

1.4057 / 431

MARTENSITIC STAINLESS STEEL



A PERFECT BALANCE OF CORROSION RESISTANCE, MECHANICAL PROPERTIES AND MACHINABILITY

Aamor Inox is a leading producer of grade 1.4057 / AISI 431 Stainless steels from India. This heat treatable martensitic, nickel-bearing grade has the best corrosion resistance properties of all the martensitic grades. It has excellent tensile and torque strength, and good toughness, making it ideally suited to shafting and bolt applications. It can be hardened to approximately 40HRC. Because of its high yield strength, this grade is not readily cold worked and is therefore not recommended for use in operations such as cold heading, bending, deep drawing or spinning. This steel is used extensively for parts requiring a combination of high tensile strength, good toughness and good corrosion resistant properties.

PRODUCT PROFILE

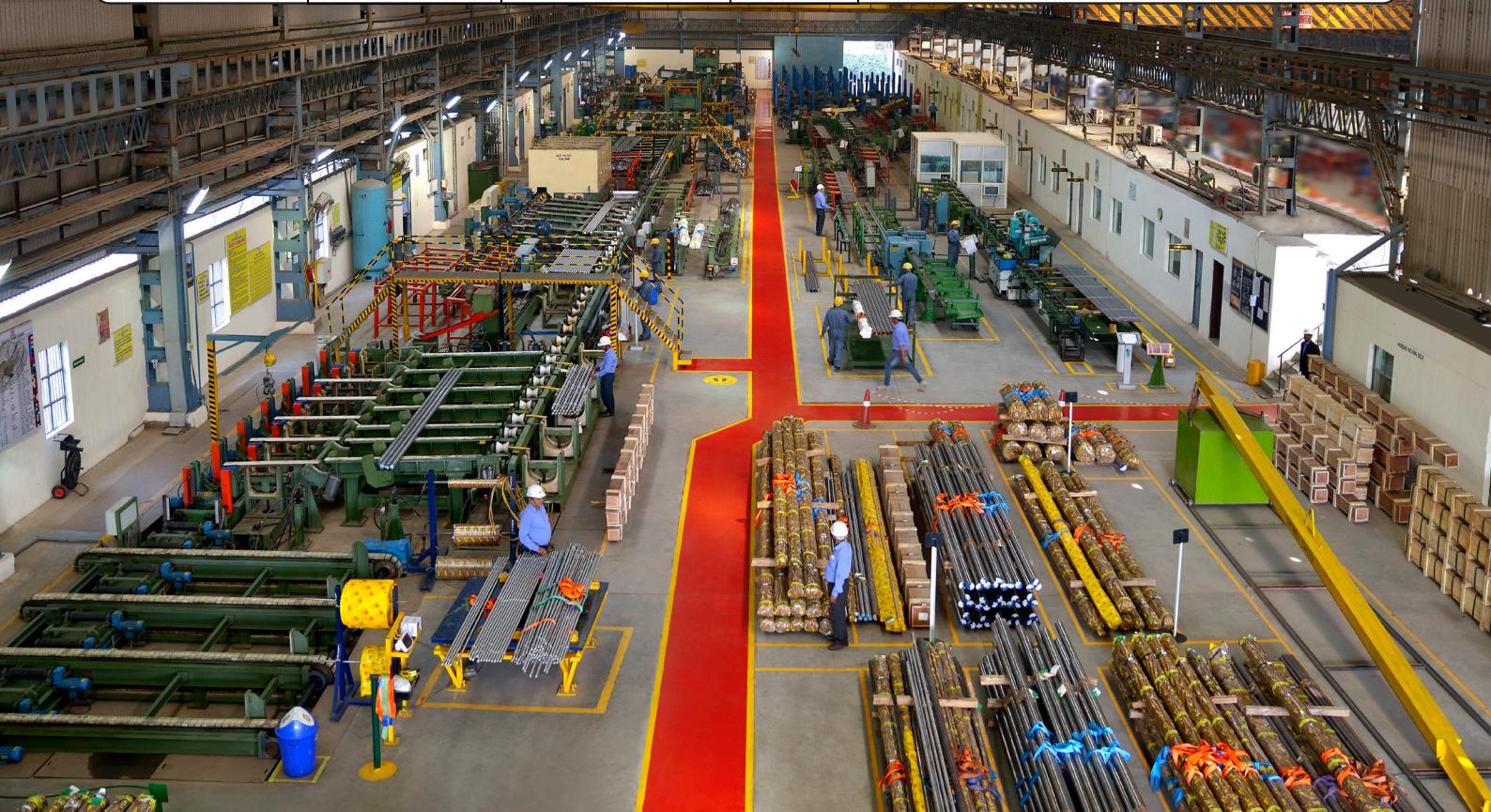
Size range	8 mm – 150 mm
Size Tolerances	h6, h7, h8, h9 etc or as per the customer's requirement.
Length	upto 8.5 meters (upto 28 feet)
Ovality	Half of diameter tolerance
Straightness	upto 0.25mm per meter max (0.0015" per feet)
Chamfering	Available in 30, 45 and 60 degree thru fully automatic both-end chamfering machine
Crack Test	Eddy Current Testing thru Circograph (from Dr. Foerster, Germany) and Magnetic Particle Inspection (MPI)
Ultrasonic Test	100% tested thru Digital Ultrasonic Flaw Detector, as per ASTM A-388, EN 10308 (class 1 to 4), API 6A/ISO 10423:2003-PSL 3, SEP 1920:1984 (class A, B, C), MIL STD 2154
Length Tolerance	Available in special cut to length bars in tolerance – 0/+10mm (-0 +0.5 inch)

CHEMICAL COMPOSITION (AVERAGE %)

Grade	C	Si max	Mn max	P max	S	Cr	Ni
1.4057	0.12-0.22	1.00	1.50	0.040	0.015-0.030	15.0-17.0	1.50-2.5
431	0.20 max	1.00	1.00	0.040	0.015-0.030	15.0-17.0	1.25-2.5
431-S29	0.12-0.22	1.00	1.00	0.040	0.030 max	15.0-18.0	2.00-3.0

MECHANICAL PROPERTIES

Type	YS(n/mm2)	UTS(n/mm2)	EL%	Charpy Impact energy @ Room Temp
H&T, cond. T	635 min	850-1000	11 min	25 Avg
QT 800	600 min	800-950	14 min	25 Avg
QT 850	650 min	850-1050	12 min	16 Avg
QT 900	700 min	900-1050	12 min	16 Avg



MOST ADVANCED HEAT TREATMENT FACILITY IN INDIA

- Fully-automatic, German-made Furnaces
- Temperature uniformity of +/- 3 Degree Celsius.
- Quench delay 40 seconds (both for Water & Oil)
- Conforming to – NORSO, API-6A, AMS 2750-E
- Available in lengths upto 8.5 meters in QT800 to QT900

HARD CHROME PLATING APPLICATION

AIL regularly produce 431 bars suitable and directly to be used for Hard Chrome plating applications. We produce super-fine tolerance f7/f8 in round bars in lengths upto 7.5 metres in sizes 8.00 mm to 150.00 mm which are directly used for Chrome plating with very tight ovality, lobbing upto 0.01 mm max and surface roughness of 0.20 Microns max demands.

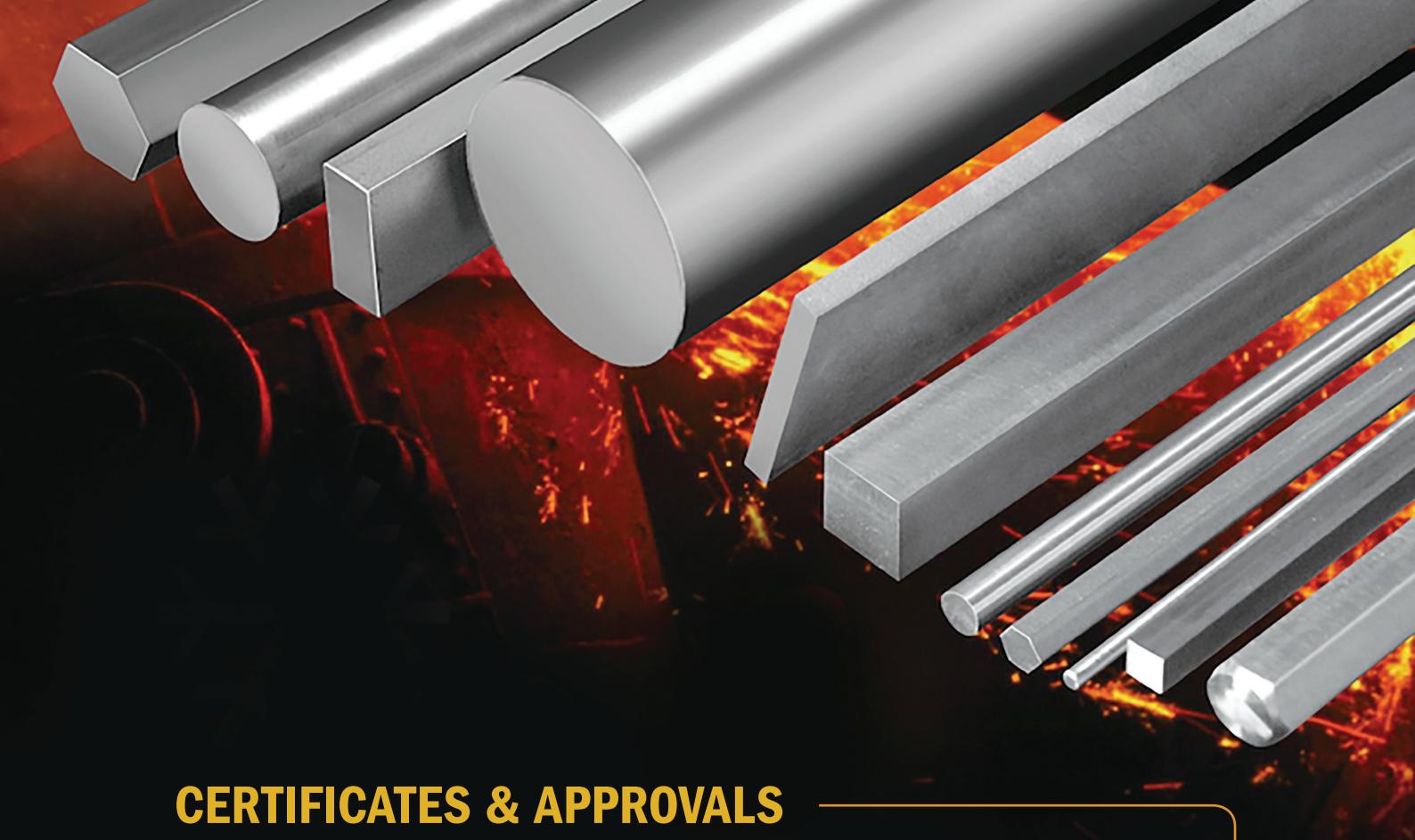
STATE-OF-THE-ART BRIGHT BAR MANUFACTURING FACILITIES

- With highest level of Automation in Industry
- Equipped with Laser size measurement system – from Zumbach, Switzerland
- High-precision cutter heads for Consistent Size, Ovality, Roundness and lobing in the peeled bars.
- Schleipo Centreless Grinding Machine (from Schumag AG)
- Dedicated to Quality and Precision



APPLICATIONS

- Hard Chrome plated Bars • Nuts and bolts
- Propeller shafting • Pump shafts • Beater bars
- Marine hardware • Aircraft Parts and Components
- Fasteners • Studs • Valve Parts



CERTIFICATES & APPROVALS

- ISO 9001:2015
- ISO 14001:2004
- OHSAS 18001:2007
- AS 9100-D (Aerospace)
- AD 2000-Merkblatt W0, W2 & W10
- P.E.D 2014/68/EU
- Norsok M-650 (Oil & Gas Industry)
- ISO/TS 16949 (Automotive Industry)
- C.E. Marking (CPR Regulation (EU))
- Marine & Offshore Certificate

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