish)
Thickness Range	0.04 mm - 0.60 mm
Width	8 mm to 670 mm
Material compliance with	ASTM A240, ASTM A480, ASTM A666, EN 10088-2, EN 10028-7 EN 10151 JIS G 4313, JIS G 4305 And other International Standards
AMS Standard	5518 & 5519 (for critical applications)

SHAPE & TOLERANCES IN COMPLIANCE WITH EN ISO 9445

DIMENSIONAL TOLERANCES

THICKNESS TOLERANCES (ANNEALED MATERIAL)

Thickness Tolerances on specified thickness for Precision Strip			
ANNEALED MATERIAL THICKNESS TOLERANCE			
Specified Thickness (t)	Width Range (SPD-2) 15 <w< 30	Width Range 30 <w< 508	Width Range (SPD-2) 508 <w< 650
0.075 ≤ t ≤ 0.095	0.005	0.005	0.005
0.095 < t ≤ 0.10	0.005	0.005	0.005
0.10 < t ≤ 0.15	0.005	0.005	0.005
0.15 < t ≤ 0.175	0.007	0.007	0.007
0.175 < t ≤ 0.20	0.008	0.008	0.008
0.20 < t ≤ 0.25	0.01	0.01	0.01
0.25 < t ≤ 0.30	0.015	0.015	0.015
0.30 < t ≤ 0.35	0.015	0.015	0.015
0.35 < t ≤ 0.40	0.015	0.015	0.015
0.40 < t ≤ 0.45	0.017	0.017	0.017
0.45 < t ≤ 0.50	0.018	0.018	0.018
0.50 < t ≤ 0.55	0.018	0.018	0.018
0.55 < t ≤ 0.60	0.02	0.02	0.02
0.60 < t ≤ 0.70	0.022	0.022	0.022

THICKNESS TOLERANCES (TEMPERED MATERIAL)

TEMPERED MATERIAL THICKNESS TOLERANCE (Up to Full Hard or UTS 1500Mpa Max)			
Specified Thickness (t)	Width Range (SPD-2) 15 <w< 30	Width Range 30 <w< 508	Width Range (SPD-2) 508 <w< 650
0.075≤ t ≤ 0.095	0.005	0.005	0.005
0.095 < t ≤ 0.10	0.005	0.005	0.005
0.10 < t ≤ 0.15	0.006	0.006	0.006
0.15 < t ≤ 0.175	0.008	0.008	0.008
0.175 < t ≤ 0.20	0.01	0.01	0.01
0.20 < t ≤ 0.25	0.012	0.012	0.012
0.25 < t ≤ 0.30	0.015	0.015	0.015
0.30 < t ≤ 0.35	0.015	0.015	0.015
0.35 < t ≤ 0.40	0.016	0.016	0.016
0.40 < t ≤ 0.45	0.018	0.018	0.018
0.45 < t ≤ 0.50	0.02	0.02	0.02
0.50 < t ≤ 0.55	0.02	0.02	0.02
0.55 < t ≤ 0.60	0.023	0.023	0.023
0.60 < t ≤ 0.70	0.025	0.025	0.025
0.70 < t ≤ 0.80	Not Feasible	0.025	0.025
0.80 < t ≤ 1.00	Not Feasible	0.03	0.03

WIDTH TOLERANCES (ANNEALED +TEMPERED)

Width Tolerances on specified thickness for Precision Strip			
ANNEALED & TEMPERED MATERIAL (UPTO FH) WIDTH TOLERANCE			
Specified Thickness (t)	Width Range (SPD-2) 15 <w< 30	Width Range 30 <w< 508	Width Range (SPD-2) 508 <w< 650
0.075 < t ≤ 0.095	0.050	0.100	0.100
0.20 < t ≤ 0.25	0.050	0.127	0.127
0.25 < t ≤ 0.50	0.080	0.127	0.127
0.50 < t ≤ 0.60	0.080	0.152	0.152
0.60 < t ≤ 0.70	0.100	0.254	0.254

SHAPE PARAMETERS (ANNEALED +TEMPERED)

SHAPE TOLERANCES
Edge Camber

Condition	Width range (in mm)				
	15 < w < 30	30 < w < 50	50<w < 200	200 < w < 400	400 < w < 650
Annealed (1BA)	2.0	2.0	1.5	1.3	1.3
Annealed (BA)	2.5	2.5	2	1.5	1.5
Temper rolled (2H)	2.5	2.5	2	1.3	1.3

Flatness	Coil set (on 300mm length) (in mm)	Thickness range	H/L (TENSION LEVELED)	H/L (NORMAL)
Annealed (1BA)	< 40	0.075mm to ≤ 0.10mm	≤ 0.010	≤ 0.015
Annealed (BA)	< 50	0.10mm to ≤ 0.15mm	≤ 0.008	≤ 0.015
Temper rolled (2H)	< 50	0.15mm to ≤ 0.30mm	≤ 0.005	≤ 0.010
		0.30mm to ≤ 0.45mm	≤ 0.0035	≤ 0.008
		> 0.45mm	≤ 0.0030	≤ 0.006

	Cross bow (in mm)a				
	15 < w < 30	30 < w < 50	50<w < 100	100 < w < 200	200 < w < 650
Annealed (BA)	0.20	0.30	0.40	1.00	1.50
Temper rolled (2H)	0.30	0.40	0.50	1.00	1.50

Waviness

Condition	Width range (in mm)				
	15 < w < 30	30 < w < 50	50<w < 200	200 < w < 400	400 < w < 650
Annealed (1BA)	2.5	2.5	2.0	2.0	2.0
Annealed (BA)	2.5	2.5	2.0	2.0	2.0
Temper rolled (2H)	2.0	2.0	1.5	2.0	3.0

Ra Values				
Condition	Description	Characteristic	AISI	EN 10088 Part-2(1995/2005)
Annealed	CR, Bright annealed +TLL	Ra ~ 0.20µm max	1BA(SPD)	
	CR, bright annealed -Reflective	Ra ~ 0.15µmmax	BA	2R
Temper Rolled	Temper (2H)	Ra ~ 0.30µm	TEMP(1/2H,3/4H,FH)	RH

Values		
Condition	Description	Values
Reflectivity Values	CR, bright annealed - Reflective(304/316L/430)	45% min at 60 Deg

EDGE CONDITION	
Slit Edge	Mill Edge
Slitting leaves a straight edge without excessive burr Germany : DIN /ASTM ASTM : Edge n0 3 Burr height : Max 10% of thickness	Material available in mill edge condition also.*

GRADE J4/201/301 1BA FINISH WITH MIN 25 % ELONGATION.

EXTRA & SUPER HARD PRODUCT STANDARD

JINDAL STAINLESS EXTRA HARD

Jindal Stainless Extra Hard and Super Hard Autenitic stainless steel grade 301 Strip steel Features

- Higher tensile strength and tempering effect.
- Better corrosion resistance, due to the addition of molybdenum Standard
- EN number 1.4310 SS 301
- EN name X 10 CrNi 18-8

FORMS OF SUPPLY

- Strip steel can be supplied in coils,
- Edge Condition
- # slit edge with maximum 8 % maximum edge burr.

Dimensions

The following range of thicknesses and widths can be supplied as standard.

Finish	Max Thk (mm)	Max Width (mm)
EH	0.80	650
SH	0.70	650

CUSTOMIZATION FOR VARIOUS APPLICATIONS

1. AUTOMOTIVE GASKETS

Gaskets have a very crucial role to play in the automotive systems with the increased application parameters. They absorb the stresses in the critical systems which may be induced thermally, uneven unloading, flow of high temperature gases and coolants. Each of these demands innovation in the materials used for making these gaskets and solutions to ensure optimal performance of the overall system.

Apart from the automotive applications, gaskets are a key component of compressors, pumps and exhaust manifolds.

Jindal Stainless understands the increasing requirements of this critical application and is one of top producers of gasket steel in the world. Also, with state-of-the art R&D facility lead by a team of highly qualified professionals and engineers, we work on continuous innovation to provide solutions in form of stainless steel for making metal gaskets that ensure high performance and endurance in the overall system.





2. WELD OVERLAY – CLADDING STEEL

Being a popular and a cost effective option to enhance a material's surface properties, the weld overlay becomes critical as it has to be compatible with the base material. An expensive material can be used solely as the clad layer as opposed to making the entire composition of the base material. While the stainless cladding furnishes the necessary resistance to corrosion, abrasion or oxidation, the base material contributes structural strength and improves the fabricability and thermal conductivity of the composite.



3. FLEXIBLE HOSES AND BELLOWS

Flexible hoses are used for their high physical strength, light weight and are suitable for wide temperature range from -270°C to 700°C . The flexible hoses may be a part of the static installations as well as moving installations where these hoses are required to flex continuously.

To achieve these properties, the material must possess good corrosion resistance, resistance to fire, moisture, abrasion & penetration etc. Hoses and bellows find their usage in various automotive exhaust systems, industrial applications like refineries, power plants, cryogenic services etc.

4. HEAT SHIELDS

A heat shield is designed to protect an object from overheating by dissipating, reflecting or simply absorbing heat. They are often thought of primarily as radiation shields; limiting the heat radiated from a warm surface to a cold surface. In principle the need for a heat shield is a matter of economics; reducing the heat load on the coldest surfaces reduces the refrigeration requirements and thereby the operating cost of a system. In practice, the heat shield is often a necessity because unlimited refrigeration at very low temperatures is not available.

These heat shields are made up of Copper or Aluminium or it is also joined with Stainless Steel for better performance and cost competitiveness.



5. STAINLESS STEEL SCRUBBERS

Wet scrubbers are a type of air pollution control equipment that may be used to remove airborne particulates and/or gases from industrial exhaust streams. A wet scrubber sprays a liquid (often water) into an exhaust gas or off-gas stream to capture contaminants and neutralize pollutants. These scrubbers prevent the harmful gases like Sulphur Oxides (SO_x) to be released to the environment.

This calls for the scrubber to be composed of a highly corrosion resistant material like Duplex & Super Austenitic stainless steel. Scrubbers are used in a wide variety of industries like oil and gas, petroleum refining, chemical production (specially including Sulphur Oxides), food processing etc.





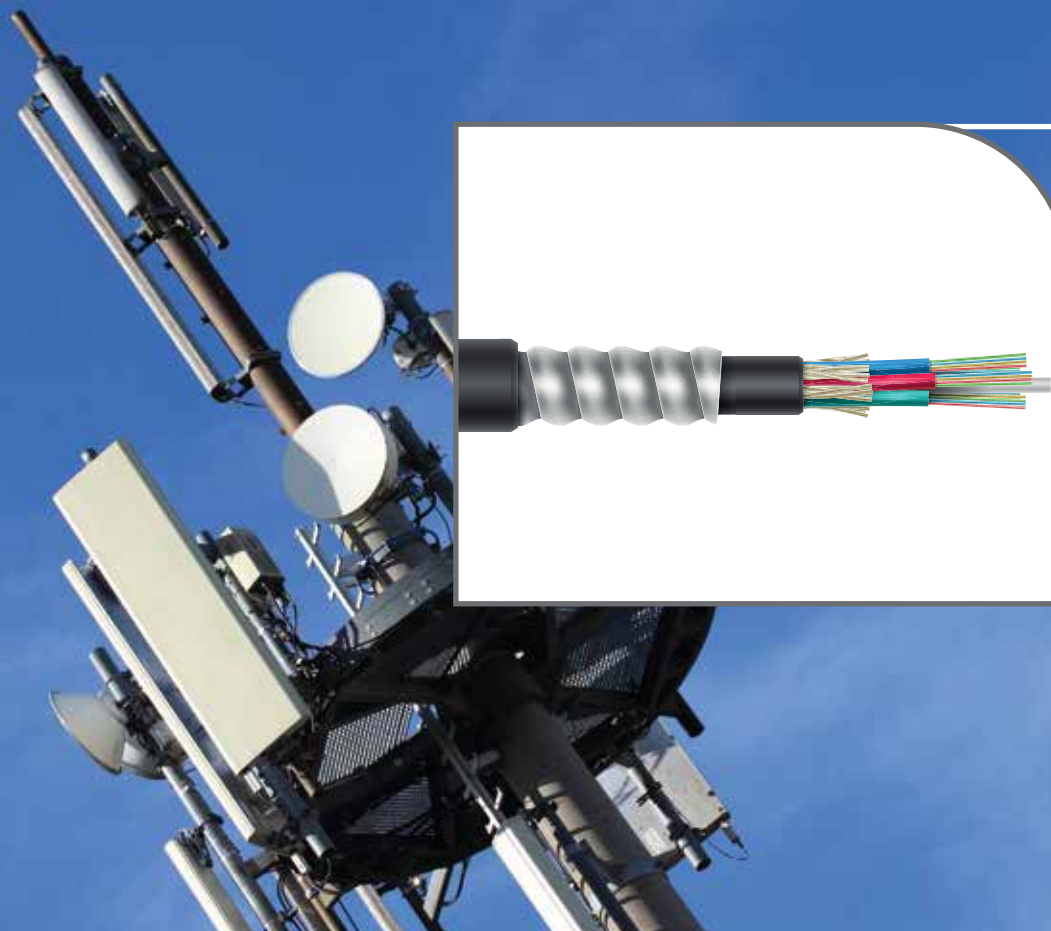
6. STRUCTURED & RANDOM PACKING

Facilities such as processing plants, offshore drilling operations, refineries, wastewater treatment plants often need to perform mass transfer operations. They do this to purify gas and other liquids, as well as to remove pollution and other contaminants. Typically, these facilities pump the liquids into columns, where the separation process takes place. Inside these process columns is packing which optimizes the separation process by providing a large wet surface where chemical separation can take place.

So, for these extremely critical tasks, the packing materials must meet a few requirements to perform effectively. They must be corrosion resistant and must not interact chemically with the fluids being packed. Stainless steel is an ideal material for this critical application which perfectly meets these criteria.

7. FIBER OPTICS (TELECOM APPLICATION)

The main objective for any optical fiber cable structure is to enable safe installation and support reliable operations over the intended service life of the optical fibers contained. A number of factors must be considered and addressed to design and manufacture an appropriate cable structure for each application. The material properties and dimensions of the subcomponents of this cable design are determined by understanding the operational requirements of the application. A stainless steel tube is utilized for critical designs due to its improved strength and wider temperature performance range.





8. AUTOMOTIVE STAMPED PARTS

A large number of automotive parts are made up of tempered and superhard stainless steel. The material used comprises of a wide range of grade, thickness, width and other mechanical properties depending on the applications.



9. TEXTILE INDUSTRY

The textile industry demands needles with high fatigue strength and high wear resistance. Jindal's 420 J1 steel for drop pins has been supplied to the various manufacturers in the industry. It is characterized by a high degree of purity, a uniform fine grained structure and ensuring reliability in needle manufacture and good durability after hardening. This material has close thickness tolerances to ensure the cross-sectional shape and the needle function.

10. WINDOW SPACERS

Window and glass spacers are the seals that sit between panes of glass in a window. The material used to manufacture the glass spacer is one of the most important factors in whether a window is energy efficient. Glass spacers play an important part in a window's overall performance in this area, as they determine the amount of heat and cold that is able to pass through a window's panes.

A good spacer must absorb stress caused by thermal expansion and contraction, block moisture and water vapor that can fog the glass, create a tight seal that prevents leakage of special gas fills and increase the temperature of the edges of the insulated glass – this can help reduce condensation and increase overall energy efficiency of the window.



TOP CERTIFICATIONS FOR
QUALITY AND SAFETY



- **ISO 9001:2015**

QUALITY MANAGEMENT SYSTEM

- **ISO 14001:2015**

ENVIRONMENT MANAGEMENT SYSTEM

- **ISO 45001:2018**

ORGANIZATION HEALTH & SAFETY

- **ISO/IEC 17025:2017**

*GENERAL REQUIREMENTS FOR THE COMPETENCE
OF TESTING & CALIBRATION LABORATORIES*

- **BIS GRANT TO USE THE STANDARD MARK PER**

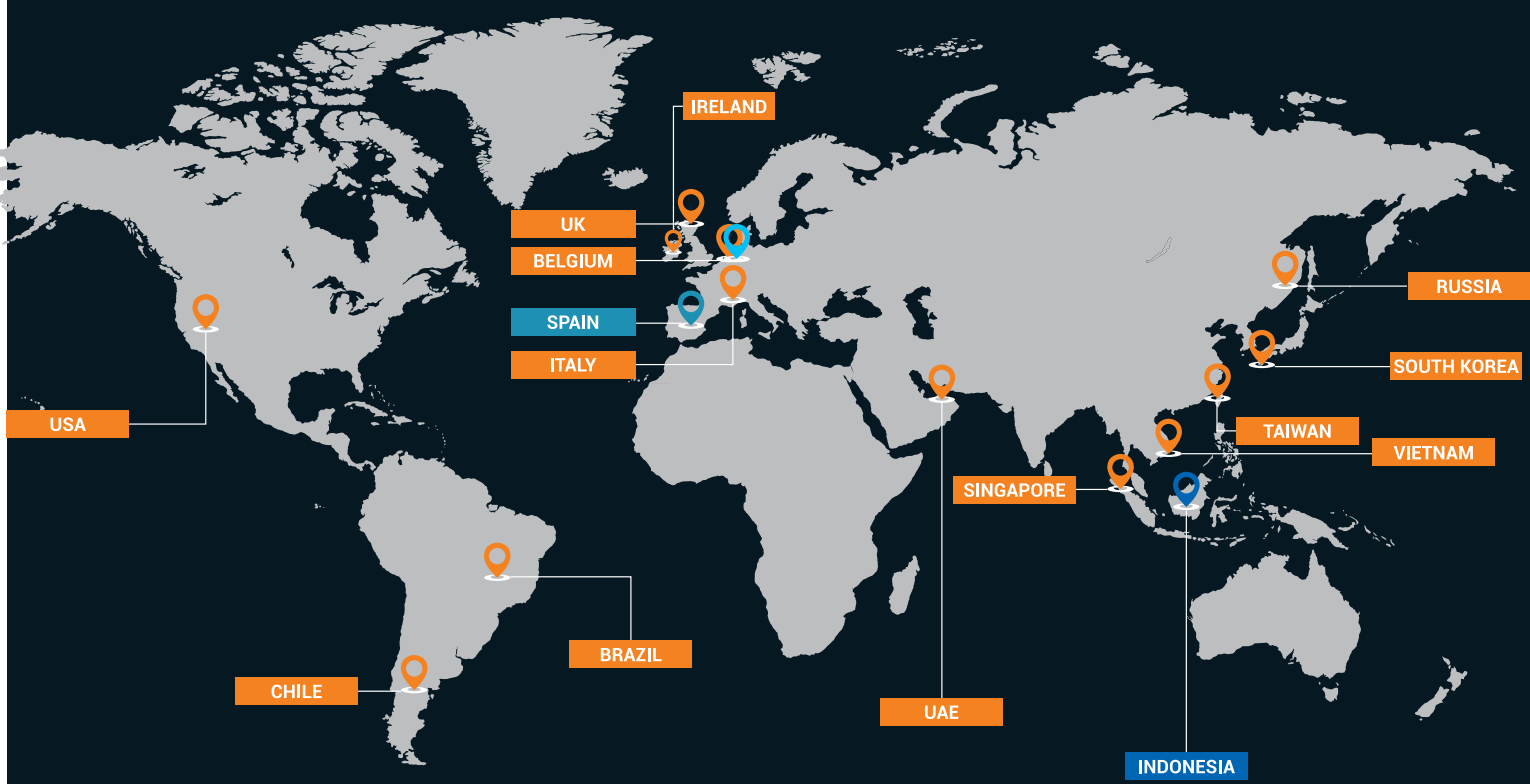
IS 6911, 5522 & 15997 RESPECTIVELY

MANUFACTURING FACILITIES



-  MANUFACTURING FACILITIES
-  DOMESTIC SALES OFFICES
-  SERVICE CENTRES

WIDE GLOBAL NETWORK



-  INTERNATIONAL SALES OFFICES
-  MANUFACTURING FACILITIES
-  ANTWERP WAREHOUSE BELGIUM
-  SERVICE CENTRE

PACKAGING

At JSL, we have adopted a packaging standard that ensures a 'safe & sound' arrival of our products at your workplace. The packaging standard has won approvals from many of our customers. However our flexible packaging process allows incorporation of customers' new and specific requirement, if any. Packaging features, in brief:

- Cardboard core in the inside diameter.
- Stacked with vertical eye on wooden pallet.
- Use of wooden spacers to prevent coil edge from damage.
- Stretch film/HDPE used as seaworthy protection.



NOT JUST CUSTOMIZATION, CUSTOMER SERVICE TOO.

The key to a long term relationship in any business is Customer Service. Jindal, along with world class manufacturing facilities and products, offers a dedicated team of professionals that is there for its customers. The team is composed of sales as well as technical professionals to cater to all the queries and requirements of the customers.

● Robust global supply chain network	● Dedicated sales team for servicing all your requirements	● Dedicated technical team to address all the technical concerns.
● Focus on building long term business partnership	● SAP enabled system	



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Please consult with our representative for any queries

