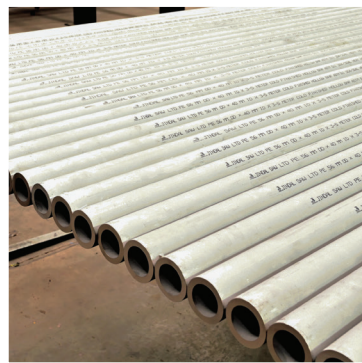
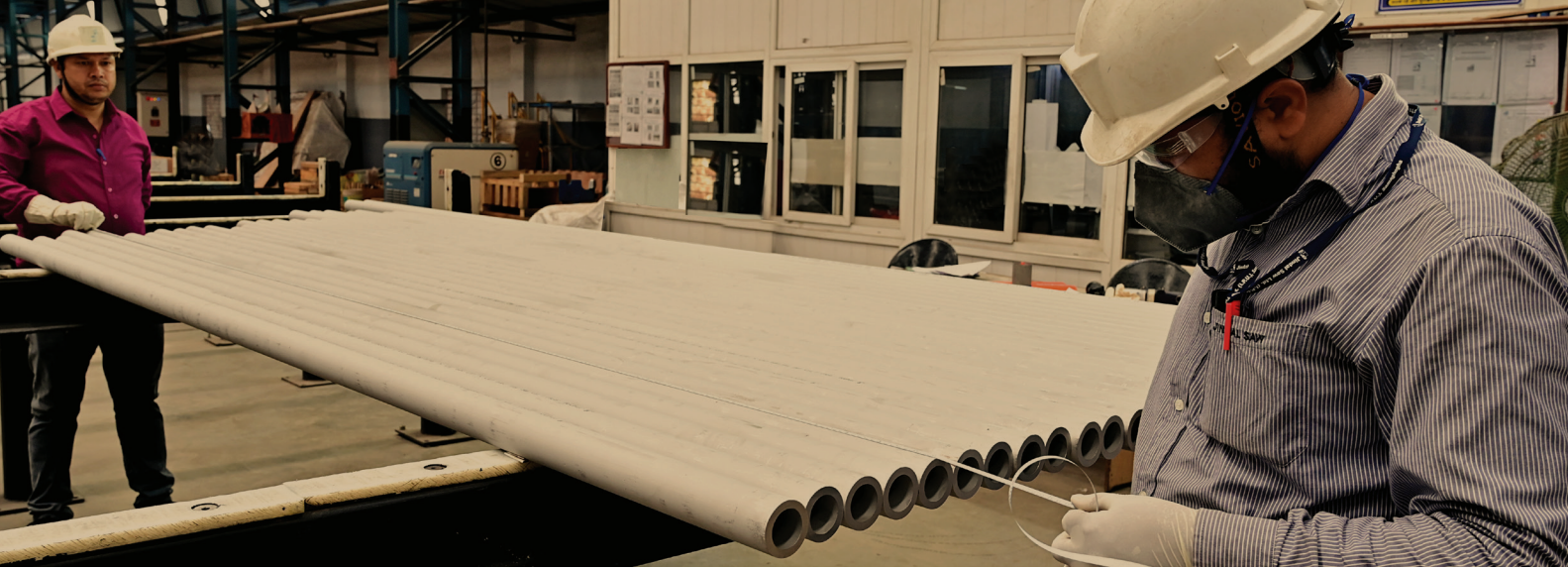




JINDAL SAW LTD.
TOTAL PIPE SOLUTIONS



Stainless Steel Hollow Bar



Established in 1984, Jindal SAW Ltd., part of the multi-billion dollar O.P. Jindal Group has consistently demonstrated four decades of stability, trust, growth and outstanding performance. Jindal SAW has an unparalleled Stainless Steel product range capacity and takes pride in providing Total Pipe Solutions (Seamless, Stainless and Special Nickel Alloys) to multiple industries across the globe.

Stainless Steel Hollow Bars, also referred to as Stainless Steel Hollow Shafts/ Tubes are cylindrical

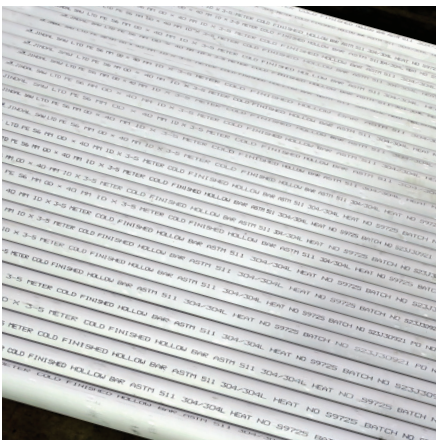
metal parts made with an empty interior. They find applications, across industries due to their unique qualities, including resistance to corrosion, high strength and durability. We are producing Stainless Steel Hollow Bars via Hot Extrusion Method. Stainless Steel Hollow Bars are known for their ease of machining, which enables customization to meet specific project requirements. This makes them a favored option, for a variety of engineering and manufacturing purposes.

Size Chart

OD: 32 mm – 228 mm

WT: 2.5 mm – 42 mm

SPECIFICATIONS: ASTM A511



Applications

Stainless Steel Hollow Bars have applications across multiple industries such as construction, automotive, aerospace, marine and others. They are utilized in the production of components, like shafts, axles, hydraulic cylinders and conveyor systems.



Stainless Steel Hollow Bars find a wide range of applications across multiple industries due to their unique properties, which include corrosion resistance, strength and versatility. Here are some common applications of Stainless Steel Hollow Bars:

- **Mechanical and Structural Components:** Stainless Steel Hollow Bars are often used to manufacture various mechanical and structural components, including shafts, axles, drive shafts, and structural supports. Their high strength and durability make them ideal for applications where load-bearing capacity is crucial.
- **Hydraulic and Pneumatic Systems:** Stainless Steel Hollow Bars are used in hydraulic and pneumatic systems such as cylinders, piston rod, and other critical components. Their corrosion resistance is essential in these systems, which often involve exposure to fluids.
- **Conveyor Systems:** Stainless Steel Hollow Bars are employed in the manufacturing of conveyor systems, such as rollers, guides and supports. Their smooth and durable surface ensures efficient material handling.
- **Automotive Industry:** In the automotive sector, Stainless Steel Hollow Bars are used in various applications, including drive shafts, suspension components and exhaust systems. Their resistance to corrosion and high-temperature environments is especially valuable.
- **Aerospace Industry:** In the aerospace Industry, Stainless Steel Hollow Bars find use in the construction of aircraft components, such as landing gear struts, control surfaces and structural elements. Their lightweight yet sturdy properties are advantageous in this industry.
- **Marine Applications:** Given their exceptional corrosion resistance, Stainless Steel Hollow Bars are commonly used in the marine industry for components like ship propeller shafts, boat railings and various marine hardware.
- **Architectural and Construction Projects:** Stainless Steel Hollow Bars are employed in architectural and construction projects for balustrades, handrails, decorative elements and structural supports. Their aesthetic appeal and resistance to the elements make them a preferred choice for exterior and interior applications.
- **Oil & Gas Industry:** In the oil & gas sector, Stainless Steel Hollow Bars are used in drilling equipment, downhole tools and instrumentation. Their ability to resist corrosion in aggressive environments, such as offshore drilling rigs, is essential.
- **Food and Pharmaceutical Equipment:** Stainless Steel Hollow Bars are used to manufacture food processing and pharmaceutical equipment, where hygiene and resistance to corrosion are critical. They are suitable for conveyor systems, storage tanks and piping.
- **Industrial Machinery:** Stainless Steel Hollow Bars are used in various industrial machineries, such as packaging equipment, printing presses and manufacturing lines. Their high strength, and resistance to wear and tear ensure reliable performance.
- **Energy Sector:** Stainless Steel Hollow Bars are used in power generation equipment, including turbines, generators and heat exchangers. Their resistance to high-temperature and high-pressure conditions is advantageous in these applications.


The diverse applications of Stainless Steel Hollow Bars highlight their versatility and reliability in various industries, from heavy machinery and manufacturing to architectural and medical applications. Their corrosion resistance, strength and machinability make them a preferred choice for many critical components and structures.



Plant Certifications

Commitment to Customers, Flexibility in Manufacturing and Total Quality Management are principles that have enabled Jindal SAW Ltd. to deliver value to our customers. Stringent system-based quality control is implemented at each stage of production. Our service standards focus on customer requirements and we strive for the highest user satisfaction.

Certificate Name	
ISO 9001, ISO 14001 & ISO 45001	Bureau of Indian Standards
PED 2014/68/EU	INTEGRAL COACH FACTORY, CHENNAI
NABL Accreditation	NSF-61 & NSF-372
Bureau Veritas Marine	TRCU -032 Certification
Lloyd's Marine	Mazagon Dock Shipbuilders
DNV GL Marine	MECON APPROVAL
EIL Enlistment Letter	Samsung C&T
IBR	



JINDAL SAW LTD.

INSPECTION CERTIFICATE (CERTIFICATION AS PER EN 12384:2004 Type S.1)																			
CLIENT / CUSTOMER		P. D. NO.										CERTIFICATE NO.							
PRODUCT		DATE										JSAH000005AMPLET/202401 Rev 00							
SPECIFICATION		P. O. ORDER QTY.																	
PRODUCT:		AUSTENITIC STAINLESS STEEL COLD FINISHED SEAMLESS HOLLOW BAR IN ACCORDANCE WITH ASTM A311 EDITION 2015.																	
PRODUCT:		AUSTENITIC STAINLESS STEEL COLD FINISHED SEAMLESS HOLLOW BAR																	
HEAT NO.	GRADE	SIZE IN INCH / MM			FIX / RANDOM LENGTH (MTRS)		QUANTITY		TOTAL LENGTH (MTRS)		TOTAL WEIGHT (KG)		LOT NO		END FINISH (PER FEE)		DELIVERY CONDITIONS		
N1036	304 / 304L	45.00 mm OD X 38.60 mm ID			13.0 - 45.0		NO. 1		22.175		122		1		PER (SQUARE CUT)		SOLUTION ANNEALED PICKLED & PASSIVATED		
CHEMICAL COMPOSITION % ANALYSIS METHOD ASTM A311 - 2015																			
ELEMENTS		C	Mn	P	S	Si	Mo	Cr	Ni	Co	Nb	N	Cu	Al	Other				
REQUIREMENT AS PER EN 10284 EDITION 2021 (GR - A202)		MIN.	—	—	—	0.015	—	8.0	17.0	—	—	0.10	—	—	—				
MAX.		0.075	2.00	0.030	0.030	1.00	—	10.5	—	—	—	0.15	—	—	—				
REQUIREMENT AS PER ASTM A311 EDITION 2015 (GR - A202)		MIN.	—	—	—	0.015	—	8.0	17.5	—	—	—	—	—	—				
MAX.		0.030	2.00	0.040	0.030	1.00	—	10.0	18.5	—	—	0.10	—	—	—				
REQUIREMENT AS PER ASTM A311 EDITION 2015 (GR - A202)		MIN.	—	—	—	—	—	8.0	16.0	—	—	—	—	—	—				
MAX.		0.030	2.00	0.045	0.030	1.00	—	11.0	20.0	—	—	—	—	—	—				
REQUIREMENT AS PER ASTM A311 EDITION 2015 (GR - B202)		MIN.	—	—	—	—	—	8.0	16.0	—	—	—	—	—	—				
MAX.		0.035	2.00	0.045	0.030	1.00	—	13.0	20.0	—	—	—	—	—	—				
REQUIREMENT AS PER ASTM A311 EDITION 2015 (GR - B202)		MIN.	—	—	—	—	—	8.0	15.0	—	—	—	—	—	—				
MAX.		0.040	2.00	0.040	0.030	1.00	—	11.0	20.0	—	—	—	—	—	—				
REQUIREMENT AS PER ASTM A311 EDITION 2015 (GR - B202)		MIN.	—	—	—	—	—	8.0	16.0	—	—	—	—	—	—				
MAX.		0.035	2.00	0.040	0.030	1.00	—	13.0	20.0	—	—	—	—	—	—				
RAW MATERIAL		Lot#	N1036	0.025	1.62	0.034	0.026	0.37	8.62	16.35	—	0.095	—	—	—				
Product 1		N1036	0.024	1.50	0.029	0.029	0.39	8.55	16.54	—	0.090	—	—	—	—				
DESTRUCTIVE TEST RESULT																			
TENSILE TEST (SPECIMEN - RECTANGULAR LONGITUDINAL DIRECTION) (SAMPLE WIDTH 25.4 mm FOR ASTM A370 - 2003 & 20.0 mm FOR ISO 6893 - 2015)																			
YIELD STRENGTH AT 0.2% OFFSET (MPa) AS PER ASTM A370 - 2003		YIELD STRENGTH AT 0.2% OFFSET (MPa) AS PER ISO 6893 - 2015		TENSILE STRENGTH (MPa) AS PER ASTM A370 - 2003		TENSILE STRENGTH (MPa) AS PER ISO 6893 - 2015		% ELONGATION (GAUGE LENGTH 50mm) AS PER ASTM A370 - 2003		% ELONGATION (GAUGE LENGTH 50mm) AS PER ISO 6893 - 2015		REDUCTION OF AREA							
REQUIREMENT AS PER EN 10284 EDITION 2021 (GR - A202)		185 (MPa) / 235 (MPa)		—		550 - 760		—		40 (MPa)		—							
MAX.		185 (MPa) / 235 (MPa)		—		680 - 880		—		40 (MPa)		—							
REQUIREMENT AS PER ASTM A311 EDITION 2015 (GR - A202)		215 (MPa)		215 (MPa)		—		31 (MPa)		—		—							
MAX.		215 (MPa)		215 (MPa)		—		31 (MPa)		—		—							
REQUIREMENT AS PER ASTM A311 EDITION 2015 (GR - B202)		170 (MPa)		170 (MPa)		—		31 (MPa)		—		—							
MAX.		170 (MPa)		170 (MPa)		—		31 (MPa)		—		—							
REQUIREMENT AS PER ASTM A311 EDITION 2015 (GR - B202)		215 (MPa																	



JINDAL SAW LTD.
TOTAL PIPE SOLUTIONS

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