

Perfect blend of **quality and integrity**

Stainless Steel
Carbon Steel
Alloy Steel



HEAVY METAL & TUBES (INDIA) PVT. LTD.

About Us

Heavy Metal & Tubes (India) Pvt. Ltd. is one of the leading manufacturers of Stainless Steel, Carbon Steel and Alloy Steel tubes and pipes in India. We own 3 manufacturing plants in the state of Gujarat in western India. All 3 units are equipped with latest manufacturing and testing facilities and are manned by highly qualified and experienced personnel.

We've been in this biz for over 4 decades now, catering to various industries and applications domestic as well as exports. Products are manufactured to comply with stringent international and national standards as well as client specific specs. Our products and manufacturing facilities have been approved by leading EPCs, PMCs, Consultants, Inspection agencies, OEMs and end users in refinery and petrochemicals, fertilizers, power generation, pharmaceuticals, automobiles and locomotives, etc...

We are uniquely positioned as one of the few mills globally to offer stainless, carbon and alloy steel tubular products with complete backward integration beginning from raw materials in rounds/billet form up to the final tubular product. More details about capabilities, facilities, capacities, specialties, etc... read inside pages.

We are conscious about our responsibility towards mother Earth and are committed to do our bit to mitigate the effects of global warming. We own 3 wind mills that meet nearly 50% of our power requirement.

Total Quality Management (TQM) is the key to our success. All the stages of manufacturing are thoroughly planned, closely monitored and professionally executed.

We strive to improve and improvise on a continual basis, we endeavor to surpass customer expectations each time, we aim to be the epitome and a perfect blend of Quality and Integrity in this competitive world. We give immense importance to high ethical values in business and believe in healthy long term business relationship with all our stakeholders - **Workers, Vendors and Customers.**

Line Pipes

Boiler Tubes

Heat Exchanger Tubes

Hydraulic & Pneumatic Tubes

Mechanical Tubes

Structural Tubes

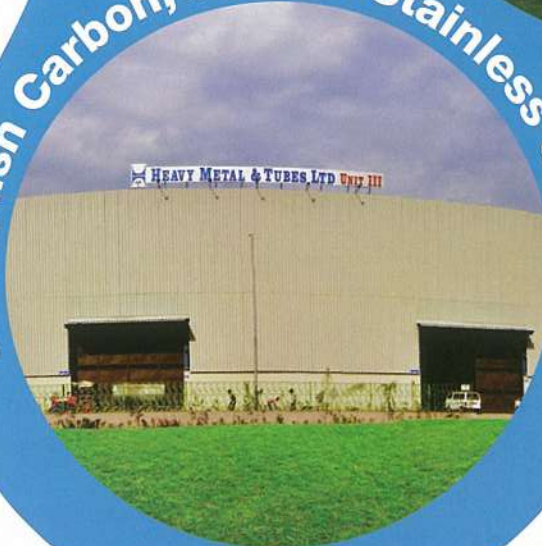
Cold Drawn Stainless Steel Plant



Cold Drawn Carbon & Alloy Steel Plant



Hot Finish Carbon, Alloy & Stainless Steel Plant





Unit-1



Cold Drawn Stainless Steel Plant

HMTIPL has a dedicated plant of 27,500 sq. mtr. of covered area for manufacturing cold drawn of Stainless Steel Seamless & Welded Tubes/pipes with 14 pilger mills, 2 bright annealing furnace, 5 Draw benches, 3 tube mills etc.

Cold finished Tubes / Pipes are produced out of quality seamless hollows which are manufactured in house or procured from reputed mills. Seamless hollows are either cold pilgered over pilger mills or cold drawn over draw benches using precision tooling (dies & plugs) to achieve perfect dimensions and smooth surfaces.

Pilgered / Drawn tubes are subjected to heat treatment, straightening and surface treatment. Finished tubes / pipes undergo various testing as per the specification /customer's requirements followed by marking and packing.



PRODUCTS

- Stainless Steel Seamless Tubes and Pipes
- Stainless Steel Welded Tubes and Pipes
- "U" Tubes and Special Shapes
- Bright Annealed Tubes

MANUFACTURING RANGE

OD : 4 mm to 220 mm

THK : 0.5 mm to 25 mm

Length : Upto 34 Meters depending up on size

GRADE & SPECIFICATIONS

ASTM /ASME 213, 249, 268, 269, 270, 312, 688, 376, 789, 790
TP 304, 304H, 304L, 304LN, 310, 316, 316L, 316H, 316Ti,
316LN, 317, 317L, 321/H, 347/H, 405, 410,
UNS 32205, UNS 32750, UNS 31803, UNS 32760
DIN 1.4006, 1.4301, 1.4306, 1.4401, 14404, 1.4541, 1.4550,
1.4571, 1.4449, 1.4307, 1.4878, 1.4961, 1.4462, EN 10216-5

CAPACITY

6,000 MTPA

Other Specification / Grades can be supplied as per customer's requirements

Flow Chart



Round Bar



Hot Finish
Hollow Preparation



Hollows /
Mother Tubes



Drawing /
Pilgering



Surface Treatment



Heat Treatment



Straightening



Degreasing



U Bending
(if required)



Destructive Test



Non-Destructive Test



Physical Chemical
& Mockup Test



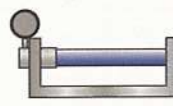
Cutting



Surface Treatment



Heat Treatment of
U Bend Portion
(if required)



Hydro Testing



Final Cutting



Surface Treatment



Visual & Dimension
Inspection



Marking, Packing
& Dispatch





Unit-2



Cold Drawn Carbon & Alloy Steel Plant

HMTIPL has a dedicated plant of 13,500 sq. mtr. of covered area for manufacturing cold drawn of Carbon & Alloy Steel Tubes / pipes.

Cold finished Tubes / Pipes are produced out of quality seamless hollows produced in house in. Seamless hollows are either cold pilgered over pilger mills or drawn over draw benches using precision tooling (dies & plugs) to achieve perfect dimensions and smooth surfaces.

Drawn/pilgered tubes are subjected to heat treatment, straightening and surface treatment. Finished tubes / pipes undergo various testing as per the specification / customer's requirements followed by marking and packing.



PRODUCTS

- Carbon Steel Seamless Tubes and Pipes
- Alloy Steel Seamless Tubes and Pipes
- "U" Tubes and Special Shapes
- Rifle Tubes
- Bright Annealed Tubes

MANUFACTURING RANGE

OD : 4 mm to 220 mm

THK : 0.5 mm to 25 mm

Length : Upto 34 Meters depending upon size

GRADE & SPECIFICATIONS

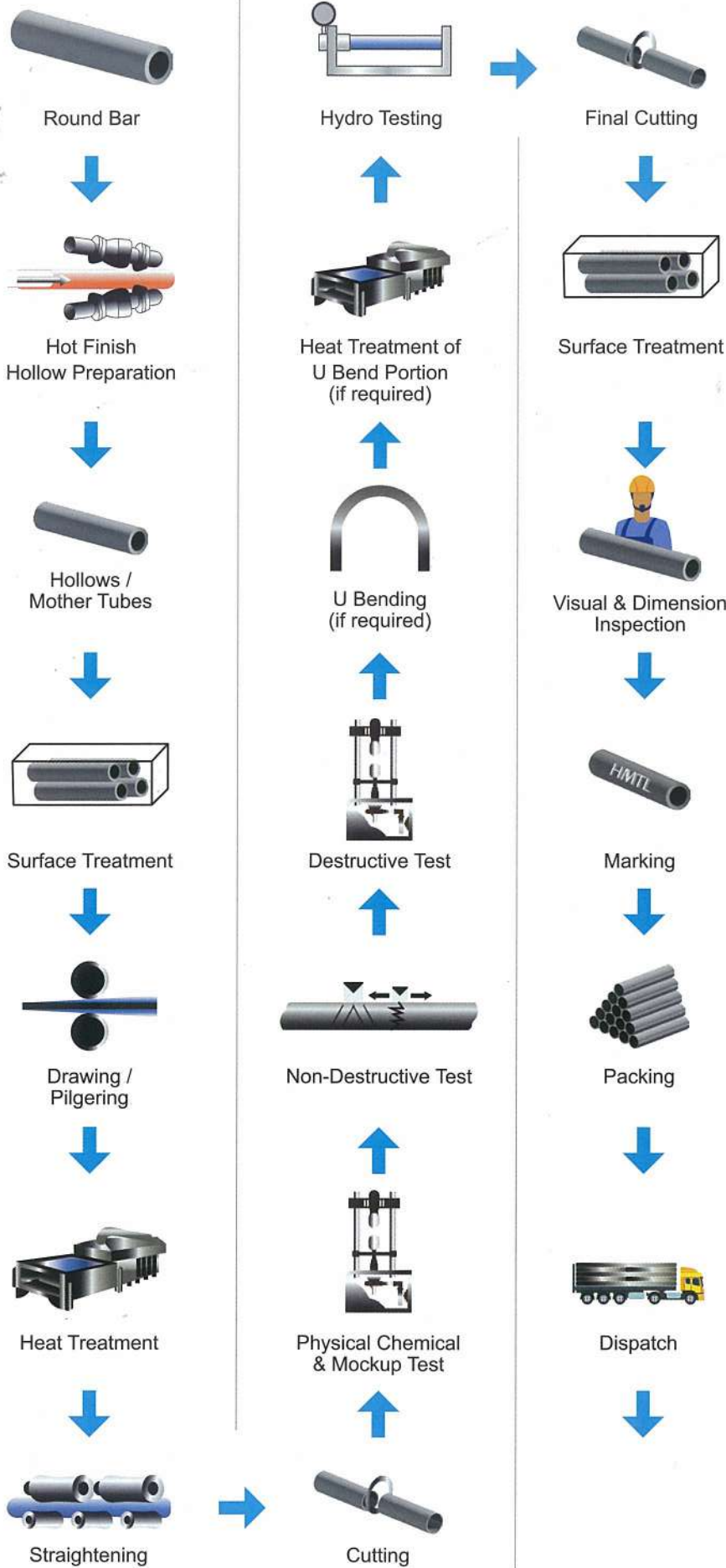
ASTM/ASME A/SA 179, 192, 199, 106/53 (Gr. A, B, C), 210 (Gr. A1, C), A 519, 213 (Gr. T1, T2, T5, T9, T91, T11, T12, T22), 335 (Gr. P1, P2, P5, P9, P91, P11, P12, P22), 334/333 (Gr. 1, 3, 8, 6), 209 (Gr. T1, T1A, T1B), 556 (Gr. A, B, C) etc.
DIN 17175/2391 (Gr. St35.8, St45.8, St 52, 16 Mo3, 13CrMo44, 10CrMo910), 2448, 1630, BS 3059, 980, 6323, 3602/1, EN10716-2, 4130, EN 18, P235, P275, P355, 1026, 1030 etc.

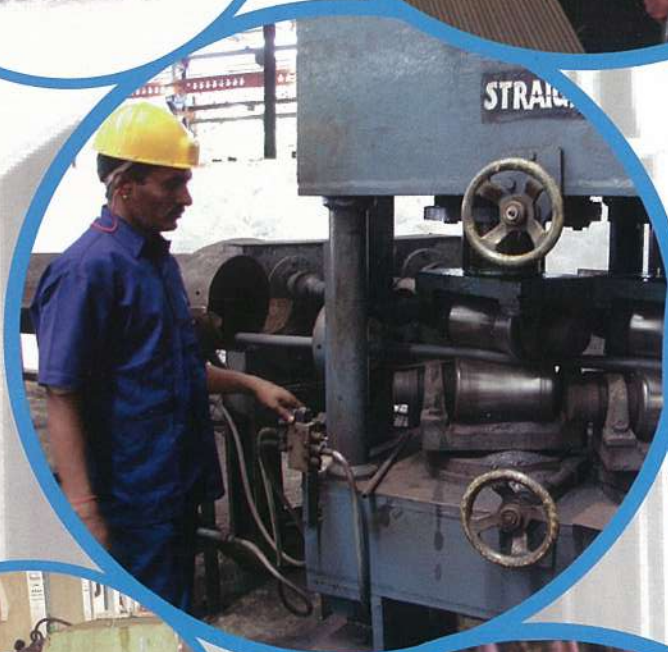
CAPACITY

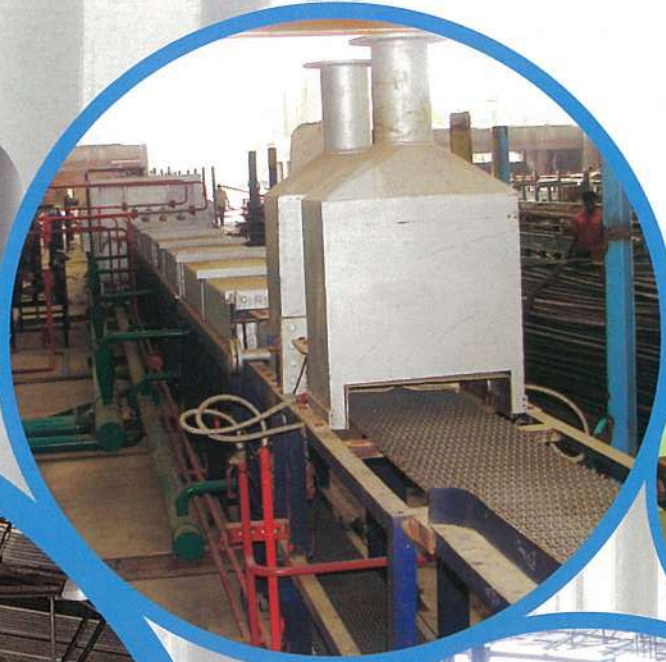
24,000 MTPA

Other Specification / Grades can be supplied as per customer's requirements

Flow Chart







Unit - 3



Hot Finish Carbon, Alloy & Stainless Steel Plant

HMT HFS Unit has been commenced and commissioned with state-of-the-art manufacturing process of cross roll piercing, accu rolling, SRM technology In Dec 2011 and produces various carbon, alloy and stainless steel grades of seamless tubular products. Cross roll piercing process begins with piercing of a hot round bar cut piece on the piercer, followed by accu roll for precision dimensional control of intermediate product, hollow cylindrical shell. Finally, the dimensions are controlled within specified variations on the stretch reducing mill (SRM). This process ensures better control over wall thickness variations as compared to other manufacturing process.

HMT manufactures specialized tubes for various mechanical applications in Boilers and Boiler components, Economizers, Heat Exchangers and pipes used for cryogenic applications. These items can be customized to the requirement of individual customers in terms of heat treatment end end finishes.

HMT has introduced 4 pilger mill and 1 draw bench in Unit 3 with annual production capacity of 12000MT p.a. to manufacture mechanical, hydraulic, boiler tubes, etc. This multistep forming process guarantees high quality seamless tubes. This process greatly improves materials grain structure & due to multi step reduction process from larger diameter tube to smaller diameter tube yields excellent outside & inside surface and closed eccentricity quality tubes.





Process

The hot finish seamless carbon steel & alloy steel division is equipped with latest machineries and all processes are fully automatic with on line ultrasonic & eddy current testing & latest testing facilities for chemical & mechanical testing to meet the customer requirements.

CROSS-ROLL PIERCING-ACCU ROLLING - SRM TECHNOLOGY FOR HFS-HMT UNIT-III

This is the state-of-the-art manufacturing process for high quality seamless pipes and tubes. All the operational points of manufacturing involves through closely monitored and professionally executed, to meet the requirements of clients and various third party inspection agencies. The raw material steel round bars selected for HFS tubular products are ensured within the framework of our stringent internal TDC encompassing the specific requirement mentioned In P.O. conforming to the highest quality standard.

This process begins with heating of round bars steel between temperature range 1150-1250°C in a rotary hearth furnace which passes through a cross-roll piercing mill where solid round bar steel is converted into cylindrical elongated hollow shells. These hollow shells are passed through accu roll mill governed by two guided disk monitored by power pack system

where high precision mandrel inside the hollow moves along with pipe during rolling, which ensures of maintaining precision dimensional variation, smooth inside surface finish of elongated shells. These hollow shells are re heated at 900 to 950°C prior to passing through 24 stand SRM (Stretch Reducing Mill) where final size, dimension and surface finish of HFS tubular product is achieved. Finished tubes / pipes undergo various testing as per the specification / customer's requirements followed by marking and dispatch.

MANUFACTURING RANGE

OD : 4 mm to 168.3 mm

THK : 0.5 mm to 25 mm

Length : Upto 31 Meters depending upon size

GRADE & SPECIFICATIONS

ASTM/ASME A/SA 179, 192, 199, 106/53 (Gr. A, B, C), 210 (Gr. A1, C), A 519, 213 (Gr. T1, T2, T5, T9, T91, T11, T12, T22), 335 (Gr. P1, P2, P5, P9, P91, P11, P12, P22), 334/333 (Gr. 1, 3, 8, 6), 209 (Gr. T1, T1A, T1B), 556 (Gr. A, B, C) etc. DIN 17175/2391 (Gr. St35.8, St45.8, St 52, 16 Mo3, 13CrMo44, 10CrMo910), 2448, 1630, BS 3059, 980, 6323, 3602/1, EN10716-2, 4130, EN 18, P235, P275, P355, 1026, 1030 etc.

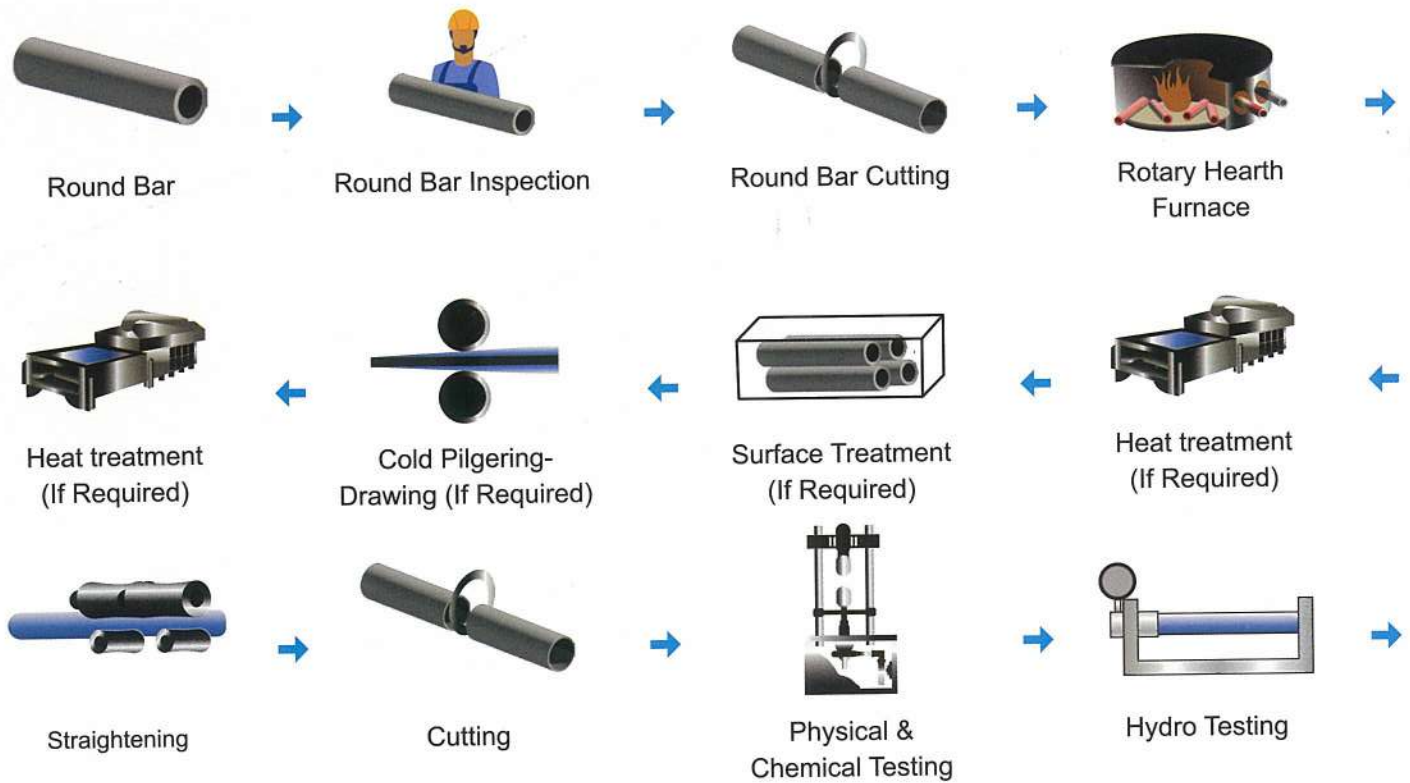
CAPACITY

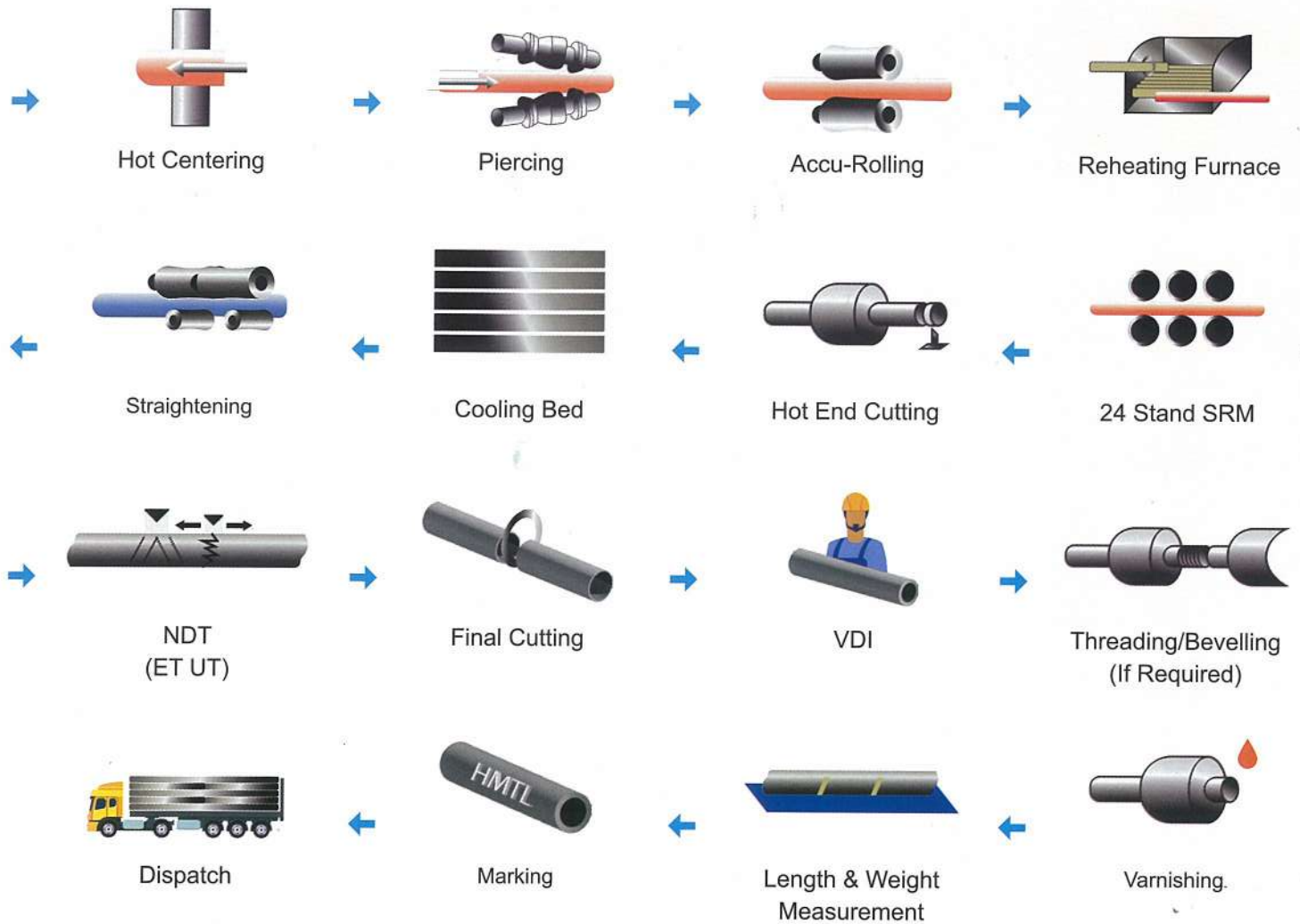
75,000 MTPA

Other Specification / Grades can be supplied as per customer's requirements



Flow Chart









Stainless Steel Welded Tubes/Pipes

Stainless Steel Welded Tubes / Pipes are produced out of prime quality stainless steel strips procured from reputed approved vendors. Strips are converted into tubular form over tube mill & edges are welded using tungsten inert gas (TIG) welding technique. Inside weld bead is removed with bead rolling equipment fitted on the mill.

Welded tubes/pipes are subjected to solution annealing, straightening and pickling operations.

Finished tubes/pipe undergo various testing as per the specification / customer's requirements followed by marking and packing.

MANUFACTURING RANGE

OD : 4 mm to 60.3 mm

THK : 0.5 mm to 6 mm

Length : Upto 30 Meters (100 ft) long subject to size

GRADE & SPECIFICATIONS

ASTM / ASME: A/SA 249, 269, 270, 312, 554, 688,
DIN: 17458 TP: 304, 304L, 304H, 304N, 316, 316L, 316H,
316Ti, 317, 317L, 347, 347H, 405, 410 DIN: 1.4006, 1.4301,
1.4306, 1.4401, 1.4404, 1.4541, 1.4550, 1.4571, 1.4449

CAPACITY

1,200 MTPA

"U" Tubes

Latest type of "U" bending machine is used for precision cold bending of tubes. Specifically prepared jigs and fixtures are used to ensure three dimensional accuracy for "U" bend tubes. Bending is done for all kind heat exchangers, condenser, economizer, boiler tubes in carbon steel, alloy steel and stainless steel seamless as well as welded. HT of bent portion is carried out.

Radii upto 1D.

Note: Different types/ Shapes of bends also available.



Packing

Packing plays very important role for Steel Tubes & Pipes. Special care is taken for Long Thin Walled Tubes and 'U' Bend Tubes.

Different types of packing methods are adopted by HMTIPL, depending on the customer's need and type of product. Some of them are given in attached photographs.

Standard Packing Chart

Sr.	Type of Packing	Applicability
1	Hessian / PVC Cloth Bundles with PVC Box Strap or Hexagonal Bundles. Details not given in Customer's Order.	As Per Customer Requirement. Regular Packing When Packing
2	Wooden Crate For Domestic Supply.	As Per Customer Requirement.
3	Wooden Box made of treated wood or plywood sheet Recommended For Long, Thin Walled & 'U' bend tubes.	As Per Customer Requirement.
4	Bare Tubes Bundles	For Big Diameter & Heavy Thickness Piping Material
5	Tubes With PVC Sleeve and packed in Wooden Boxes	For Polished Tubes & If Customer Require
6	Tubes bundles with PVC Film and Plywood Sheets on the bundles.	For Export Tubes Bundles.

Notes

- (1) Selection of type of packing depends on customers need as specified in customer's purchase order. If nothing is specified in the customer purchase order, our standard packing style is followed.
- (2) All the tubes are supplied with standard end capes on both ends. Special types of end caps are supplied if required by customer.
- (3) Care is taken during handling & packing of thin tubes to prevent dent & scratches.
- (4) Shipping Marks are attached to each Wooden Crate, Wooden Box and Bundle packing.





Quality Assurance

Quality assurance system implemented at HMT covers all production stages right from raw materials, hot working, cold working, heat treatment, till the final tubular product is ready for dispatch. The elements of the quality assurance system correspond to the requirements of national and international codes, as well as customer's own quality assurance requirements.

The quality control department is independent of manufacturing shop. All tests are carried out by trained quality personnel in compliance with the guidelines of the quality assurance system. The documented 'Quality Assurance Manual' establishes the practice concerning these guidelines.

Depending on the intended application and technical delivery conditions or customer's specifications, a variety of specific tests can be carried out to ensure that highest quality standards are maintained. The plants have been equipped with reliable testing and measuring equipment for destructive and non-destructive testing.

Our products are approved by all leading TPI, EPC, Contractors and sub-contractors:

World is our Playground



- ISO 9001 : 2015
- ISO 45001 : 2018
- ISO 14001 : 2015
- Well Known Tube / Pipe Maker under the Indian Boiler Regulations 1950
- AD 2000 - Merkblatt WO
- PED 2014/68/EU



Our Clientele



Quality Control

Sr.	Non-Destructive Test	Destructive Test
1	Eddy Current Test (3 nos)	Flaring Test
2	Hydrostatic Test (12 nos)	Hardness Test
3	Ultrasonic Testing (3 nos)	Reverse Bend Test
4	Metalography Test	Flattening Test
5	Visual Inspection	Corrosion Test
6	DP / MP / RF ECT Testing	Impact
7	Boroscopy & PMI	Tensile Test

Non - Destructive Testing Machine

Online Testing of tubes/pipes by Ultrasonic Testing & Eddy Current Method to check dimension, length and other defects.
100% tubes are hydro tested at HMT irrespective of client requirement.

Sr.	Ultrasonic	2 nos	1 No
1	Type Rotating Probe Method	10 Channels	20 Channels
2	Longitudinal Defect	4 Probes	8 Probes
3	Transverse Defect	4 Probes	8 Probes
4	Wall Thickness	1 Probe	2 Probes
5	OD & ID	1 Probe	2 Probes
6	Speed of Testing	Upto 20 Meters per Minute	Upto 20 Meters per Minute
7	Notch Depth	5% of Wall Thickness	5% of Wall Thickness



Appreciations



Refineries Division

इंडियन ऑयल कॉर्पोरेशन लिमिटेड

गुजरात रिफाइनरी, वाडोदा : 391 320

Indian Oil Corporation Limited

Gujarat Refinery, P.O. Jambhanganagar,

Dist. : Vadodara, Gujarat - 391 320

दुपल : + 91-265-2237106

ईमेल : gujaratrefinery@indianoil.in वेबसाइट : www.iocl.com



MERU INDUSTRIES LLP



Date: 23/08/2021

06.07.2021

M/s Heavy Metals and Tubes India P Ltd
101, Bileshwarpura Near Chhatral
Taluka Kalol, Gandhi Nagar
Ahmedabad Mehsana Highway
PIN: 382729, Gujarat

Mob: 9821234155

Sub: Appreciation letter against Purchase Order (GEM order no. GEMC-511687760832704 dated 10.05.2021) IOCL
SAP PO No. 26999533

Kind Attention Mr. Hitesh Jain

Dear Sir,

This has reference to the above subjected Purchase order GEM order no. GEMC-511687760832704 dated 10.05.2021.

We are pleased to issue this Appreciation Letter to your company for doing excellent efforts in the execution of this order during the difficult period of COVID-19.

In spite of having less manpower, Industrial Oxygen issue, non-availability of Raw Material, labor issues etc, you have provided your all out efforts to supply the material within the delivery period.

Material was required for our scheduled ongoing project and timely delivery of the material helped us in smooth running of project.

IOCL Gujarat Refinery has also shown the good gesture and we have released the payment within 10 days of supply.

We are very appreciative of your help and looking forward to continuing to work together.

We once again sincerely appreciate the efforts of your company and expect the similar help in future maintaining the good business relationship.

Thanks & Regards,

(Amit Agarwal)

Chief Materials Manager

For and on behalf of Indian Oil

Gujarat Refinery
AMT AGARWAL
Chief Materials Manager
Gujarat Refinery, P.O. Jambhanganagar,
Vadodara, Gujarat - 391 320

पंजीकृत कार्यालय : जी-9, अली यारुंग मार्ग, सान्दा (पूर्व) मुंबई, महाराष्ट्र - 400 051 (भारत)
Regd. Office : G-9, Ali Yavur Jung Marg, Sandia (East) Mumbai, Maharashtra - 400 051 (India)
CIN: L23201 MH1959 GCL 01388

BHARAT HEAVY ELECTRICALS LIMITED

(A Government of India Undertaking)

Heavy Power Equipment Plant
Ramachandrapuram, Hyderabad, 502 032, A.P., India
Product Division : HE & FAB

Date: 07.12.2016

PERFORMANCE REPORT OF SS SEAMLESS U TUBES AT BHEL WORKS

This is to certify that M/s. Heavy Metal & Tubes Limited, Gujarat has manufactured and supplied SS Seamless U Tubes of SA213 TP304 Grade (with 0.05% max. Carbon as per BHEL Specification HE51173) with the following details:

- Purchase Order No. and Date : D315A00026 Dated 15.09.2015
- Tube Outer Diameter : 15.875 mm
- Tube Thickness : [2.1, 2.2, 2.3, 2.35, 2.4, 2.45 MIN] mm
- Tube Leg Length : [8500, 11200, 8000] mm
- Total Number of Tubes : 22,200 Nos.
- Total Weight of Tubes : 347 MT
- Equipment : HP Heater 6A/6B, 7A/7B and 8A/8B
- Project Name : 1x800MW GSECL Wanakbori and 1x800MW TSGENCO Kothagudem

This is to be certified that these SS Seamless U Tubes were assembled by BHEL in the equipment and successfully hydro tested at 545 Kg./Sq. Cm without any leakage.

Reference:

- Hydro test report: HYQC/3636/2016-17/004 Dated: 06.06.2016 and 15.06.2016
- Hydro test report: HYQC/3636/2016-17/005 Dated: 16.06.2016 and 17.06.2016
- Hydro test report: HYQC/3636/2016-17/006 Dated: 06.06.2016 and 14.06.2016
- Hydro test report: HYQC/3636/2016-17/007 Dated: 17.06.2016
- Hydro test report: HYQC/3636/2016-17/010 Dated: 19.07.2016 and 21.07.2016
- Hydro test report: HYQC/3636/2016-17/011 Dated: 23.07.2016

This is issued against your request for submission to APGENCO, Hyderabad.

R. SRIDHARAN
(For Bharat Heavy Electricals Limited)
General Manager (Tubing), BHEL HYD-32

Regd. Office : BHEL House, Siri Fort, New Delhi - 110 049

To,
HEAVY METAL & TUBES (I) PVT. LTD.
101, Bileshwarpura, Tal. Kalol,
Dist. Gandhinagar 382 729
Gujarat, INDIA.

Ref: Our Purchase Order No. MI/2020-21/1014 Dtd. 19/02/2021

Dear Mr. Hitesh Jain,

We received alloy steel tubes ASTM A213 T91 ordered vide our above referred purchase order. We write this letter to appreciate your in-time delivery and quality of tubes as per our Specification, even though this is a very challenging grade to mfr. and you delivered in 2 months' time.

We would be glad to recommend your mill for T91 tubes to all our customers in future and we hope that you will live up to the same high standard to quality and timely delivery.

We are happy to have you as our vendor and wish you more success in future.

Thanking You

For Meru Industries LLP

(B. B. Pawar)
General Manager

Corporate Office:

Plot No T-105/16, MIDC Bhorani, Pune - 411 026
Tel.: +91 20 2791 0181 Fax: +91 20 2712 2948
E-mail: info@meruindustries.com

Factory Address:

Unit I: S-31 T Block, MIDC Bhorani, Pune - 411 026
Unit II: C-81 No-312/N/7, Nandikarwadi, Chikoli, Tal. - Vinod, Dist. - Pune-410 501
Unit III: T-153/L, MIDC Bhorani, Pune - 411 026



To,

Dated: 05th April 2021

M/s HEAVY METAL AND TUBES (INDIA) PVT. LIMITED
101, Bileshwarpura, Tal. Kalol,
Dist. Gandhinagar, Gujarat - 382729, INDIA

Subject: Business Appreciation for supply of SA192 tubes, PO reference 9520004321 dated 16.02.2021

Dear Mr. Sandeep Kumar Mathur (G.M. Marketing)

I am writing this letter on behalf of HPCL Mittal Energy Limited. I would like to take an opportunity to first of all thank Heavy Metal & Tubes (India) Pvt. Ltd. for being a long-time partner vendor of HME with excellent track record. We have always appreciated the timely deliveries from your end. Having business terms with professional organizations like yours is indeed a positive verify for us.

I am particularly writing to appreciate you for the recent delivery of SA192 tubes of 50.8mm OD x 4.57mm WT, 20MT to HME. HME wanted above said material for some very pressing emergency purpose and we were highly impressed to see Heavy Metal & Tubes (India) Pvt. Ltd. taking up the challenge and execute the job in 3 days' with TPI.

HME greatly appreciates the dedication and professionalism shown by Heavy Metal & Tubes (India) Pvt. Ltd. over the years and more so in this particular job.

We acknowledge and appreciate your services and we look forward to have such excellence in near future as well.

Wish you all the best for your future business with us.

Best Regards

Shailesh Patwa
V.P. (Contract & Procurement)
HPCL Mittal Energy Limited, NOIDA

Carbon & Alloy Steel Seamless Tubes/Pipes Product Specifications

GRADE		CHEMICAL ANALYSIS (%)													MECHANICAL PROPERTIES				
		C	Si	Mn	P	S	Nb	V	Al tot.	Ti	Cr	Ni	Mo	Cu	Zr	N	CEV	Min Y.S.(ReH)Mpa	T.S (Rn)Mpa
A 106																			
	A	0.25max	0.10 min	0.27-0.93	0.035	0.035	-	0.08 max	-	-	0.40 max	0.40 max	0.15 max	0.40 max	-	-	-	205	330
	B	0.30max	0.10 min	0.29-1.06	0.035	0.035	-	0.08 max	-	-	0.40 max	0.40 max	0.15 max	0.40 max	-	-	-	240	415
	C	0.35 max	0.10 min	0.29-1.06	0.035	0.035	-	0.08 max	-	-	0.40 max	0.40 max	0.15 max	0.40 max	-	-	-	275	485
A 179	0.06-0.18	-	0.27-0.63	0.035	0.035	-	-	-	-	-	-	-	-	-	-	-	-	-	-
A 192	0.06-0.18	0.25	0.27-0.63	0.035	0.035	-	-	-	-	-	-	-	-	-	-	-	-	-	-
A 210 GR A1	0.27	0.10	0.93	0.035	0.035	-	-	-	-	-	-	-	-	-	-	-	-	255	415
A 210 GR C	0.35	0.10	0.29-1.06	0.035	0.035	-	-	-	-	-	-	-	-	-	-	-	-	275	485
A 209																			
GR T1	0.10-0.20	0.10-0.50	0.30-0.80	0.025	0.025	-	-	-	-	-	-	-	0.44-0.65	-	-	-	-	205	380
GR T1 a	0.15-0.25	0.10-0.50	0.30-0.80	0.025	0.025	-	-	-	-	-	-	-	0.44-0.65	-	-	-	-	220	415
GR T1 b	0.14 max	0.10-0.50	0.30-0.80	0.025	0.025	-	-	-	-	-	-	-	0.44-0.65	-	-	-	-	195	365
A 213																			
T2	0.10-0.20	0.10-0.30	0.30-0.61	0.025	0.025	-	-	-	-	-	0.50-0.81	-	0.44-0.65	-	-	-	-	205	415
T5	0.15	0.50	0.30-0.60	0.025	0.025	-	-	-	-	-	4.0-6.0	-	0.45-0.65	-	-	-	-	205	415
T12	0.05-0.15	0.50	0.30-0.61	0.025	0.025	-	-	-	-	-	0.80-1.25	-	0.44-0.65	-	-	-	-	220	415
T22	0.05-0.15	0.50	0.30-0.60	0.025	0.025	-	-	-	-	-	1.90-2.60	-	0.87-1.13	-	-	-	-	205	415
T91	0.07-0.14	0.20-0.50	0.30-0.60	0.020	0.010	0.06-0.10	0.18-0.25	0.02	0.01	8.0-9.5	0.40	0.85-1.05	-	0.01	0.030-0.070	-	-	415	585
A335																			
P1	0.10-0.20	0.10-0.50	0.30-0.80	0.025	0.025	-	-	-	-	-	-	-	0.44-0.65	-	-	-	-	205	380
P2	0.10-0.20	0.10-0.30	0.30-0.61	0.025	0.025	-	-	-	-	0.50-0.81	-	0.44-0.65	-	-	-	-	-	205	380
P5	0.15 max.	0.50 max.	0.30-0.60	0.025	0.025	-	-	-	-	-	4.0-6.0	-	0.45-0.65	-	-	-	-	205	415
P5B	0.15 max.	1.0-2.0	0.30-0.60	0.025	0.025	-	-	-	-	-	4.0-6.0	-	0.45-0.65	-	-	-	-	205	415
P5C	0.12 max.	0.50 max.	0.30-0.60	0.025	0.025	-	-	-	-	-	4.0-6.0	-	0.45-0.65	-	-	-	-	205	415
P9	0.15 max.	0.25-1.0	0.30-0.60	0.025	0.025	-	-	-	-	-	8.0-10.0	-	0.90-1.10	-	-	-	-	205	415
P11	0.05-0.15	0.50-1.0	0.30-0.60	0.025	0.025	-	-	-	-	-	1.0-1.5	-	0.44-0.65	-	-	-	-	205	415
P12	0.05-0.15	0.50 max.	0.30-0.61	0.025	0.025	-	-	-	-	-	0.80-1.25	-	0.44-0.65	-	-	-	-	220	415
P22	0.05-0.15	0.50 max.	0.30-0.60	0.025	0.025	-	-	-	-	-	1.90-2.60	-	0.87-1.13	-	-	-	-	205	415
P91	0.08-0.12	0.20-0.50	0.30-0.60	0.020	0.010	0.06-0.10	0.18-0.25	0.02 max	0.01	8.0-9.5	0.40	0.85-1.05	-	0.01	0.030-0.070	-	-	415	585
334																			
G1	0.30 Max	-	0.40-1.06	0.025 Max	0.025 Max	-	-	-	-	-	-	-	-	-	-	-	-	-	-
G3	0.19 Max	0.18-0.37	0.31-0.64	0.025 Max	0.025 Max	-	-	-	-	-	3.18-3.82	-	-	-	-	-	-	-	-
G6	0.30 Max	0.10 Min	0.20-1.06	0.025 Max	0.025 Max	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Above data are only for reference and HMT don't take any liability for the same.

Carbon & Alloy Steel Seamless Tubes/Pipes Product Specifications

GRADE		CHEMICAL ANALYSIS (%)													MECHANICAL PROPERTIES				
		C	Si	Mn	P	S	Nb	V	Al tot.	Ti	Cr	Ni	Mo	Cu	Zr	N	CEV	Min Y.S.(ReH)Mpa	T.S (Rp)Mpa
A 333																			
	Gr 1	0.30		0.40-1.06	0.025	0.025	-	-	-	-	-	-	-	-	-	-	-	205	380
	Gr3	0.19	0.18-0.37	0.31-64	0.025	0.025	-	-	-	-	-	3.18-3.82	-	-	-	-	-	240	450
	Gr6	0.30	0.10	0.29-1.06	0.025	0.025	-	0.08	-	-	0.03	0.04	0.12	0.04	0.04	-	-	240	415
A 556 (Grade A2)																			
	Grade A	0.18	-	0.27-0.63	0.035	0.035	-	-	-	-	-	-	-	-	-	-	-	180	320
	Grade B	0.27	0.10min.	0.29-0.93	0.035	0.035	-	-	-	-	-	-	-	-	-	-	-	260	410
	Grade C	0.30	0.10 min.	0.29-1.06	0.035	0.035	-	-	-	-	-	-	-	-	-	-	-	280	480
BS 3059/1																			
	320	0.16	0.10	0.30-0.70	0.040	0.040	-	-	-	-	-	-	-	-	-	-	-	195	320
BS 3059/2																			
	243	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	360	0.17	0.10-0.35	0.40-0.80	0.035	0.035	-	-	-	-	-	-	-	-	-	-	-	235	360
	440	0.12-0.18	0.10-0.35	0.90-1.20	0.035	0.035	-	-	-	-	-	-	-	-	-	-	-	245	440
620-460		0.10-0.15	0.10-0.35	0.40-0.70	0.030	0.030	-	-	-	-	0.70-1.10	-	0.45-0.65	-	-	-	-	275	480
																			630
DIN 1629																			
	St 37.0	0.17	-	-	0.040	0.040	-	-	-	-	-	-	-	-	-	-	-	235	350
	St 37.0	0.17	-	-	0.040	0.040	-	-	-	-	-	-	-	-	-	-	-	235	350
	St 44.0	0.21	-	-	0.040	0.040	-	-	-	-	-	-	-	-	-	-	-	275	420
St 52.0		0.22	0.55	1.60	0.040	0.035	-	-	-	-	-	-	-	-	-	-	-	355	500
																			650
DIN 17175																			
	10crMo9 10	0.08-0.015	0.50	0.40-0.70	0.035	0.035	-	-	-	-	2.0-2.5	-	0.90-1.20	-	-	-	-	280	450
	13crMo44	0.10-0.18	0.10-0.35	0.40-0.70	0.035	0.035	-	-	-	-	0.70-1.10	-	0.45-0.65	-	-	-	-	305	440
	14MoV6 3	0.10-0.18	0.10-0.35	0.40-0.70	0.035	0.035	-	0.22-0.32	-	-	0.30-0.60	-	0.50-0.70	-	-	-	-	320	460
15Mo3		0.17	0.10-0.35	0.40-0.80	0.040	0.040	-	-	-	-	-	-	-	-	-	-	-	235	360
	17Mn4	0.14-0.20	0.20-0.40	0.90-1.20	0.040	0.040	-	-	-	-	<0.30	-	-	-	-	-	-	270	660
	19Mn5	0.17-0.22	0.30-0.60	1.0-1.30	0.040	0.040	-	-	-	-	<0.30	-	-	-	-	-	-	310	510
	St 35.8	0.17	0.10-0.35	0.40-0.80	0.040	0.040	-	-	-	-	-	-	-	-	-	-	-	235	360
St 45.8		0.21	0.10-0.35	0.40-1.20	0.040	0.040	-	-	-	-	-	-	-	-	-	-	-	255	410
																			530
DIN 2391-2																			
	St 35	0.17	0.35	>0.40	0.025	0.025	-	-	-	-	-	-	-	-	-	-	-	235	340
	St 45	0.21	0.35	>0.40	0.025	0.025	-	-	-	-	-	-	-	-	-	-	-	255	440
	St 52	0.22	0.55	<1.60	0.025	0.025	-	-	-	-	-	-	-	-	-	-	-	355	490

Above data are only for reference and HMT don't take any liability for the same.

Carbon & Alloy Steel Seamless Tubes/Pipes Product Specifications

GRADE		CHEMICAL ANALYSIS (%)													MECHANICAL PROPERTIES				
		C	Si	Mn	P	S	Nb	V	Al tot.	Ti	Cr	Ni	Mo	Cu	Zr	N	CEV	Min Y.S.(ReH)Mpa	T.S (Rn)Mpa
A 519																			
1008	0.10max.	-	0.30-0.50	0.040	0.050	-	-	-	-	-	-	-	-	-	-	-	-	-	-
1010	0.08-0.13	-	0.30-0.60	0.040	0.050	-	-	-	-	-	-	-	-	-	-	-	-	-	-
1012	0.10-015	-	0.30-0.60	0.040	0.050	-	-	-	-	-	-	-	-	-	-	-	-	-	-
1015	0.13-0.18	-	0.30-0.60	0.040	0.050	-	-	-	-	-	-	-	-	-	-	-	-	-	-
1016	0.13-0.18	-	0.60-0.90	0.040	0.050	-	-	-	-	-	-	-	-	-	-	-	-	-	-
1017	0.15-0.20	-	0.30-0.60	0.040	0.050	-	-	-	-	-	-	-	-	-	-	-	-	-	-
1018	0.15-0.20	-	0.60-0.90	0.040	0.050	-	-	-	-	-	-	-	-	-	-	-	-	-	-
1019	0.15-0.20	-	0.70-1.0	0.040	0.050	-	-	-	-	-	-	-	-	-	-	-	-	-	-
1020	0.18-0.23	-	0.30-0.60	0.040	0.050	-	-	-	-	-	-	-	-	-	-	-	HR-345	-	HR-221
1021	0.18-0.23	-	0.60-0.90	0.040	0.050	-	-	-	-	-	-	-	-	-	-	-	-	-	-
1022	0.18-0.23	-	0.70-1.0	0.040	0.050	-	-	-	-	-	-	-	-	-	-	-	-	-	-
1025	0.22-0.28	-	0.30-0.60	0.040	0.050	-	-	-	-	-	-	-	-	-	-	-	HR-379	-	HR-241
1026	0.22-0.28	-	0.60-0.90	0.040	0.050	-	-	-	-	-	-	-	-	-	-	-	-	-	-
1030	0.28-0.34	-	0.60-0.90	0.040	0.050	-	-	-	-	-	-	-	-	-	-	-	-	-	-
1035	0.32-0.37	-	0.60-0.90	0.040	0.050	-	-	-	-	-	-	-	-	-	-	-	276	40	448
1040	0.37-0.44	-	0.60-0.90	0.040	0.050	-	-	-	-	-	-	-	-	-	-	-	-	-	-
1045	0.43-0.50	-	0.60-0.90	0.040	0.050	-	-	-	-	-	-	-	-	-	-	-	310	45	517
1050	0.48-0.55	-	0.60-0.90	0.040	0.050	-	-	-	-	-	-	-	-	-	-	-	345	50	552
1541	0.36-0.44	-	1.35-1.65	0.040	0.050	-	-	-	-	-	-	-	-	-	-	-	-	-	-
SAE4130	0.28-0.33	0.15-0.35	0.40-0.60	0.04	0.04	-	-	-	-	0.80-1.10	-	0.15-0.25	-	-	-	-	-	-	-
S235JRH	<0.17	-	<1.40	<0.040	<0.040	-	-	-	-	-	-	-	-	-	-	<0.009	<0.37	235	225
S275J0H	<0.20	-	<1.50	<0.035	<0.035	-	-	-	-	-	-	-	-	-	-	<0.009	<0.41	275	265
S275J2H	<0.20	-	<1.50	<0.030	<0.030	-	-	-	-	-	-	-	-	-	-	-	<0.41	275	265
S355J0H	<0.22	<0.55	<1.60	<0.035	<0.035	-	-	-	-	-	-	-	-	-	-	<0.009	<0.45	355	345
S355J2H	<0.22	<0.55	<1.60	<0.030	<0.030	-	-	-	-	-	-	-	-	-	-	-	<0.45	355	345
S355K2H	<0.22	<0.55	<1.60	<0.030	<0.030	-	-	-	-	-	-	-	-	-	-	-	<0.45	355	345
S275NH	<0.20	<0.40	0.50-1.40	<0.035	<0.030	<0.050	<0.08	>0.08	<0.03	<0.30	<0.30	<0.10	-	-	<0.015	0.40	275	265	370-510
S275NLH	<0.20	<0.40	0.50-1.40	<0.030	<0.030	<0.050	<0.08	>0.08	<0.03	<0.30	<0.30	<0.10	-	-	<0.015	0.40	275	265	370-510
S355NH	<0.20	<0.50	0.90-1.65	<0.035	<0.030	<0.050	<0.12	>0.12	<0.03	<0.30	<0.50	<0.10	-	-	<0.020	0.43	355	345	470-630
S355NLH	<0.18	<0.50	0.90-1.65	<0.030	<0.025	<0.050	<0.12	>0.12	<0.03	<0.30	<0.50	<0.10	-	-	<0.020	0.43	355	345	470-630
S420NH	<0.22	<0.60	1.00-1.70	<0.035	<0.030	<0.050	<0.20	>0.20	<0.03	<0.30	<0.80	<0.10	-	-	<0.025	0.50	420	400	520-680
S420NLH	<0.22	<0.60	1.00-1.70	<0.030	<0.025	<0.050	<0.20	>0.20	<0.03	<0.30	<0.80	<0.10	-	-	<0.025	0.50	420	400	520-680
460NH	<0.22	<0.60	1.00-1.70	<0.035	<0.030	<0.050	<0.20	>0.20	<0.03	<0.30	<0.80	<0.10	-	-	<0.025	0.53	460	440	540-720
S460NLH	<0.22	<0.60	1.00-1.70	<0.030	<0.025	<0.050	<0.20	>0.20	<0.03	<0.30	<0.80	<0.10	-	-	<0.025	0.53	460	440	540-720
SAE8620	0.28-0.33	0.15-0.35	0.40-0.60	0.04	0.04	-	-	-	-	0.80-1.10	-	0.15-0.25	-	-	-	-	-	-	-
EN 18	0.35-0.45	0.10-0.35	0.50-0.80	0.04 Max	0.04 Max	-	-	-	-	0.90-1.40	-	0.20-0.40	-	-	-	-	-	-	-

Carbon & Alloy Steel Seamless Tubes/Pipes Product Comparison

ASTM STANDARD	ASTM STEEL	DIN STANDARD	DIN STEEL	BS STANDARD	BS STEEL	EN STANDARD	EN STEEL	UNI STANDARD	UNI STEEL	GOST STANDARD	GOST STEEL	JIS STANDARD	JIS STANDARD
A106	Gr.A	17175	St35.8	3059-2	360	10216-2	P235GH	-	C14	1050	10	G3456	STPT370
	Gr.B	17175	St45.8	3059-2	430	10216-2	P255GH	-	C18	1050	20	G3456	STPT410
	Gr.C	17175	17Mn4	3059-2	440	-	(P295 GH)	-	-	4543	1402	G3456	STPT480
A179	A179	17175	St35.8	3602-1	360	10216-2	P235GH	-	C14	1050	10	G3456	STPT370
A192	A192	17175	St35.8	3602-1	360	10216-2	P235GH	-	C14	1050	10	G3456	STPT370
A209	T1, T1a, T1b	-	16Mo5	-	-	-	-	-	16Mo5	-	-	G3462	STBA12
A210	Gr.A-1	17175	St45.8	3602-1	430	10216-2	P255GH	-	-	-	-	G3456	STPT410
	Gr.C	17175	17Mn4	-	-	-	-	-	-	-	-	-	-
A213	T/P122	-	-	-	-	-	11CrWCMoVNB	-	-	-	-	-	HCM 12A
	T/P911	-	-	-	-	-	X11 CrMoVNB9-1-1	-	-	-	-	-	-
	T/P92	-	-	-	-	-	X11 CrMoVNB9-2	-	-	-	-	-	STBA29
	T11	-	-	3604-1	621	10216-2	10CrMo5-5	-	-	-	-	G3462	STBA23
	T12	17175	13CrMo4 4	3059-2	620	10216-2	13CrMo4-5	-	14CrMo3	4543	15ChM	G3462	STBA22
	T2	-	-	-	-	-	(15CrMo2-5)	-	-	-	-	G3462	STBA20
	T21	17176	12CrMo12-10	-	-	-	-	-	-	-	-	G3462	STBA25
	T22	17175	10CrMo9 10	3059-2	622-490	10216-2	10CrMo9-10	-	12CrMo9 10	5520	10ChM	G3462	STBA24
	T23	-	-	-	-	-	7CrWMoNb 9-6	-	-	-	-	-	HCM 2S
	T24	-	-	-	-	-	7CrMoTiB10-10	-	-	-	-	-	-
T5, T5b, T5c	17	17176	12CrMo19 5	3604-1	625	10216-2	X11CrMo5	-	-	550	15ChM	-	-
	T9	17176	X12CrMo9 1	3059-2	629	10216-2	(X11CrMo7)	-	-	-	-	G3462	STBA26
A333	T91	-	-	3059-2	629-590	10216-2	X11CrMo9-1	-	-	-	-	-	-
	Gr.1	17173	TTS35N	3603	430LT	10216-4	X10CrMoVNB9-1	-	C15	-	-	G3462	STBA28
	Gr.3	17173	10Ni14	3603	503LT	10216-4	12Ni14	-	18Ni14	-	-	G3460	STPL380
	Gr.6	17174	TTS35V	3603	430LT	10217-4	P255NL	-	C20	-	-	G3460	STPL450
	Gr.7	-	-	-	-	-	(10Ni9)	-	18Ni9	-	-	-	-
A334	Gr.8	17173	X8Ni9	3603	509LT	10216-4	X10Ni9	-	X12Ni109	-	-	-	-
	Gr.1	17174	TTS35N	-	-	10217-4	P215NL	-	-	-	-	G3464	STBL380
	Gr.3	17173	10Ni14	3603	503LT	10253-2	12Ni14	-	18Ni14	-	-	G3464	STBL450
	Gr.6	17173	TTS35V	3603	430LT	10217-6	P255NL	-	C20	-	-	-	-
A335	Gr.7	-	-	-	-	-	-	-	18Ni9	-	-	-	-
	P1	-	-	-	-	-	-	-	16Mo5	-	-	G3458	STPA12
	P11	-	-	3604-2	621	10253-2	10CrMo5-5	-	-	-	-	G3458	STPA23
	P12	2609	13CrMo4 4	3604-1	620-440	10253-2	13CrMo4-5	-	-	-	-	G3458	STPA22
	P2	-	-	-	-	-	-	-	-	-	-	G3458	STPA20
	P21	-	12CrMo12-10	-	-	-	-	-	-	-	-	G3458	STPA25
	P22	2609	10CrMo9 10	3604-1	622	10253-2	10CrMo9-10	-	-	-	-	G3458	STPA24
A53	P24	-	-	-	-	-	7CrMoVTB10-10	-	-	20072	15ChM	-	-
P5, P5b, P5c	P7	17176	12CrMo19 5	3606	625	10253-2	X11CrMo5	-	-	-	-	-	-
	P9	-	-	3604-1	629	10253-2	(X11CrMo7)	-	-	-	-	G3458	STPA26
	P91	-	-	-	-	10253-2	X11CrMo9-1	-	-	-	-	-	-
Gr.A	Gr.A	17121	RS137-2	6323-3	HFS 3	10025-2	X10CrMoVNB9-1	-	Fe35-1	1050	10	G3458	STPA28
Gr.B	Gr.B	17121	St44-3	6323-3	HFS4	10025-2	S235JR	-	Fe45-1	1050	20	-	-
Gr.A-2	Gr.A-2	17175	St35.8	3602-1	360	10216-2	S275J2	-	C14	1050	10	G3456	STPT370
Gr.B-2	Gr.B-2	17175	St45.8	3602-1	430	10216-2	P255GH	-	-	-	-	-	-
	Gr.C2	-	-	-	-	-	-	-	-	-	-	-	-

Above data are only for reference and HMT don't take any liability for the same.

Stainless Steel Seamless & Welded Tubes / Pipes Product Specification & Comparison

Grade	Chemical Analysis (%)										Comparison / Equivalent									
ASTM (USA)	C	Si	Mn	P(Max.)	S(Max.)	Ni	Cr	Mo	Other	UNS (USA)	B.S (UK)	EN/DIN (Germany)	AFNOR NF (France)	UNI (Italy)	SS (Sweden)	JLS (Japan)	GB/PR (China)	KS (Korea)		
304	0.08	1.00	2.00	0.045	0.030	8.00~11.00	18.00~20.00	-	-	S30400	304S31 / 304S15	1.4301	Z7 CN 18-09 / Z6 CN 18-09	X5CrNi 18 10	2333	SUS 304	0Cr 18Ni9	STS 304		
304L	0.035	1.00	2.00	0.045	0.030	8.00~13.00	18.00~20.00	-	-	S30403	304S11	1.4306 / 1.4307	Z2 CN 18-10 / Z3 CN 18-10	X2CrNi 18 11	2352	SUS 304L	00Cr 19Ni10	STS 304L		
304N	0.08	1.00	2.00	0.045	0.030	8.00~11.00	18.00~20.00	-	N:0.10-0.16	S30451	304S71	1.6907	-	-	-	-	-	-		
304LN	0.035	1.00	2.00	0.045	0.030	8.00~12.00	18.00~20.00	-	N:0.10-0.16	S30453	304S61	1.4311	Z3 CN 18-10 Az	-	2371	SUS 304LN	00Cr 18Ni1 ON	STS 304LN		
304H	0.04-0.10	1.00	2.00	0.045	0.030	8.00~11.00	18.00~20.00	-	-	S30409	304S51	1.4948	Z6 CN 18-09	X8CrNi 18 10	2333	SUS 304	1Cr 18Ni9	STS 304		
316	0.08	1.00	2.00	0.045	0.030	10.00~14.00	16.00~18.00	2.00~3.00	-	S31600	316S31	1.4401	Z7 CND 17-11-02	X5CrNiMo 17 12	2347	SUS 316	0Cr17 Ni12Mo2	STS 316		
											316S33 / 316S31	1.4436	Z7 CND 18-12-03	X5CrNiMo 17 13	2343					
316L	0.035	1.00	2.00	0.045	0.030	10.00~14.00	16.00~18.00	2.00~3.00	-	S31603	316S11 / 316S11	1.4404	Z3 CND 17-11-02 / Z3 CND 18-12-02	X5CrNiMo 17 12	2348	SUS 316L	00Cr Ni12Mo2	STS 316L		
											316S13 / 316S11	1.4435	Z3 CND 18-14-03	X2CrNiMo 17 13	2353					
316N	0.08	1.00	2.00	0.045	0.030	10.00~14.00	16.00~18.00	2.00~3.00	N:0.10-0.16	S31651	-	-	-	-	-	-	-	-		
316LN	0.035	1.00	2.00	0.045	0.030	10.00~14.00	16.00~18.00	2.00~3.00	N:0.10-0.16	S31653	316S61	1.4406	Z3 CND 17-11 Az	-	-	SUS 316LN	00Cr 17Ni12Mo2N	STS 316LN		
316Ti	0.08	0.75	2.00	0.045	0.030	10.00~14.00	16.00~18.00	2.00~3.00	Ti:5X(C+N)-0.70 N:0.10 max	S31635	320S31	1.4571	Z6 CNDT 17-12	X6CrNiMoTi 17 13	2350	SUS 316Ti	0Cr 18Ni12Mo2Ti	STS 316Ti		
316H	0.04-0.10	1.00	2.00	0.045	0.030	11.00~14.00	16.00~18.00	2.00~3.00	-	S31609	316S52	1.4401 / 1.4919	Z6 CND 17-12B	X8CrNiMo 17 12	-	-	-	-		
321	0.08	1.00	2.00	0.045	0.030	9.00~12.00	17.00~19.00	-	Ti:5X(C+N)-0.70	S32100	321S31	1.4541	Z6 CNT 18-10	X6CrNiTi 18 11	2337	SUS 321	0Cr 18Ni9Ti	STS 321		
321H	0.04-0.10	1.00	2.00	0.045	0.030	9.00~12.00	17.00~19.00	-	Ti:4X(C+N)-0.70	S32109	321S51	1.4878	Z6 CNT 18-10	X8CrNiTi 18 11	2337	SUS 321	-	-		
317	0.08	1.00	2.00	0.045	0.030	11.00~15.00	18.00~20.00	3.00~4.00	-	S31700	317S16	1.4449	Z3 CND 19-15-04	X5 CrNiMo 18 15	-	SUS 317	-	-		
317L	0.035	1.00	2.00	0.045	0.030	11.00~15.00	18.00~20.00	3.00~4.00	-	S31703	317S12	1.4438	Z6 CND 18-10	X2 CrNiMo 18 15	2367	SUS 317L	00Cr 19Ni13Mo3	STS 317L		
347	0.08	1.00	2.00	0.045	0.030	9.00~13.00	17.00~19.00	-	Nb+Ta: 10X(C%-1.00)	S34700	347S31	1.455	-	X6CrNiNb 18 11	2338	SUS 347	0Cr 18Ni1Nb	STS 347		
347H	0.04-0.10	1.00	2.00	0.045	0.030	9.00~13.00	17.00~19.00	-	Nb+Ta: 8X(C%-1.0)	S34709	316SJa	1.4961	Z8 CN 25-20/	X8CrNiNb 18 11	2347	-	-	-		
310S	0.080	1.00	2.00	0.045	0.030	19.00~22.00	24.00~26.00	-	-	S31008	310S16 / 310S24	1.4845	Z12 CN 25-20	X6CrNi 25 20	2361	SUS 310S	1Cr 25Ni20	STS 310S		
904L	0.020	1.00	2.00	0.045	0.030	23.00~28.00	19.00~23.00	4.0~5.0	N<->0.10 Cu<->1.00-2.00	N08904	904S13	1.4539	Z2 NCDU 25-20 11	X1 NiCr, MoCu 25-20-5	2562	-	-	STS 317 J5L		
310H	0.04-0.10	1.00	2.00	0.045	0.030	19.00~22.00	24.00~26.00	-	-	S31009	-	-	-	-	-	-	-	-		
Duplex 2205	0.03	1.00	2.00	0.03	0.020	4.50-6.50	21.00~23.00	2.50~3.50	N<-> 0.08 - 0.20	S31803	-	1.4462	Z2 CND 22-05 Az	-	2377	-	00Cr 22Ni5Mo3N	-		
Duplex 2205	0.03	1.00	2.00	0.03	0.020	4.50-6.50	22.00~23.00	3.00~3.50	N<-> 0.14 - 0.20	S32205	318S13	1.4462	Z3 CND 23-05 Az	-	2377	SUS 329J3L	00Cr 22Ni5Mo3N	STS 329J3L		
Super Duplex 2507	0.03	0.80	1.20	0.035	0.020	6.00~8.00	24.00~26.00	3.00~5.00	N<-> 0.24-0.32 Cu<-> 0.30	S32750	-	1.441	-	-	2328	-	00Cr 25Ni7Mo4N	-		
405	0.08	1.00	1.00	0.040	0.030	0.50	11.50~14.50	-	Al:0.10-0.30	S40500	405S17	1.4002	Z6 C A113	-	-	SUS 405	-	-		
410	0.15	0.75	1.00	0.04	0.030	-	11.50~13.50	-	-	S41000	410S21	1.4006	Z12C13	X12Cr13	2302	SUS 410	1Cr12	STS 410		
430	0.12	0.75	1.00	0.04	0.030	-	16.00~18.00	-	-	S43000	430S17	1.4016	Z8 C17	X8Cr17	2320	SUS 430	1Cr17	STS 430		

Above data are only for reference and HMT don't take any liability for the same.

Cold Drawn Seamless Stainless, Carbon & Alloy Steel Manufacturing Range

OUTSIDE DIAMETER		in mm	6.350	12.700	19.050	25.400	31.750	38.100	44.450	50.800	57.150	63.500	69.850	76.200	82.550	88.900	95.250	101.600
WALL THICKNESS		in inch	1/4	1/2	3/4	1	1 1/4	1 1/2	1 3/4	2	2 1/4	2 1/2	2 3/4	3	3 1/4	3 1/2	3 3/4	4
Gauge	mm	inch																
22 Swg	0.711	0.028	0.099	0.210	0.322	0.433	0.544	0.656	0.767	0.878	0.990	1.101						
22 Swg	0.711	0.028	0.099	0.210	0.322	0.433	0.544	0.656	0.767	0.878	0.990	1.101						
21 Swg	0.813	0.032	0.111	0.238	0.366	0.493	0.620	0.748	0.875	1.002	1.130	1.257						
21 Swg	0.813	0.032	0.111	0.238	0.366	0.493	0.620	0.748	0.875	1.002	1.130	1.257						
20 Swg	0.914	0.036	0.123	0.266	0.409	0.552	0.695	0.838	0.981	1.124	1.268	1.411	1.554					
20 Swg	0.889	0.035	0.120	0.259	0.398	0.537	0.677	0.816	0.955	1.094	1.233	1.373	1.512					
19 Swg	1.016	0.040	0.134	0.293	0.452	0.611	0.770	0.929	1.088	1.247	1.406	1.566	1.725					
19 Swg	1.067	0.042	0.139	0.306	0.473	0.640	0.807	0.974	1.142	1.309	1.476	1.643	1.810					
18 Swg	1.219	0.048	0.154	0.345	0.536	0.727	0.918	1.109	1.300	1.491	1.681	1.872	2.063	2.254	2.445	2.636	2.827	
18 Swg	1.245	0.049	0.157	0.352	0.547	0.742	0.937	1.132	1.327	1.522	1.716	1.911	2.106	2.301	2.496	2.691	2.886	
17 Swg	1.422	0.056	0.173	0.396	0.618	0.841	1.064	1.286	1.509	1.732	1.954	2.177	2.400	2.622	2.845	3.068	3.290	
17 Swg	1.473	0.058	0.179	0.414	0.649	0.884	1.118	1.353	1.588	1.823	2.057	2.292	2.527	2.762	2.996	3.176	3.466	
16 Swg	1.626	0.064	0.189	0.444	0.699	0.953	1.208	1.463	1.717	1.972	2.226	2.481	2.736	2.990	3.245	3.500	3.754	4.009
16 Swg	1.651	0.065	0.191	0.450	0.708	0.967	1.226	1.484	1.743	2.001	2.260	2.518	2.777	3.035	3.294	3.552	3.811	4.070
15 Swg	1.829	0.072	0.204	0.490	0.777	1.063	1.350	1.636	1.922	2.209	2.495	2.782	3.068	3.355	3.641	3.927	4.214	4.500
15 Swg	2.032	0.072	0.204	0.535	0.777	1.063	1.350	1.636	1.922	2.209	2.495	2.782	3.068	3.355	3.641	3.927	4.214	4.500
14 Swg	2.108	0.080	0.216	0.551	0.853	1.171	1.489	1.807	2.126	2.444	2.762	3.080	3.399	3.717	4.035	4.353	4.671	4.990
14 Swg	2.337	0.083	0.221	0.649	0.881	1.211	1.541	1.871	2.201	2.531	2.861	3.192	3.522	3.852	4.182	4.512	4.842	5.172
13 Swg	2.413	0.092		0.612	0.963	1.329	1.695	2.061	2.427	2.793	3.159	3.525	3.891	4.257	4.623	4.989	5.355	5.721
13 Swg	2.642	0.095		0.655	0.990	1.368	1.746	2.124	2.502	2.879	3.257	3.635	4.013	4.391	4.769	5.147	5.525	5.902
12 Swg	2.769	0.104		0.678	1.069	1.483	1.897	2.310	2.724	3.138	3.552	3.965	4.379	4.793	5.206	5.620	6.034	6.448
12 Swg	2.946	0.109		0.709	1.112	1.545	1.979	2.413	2.846	3.280	3.714	4.147	4.581	5.014	5.448	5.882	6.315	6.749
11 Swg	3.048	0.116		0.726	1.170	1.631	2.093	2.554	3.015	3.477	3.938	4.399	4.861	5.322	5.783	6.245	6.706	7.167
11 Swg	3.251	0.120		0.758	1.203	1.680	2.157	2.635	3.112	3.589	4.067	4.544	5.021	5.499	5.976	6.453	6.931	7.408
10 Swg	3.404	0.128		0.780	1.267	1.776	2.285	2.794	3.303	3.812	4.321	4.830	5.340	5.849	6.358	6.867	7.376	7.885
10 Swg	3.658	0.134		0.816	1.313	1.847	2.380	2.913	3.446	3.979	4.512	5.045	5.578	6.111	6.644	7.177	7.710	8.243
9 Swg	3.759	0.144		0.829	1.389	1.961	2.534	3.107	3.680	4.253	4.826	5.398	5.971	6.544	7.117	7.690	8.263	8.836
9 Swg	4.064	0.148		0.866	1.418	2.006	2.595	3.183	3.772	4.361	4.949	5.538	6.127	6.715	7.304	7.893	8.481	9.070
8 Swg	4.191	0.160		0.879	1.502	2.138	2.775	3.411	4.048	4.684	5.321	5.957	6.593	7.230	7.866	8.503	9.139	9.775
8 Swg	4.470	0.165		1.536	1.536	2.192	2.848	3.505	4.161	4.817	5.474	6.130	6.786	7.443	8.099	8.755	9.412	10.068
7 Swg	4.470	0.176		1.607	1.607	2.307	3.007	3.707	4.407	5.107	5.807	6.507	7.207	7.907	8.607	9.307	10.007	10.707
7 Swg	4.572	0.180		1.632	1.632	2.348	3.064	3.780	4.496	5.212	5.928	6.644	7.360	8.076	8.792	9.508	10.224	10.940
6 Swg	4.877	0.192		1.705	1.705	2.468	3.232	3.996	4.760	5.523	6.287	7.051	7.815	8.578	9.342	10.106	10.870	11.633
6 Swg	5.156	0.202		1.767	1.767	2.574	3.382	4.189	4.996	5.804	6.611	7.419	8.226	9.034	9.841	10.648	11.456	12.263
5 Swg	5.385	0.212		1.815	1.815	2.658	3.501	4.345	5.188	6.031	6.875	7.718	8.561	9.404	10.248	11.091	11.934	12.778
5 Swg	5.588	0.220		1.855	1.855	2.730	3.605	4.480	5.356	6.231	7.106	7.981	8.856	9.731	10.606	11.481	12.356	13.231
4 Swg	5.893	0.232		1.912	1.912	2.835	3.758	4.681	5.603	6.526	7.449	8.372	9.295	10.218	11.141	12.063	12.986	13.909
4 Swg	6.045	0.238		1.939	1.939	2.885	3.832	4.779	5.725	6.672	7.619	8.565	9.512	10.459	11.405	12.352	13.299	14.245
3 Swg	6.401	0.252		1.997	1.997	2.999	4.002	5.004	6.006	7.009	8.011	9.014	10.016	11.018	12.021	13.023	14.026	15.028
3 Swg	6.579	0.259		2.023	2.023	3.054	4.084	5.114	6.144	7.175	8.205	9.235	10.266	11.296	12.326	13.356	14.387	15.417
2 Swg	7.010	0.276				3.179	4.277	5.375	6.473	7.570	8.668	9.766	10.864	11.961	13.059	14.157	15.255	16.352
2 Swg	7.214	0.284				3.235	4.365	5.495	6.625	7.754	8.884	10.014	11.143	12.273	13.403	14.533	15.662	16.792
1 Swg	7.620	0.300				3.341	4.535	5.728	6.921	8.114	9.308	10.501	11.694	12.888	14.081	15.274	16.467	17.661
1 Swg	7.620	0.300				3.341	4.535	5.728	6.921	8.114	9.308	10.501	11.694	12.888	14.081	15.274	16.467	17.661
0 Swg	8.229	0.324				3.485	4.773	6.062	7.351	8.639	9.928	11.217	12.505	13.794	15.083	16.371	17.660	18.949
0 Swg	8.636	0.340				3.570	4.923	6.275	7.628	8.980	10.332	11.685	13.037	14.390	15.742	17.094	18.447	19.799

For Carbon and Alloy Steel Tubes Cross Section Kg/mtr Weight is: (in mm): (OD - Thk) x Thk x 0.0246615. For Stainless Steel Tubes Cross Section Kg/mtr weight: (in mm): (OD - Thk) x Thk x 0.0252

Seamless Carbon & Alloy Steel Line Pipe Manufacturing Range

NOMINAL PIPE SIZE		SCHEDULE STANDARD		SCHEDULE 40		SCHEDULE XS		SCHEDULE 80		SCHEDULE 120		SCHEDULE 160		SCHEDULE XXS	
INCH	MM	IN MM	WALL	WT.	WALL	WT.	WALL	WT.	WALL	WT.	WALL	WT.	WALL	WT.	WT.
11/8	6	10.3	1.70	0.36	1.70	0.36	2.41	0.47	2.41	0.47	-	-	-	-	-
1/4	8	13.7	2.24	0.63	2.24	0.63	3.02	0.80	3.02	0.80	-	-	-	-	-
3/8	10	17.1	2.31	0.84	2.31	0.84	3.2	1.10	3.2	1.1	-	-	-	-	-
1/2	15	21.3	2.77	1.27	2.77	1.27	3.73	1.62	3.73	1.62	-	-	-	-	-
3/4	20	26.7	2.87	1.69	2.87	1.69	3.91	2.20	3.91	2.2	-	-	-	-	-
1	25	33.4	3.38	2.50	3.38	2.50	4.55	3.24	4.55	3.24	-	-	-	-	-
1 1/4	32	42.2	3.56	3.39	3.56	3.39	4.85	4.47	4.85	4.47	-	-	-	-	-
1 1/2	40	48.3	3.68	4.05	3.68	4.05	5.08	5.41	5.08	5.41	-	-	-	-	-
2	50	60.30	3.91	5.44	3.91	5.44	5.54	7.48	5.54	7.48	-	-	-	-	-
2 1/2	65	73.00	5.16	8.63	5.16	8.63	7.01	11.41	7.01	11.41	-	-	-	-	-
3	80	88.90	5.49	11.29	5.49	11.29	7.62	15.27	7.62	15.27	-	-	-	-	-
3 1/2	90	101.60	5.74	13.57	5.74	13.57	8.08	18.64	8.08	18.64	-	-	-	-	-
4	100	114.30	6.02	16.08	6.02	16.08	8.56	22.32	8.56	22.32	-	-	-	-	-
5	125	141.30	6.55	21.77	6.55	21.77	9.52	30.94	9.52	30.94	-	-	-	-	-
6	150	168.30	7.11	28.26	7.11	28.26	10.97	42.56	10.97	42.56	-	-	-	-	-

Seamless Cold Drawn Stainless Steel Line Pipe Manufacturing Range

NOMINAL PIPE SIZE		SCHEDULE 5 S		SCHEDULE 10 S		SCHEDULE 20 S		SCHEDULE 40 S		SCHEDULE 80 S		SCHEDULE 160 S		SCHEDULE XXS	
INCH	MM	IN MM	WALL	WT.	WALL	WT.	WALL	WT.	WALL	WT.	WALL	WT.	WALL	WT.	WT.
1/8	6	10.30	1.20	0.28	1.24	0.28	1.50	0.33	1.73	0.37	2.41	0.48	-	-	-
1/4	8	13.70	1.20	0.38	1.65	0.50	2.00	0.59	2.24	0.65	3.02	0.81	-	-	-
3/8	10	17.10	1.20	0.48	1.65	0.64	2.00	0.79	2.31	0.86	3.20	1.12	-	-	-
1/2	15	21.30	1.65	0.82	2.11	1.02	2.30	1.10	2.77	1.29	3.73	1.65	-	-	-
3/4	20	26.70	1.65	1.04	2.11	1.31	2.55	1.55	2.87	1.72	3.91	2.25	-	-	-
1	25	33.40	1.65	1.32	2.77	2.14	2.55	1.98	3.38	2.56	4.55	3.31	-	-	-
1 1/4	32	42.20	1.65	1.69	2.77	2.75	3.00	2.96	3.56	3.47	4.85	4.56	-	-	-
1 1/2	40	48.30	1.65	1.94	2.77	3.18	3.00	3.42	3.68	4.14	5.08	5.53	-	-	-
2	50	60.30	1.65	2.44	2.77	4.02	3.00	4.33	3.91	5.56	5.54	7.64	-	-	-
2 1/2	65	73.00	2.11	3.77	3.05	5.38	4.00	6.96	5.16	8.82	7.01	11.66	-	-	-
3	80	88.90	2.11	4.61	3.05	6.60	4.00	8.56	5.49	11.54	7.62	15.61	-	-	-
4	100	114.30	2.11	5.97	3.05	8.55	4.50	12.45	6.02	16.43	8.56	22.81	-	-	-
5	125	141.30	2.77	9.67	3.40	11.82	5.00	17.17	6.55	22.24	9.53	31.65	-	-	-
6	150	168.30	2.77	11.55	3.40	14.13	6.35	25.92	7.11	28.88	10.97	43.49	-	-	-
8	200	219.08	2.77	15.10	3.76	20.40	6.35	34.04	8.18	43.47	12.70	66.05	-	-	-

For Carbon and Alloy Steel Tubes Cross Section Kg/mtr Weight is: (in mm): (OD -Thk) x Thk x 0.0246615. For Stainless Steel Tubes Cross Section Kg/mtr weight: (in mm): (OD -Thk) x Thk x 0.0252

Carbon Drawn Seamless Stainless, Carbon & Alloy Steel Hydraulic/Mechanical Tubes Manufacturing Range

WT IN MM																				
MIN	0.50	1.00	1.50	2.00	2.50	3.00	3.50	4.00	5.00	6.00	7.00	8.00	9.00	10.00	12.00	14.00	16.00	18.00	20.00	22.00
MAX	1.00	1.50	2.00	2.50	3.00	3.50	4.00	5.00	6.00	7.00	8.00	9.00	10.00	12.00	14.00	16.00	18.00	20.00	22.00	24.00
OD IN MM																				
MIN	MAX																			
6.00	8.00	✓	✓	✓																
8.00	10.00	✓	✓	✓	✓															
10.00	16.00	✓	✓	✓	✓	✓														
16.00	25.00	✓	✓	✓	✓	✓	✓	✓												
25.00	30.00	✓	✓	✓	✓	✓	✓	✓	✓	✓										
30.00	40.00	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓							
40.00	50.00		✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓				
50.00	60.00			✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓		
60.00	75.00				✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓		
75.00	90.00				✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓		
90.00	110.00				✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
110.00	130.00				✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
130.00	150.00				✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
150.00	175.00				✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
175.00	200.00				✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
200.00	220.00				✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓



What differentiates HMT from others

Carbon Steel, Alloy Steel & Stainless Steel from same mfr.

Capability to mfr. st. length tubes upto 34 Mtrs.

U-Tubes with max. hydro test pressure @700 Kg/CM²

Special grades with quick delivery

SA334 Gr. 3, SA213 T5/T9/T91

Duplex & Super Duplex, TP310/TP321H/TP347H/TP405/TP410

Achievements

Bhel-Hyderabad HP Heater tube job

Supplied 18,000 U-Tubes. Project 2x660 MW Tangedco Ennor
Supplied 22,000 U-Tubes. Project 1x800 MW GSECL Wanakbori,
1x800 MW TSGENCO Kothagundem.
Received Certificate for Best Vendor 2017 & Letter of Appreciation.

L & T - NTPC, Khargone HP Heater tube job

Supplied 3,900 U-Tubes.

Toshiba-Darlipalli HP Heater tube job

Supplied 22,000 U-Tubes.

Special shape critical U-tubes of T11 grade

88.9 mm x 4 mm WT x 15 Mtr length.

27.5 mtrs long straight tubes exported to european customer

Other milestone projects/jobs:

- Executed DSS Tubes Order in S32205 grade 12.7 x 0.9mm - 25000 mtrs qty. for EU client.
- Executed Super Duplex Tubes - 15 mtr long with Short delivery to Atlas Copco, Germany.
- Executed HE St. & 'U' Tubes - 2000 MT for Dangote Project in Nigeria.
- Executed Single Order of 800 MT - Airfin Cooler Tubes for IOCL, Ennore LNG Project.
- 20 M ton of CS boiler tubes produced from round bars to finished tubes in 4 days' time for HMEL.
- Executed alloy steel tubes order @ 75 M ton for Heat Exchanger for PEMEX Refinery.
- Executed @ 500 M ton of SS tubes order required for 56 nos heat exchangers for PEMEX Refinery.
- Executed @ 135 M ton of CS St. & "U" Tubes for 53 nos heat exchangers for Qatar Petroleum Project.
- Executed @ 75 M ton of CS boiler tubes to OEM in Columbia in 21 days.

Heavy Metal & Tubes were able to supply T-9/91 grade alloy steel tubes & pipes in recent past. Several orders were executed to domestic & overseas customers/projects, a few of them are listed below.

- BHEL, Trichy - 1300 MT grade T-91 Boiler Tube Order.
- 25 M ton supplied tubes to Nayara Energy. Repeat order also received.
- 50 M ton supplied to HE Fabricator in UAE for Emirates Steel, Dubai project.
- 10 M ton supplied to sugar mill in India in 2 weeks' time.
- 26 M ton supplied to Petrobras, Brazil through local supplier.



Applications / Industries

- Condensers
- Heat Exchanger
- Boiler & Pressure Vessel
- Instrumentation
- Hydraulic & Pneumatic Systems
- Ornamental & Hardware Appliances
- Thermal & Nuclear Power Plants
- Furniture
- Dairies
- Sugar Industries
- Railways
- Textile Machinery
- Solvent Plant
- Defense
- Petroleum & Petrochem
- Oil & Gas Refineries
- Pharmaceutical & Chemical
- Fertilizer Industries
- Automobile & Locomotive
- Chemical Industries
- Steel Plants



HEAVY METAL & TUBES (INDIA) PVT. LTD.

Corporate Office

401,402, 4th Floor, Nagindas Chambers, Opp. Auda Office,
Ashram Road, Usmanpura, Ahmedabad - 380 013 Gujarat

SS Plant - Unit 1 / Marketing Office

101, Bileshwarpura Chhatral, Tal. Kalol,
Dist. Gandhinagar - 382729 North Gujarat (INDIA)

CS Plant - Unit 2

138, Bileshwarpura Chhatral, Tal. Kalol,
Dist. Gandhinagar - 382729 North Gujarat (INDIA)

HFS Plant - Unit 3

193-211, Village Mandali, Ahmedabad - Mehsana Highway
Dist. Mehsana - 382732 North Gujarat (INDIA)

Heavy Metal & Tubes (India) Pvt. Ltd., Registered Mark belong to their respective owners. All rights reserved.



Website: www.hmtl.in | Email: info@hmtl.in, mkt@hmtl.in
Mobile: +91-90165 49266, +91 - 96876 95197, Tel.: +91-2764 234139 / 40 / 41