

Heavy Metal & Tubes (India) Pvt. Ltd.: A true believer of “Make in India” for global consumption

A fully self-reliant company manufacturing seamless carbon, alloy & stainless steel tubes/ pipes from round bars to final tubular product for heat exchangers and boiler applications. All under one brand “HMT”.

Heavy Metal & Tubes (India) Pvt. Ltd. is helmed by a young management team which is committed to taking the company to newer heights. We caught up with Mr. Sandeep Kumar Mathur, General Manager for Marketing, to talk about the company’s success story, its production capabilities, and management’s desire and ambition to play a larger role in the market of heat exchangers and boilers.



➤ Heavy Metal & Tubes (India) Pvt. Ltd. company headquarters in Gujarat.

By John Butterfield and Ellie Pritchard

Heavy Metal & Tubes (HMT) have got a clear vision of their ultimate goal and have invested in state-of-the-art technology, hired best talent and professionals to consistently produce quality products that beat customer expectations. The company manufactures seamless carbon and alloy steel tubes/pipes and also stainless steel seamless and welded tubes and pipes. HMT’s manufacturing activity starts from round bars and has the facilities to supply tubes and pipes in Hot Finish and Cold Finish condition; the company also has a very wide range in terms of outside diameter, wall thickness and length. Because of its unique capability and positioning in the market, it is a force to reckon with in the domestic market and is gradually making a name for itself in the overseas market.

The history of HMT

“Heavy Metal & Tubes is a company with a considerable history and reputation,” begins Mr. Sandeep Kumar

Mathur. Founded in 1978, it can be considered to be one of the pioneers of cold drawn tube manufacturing in India for carbon steel and alloy steel. The company began production of commercial quality cold drawn seamless carbon steel tubes in Mumbai in the late 1970s and in 1982 opened its second plant at Ankleshwar in Gujarat. Very quickly it transformed itself into a dedicated producer of niche quality products finding applications in critical industries such as refineries, petrochemicals, power plants, fertilizer industries, chemical plants and several others. Nearly a decade later in 1991, after having firmly established as a reliable producer, Heavy Metal & Tubes “HMT” invested in two new manufacturing facilities at Chhatral in Gujarat, fully dedicated to the manufacture of seamless carbon and alloy steel tubes and stainless steel seamless and welded tubes. These investments helped the company to meet the exponential growth in demand after the liberalization of the Indian economy in 1991 and also garner a significant share of the ever-growing Indian market.

Quality as well as quantity

Certainly one of the factors leading to the company's resounding success and helping it to differentiate itself from the competition has been its ability to produce so many varieties of tubes and pipes in different grades, thicknesses, sizes, and lengths under one brand. "No one else does what we are doing in India," says Mr. Mathur. "Hence we tag ourselves as a perfect blend of quality and integrity."

Manufacturing of tubes and pipes:

Seamless stainless, carbon and alloy steel hollows are mainly produced in-house or are bought from approved vendors domestically and around the world. At Heavy Metal & Tubes they are cold pilgered and cold drawn on draw benches with precision tooling (dies & plugs) to achieve required dimensions and smooth surfaces.

All tubes undergo requisite heat treatment, straightening, and surface treatment operations, after which they are tested according to code/customer specifications before being marked and packed ready for transport to customers. Special packaging has been developed to ensure that the tubes are not damaged during transit. In order to bend tubes, the company possesses several modern semi-automatic 'U' bending machines that are used for precision cold bending of tubes. The accuracy of the bend is ensured by precisely prepared jigs and fixtures. The company has considerable experience in this since bending is carried out for a whole variety of applications like heat exchangers, boilers, condensers, and economizers, in carbon, alloy and stainless-steel seamless and welded tubes.

Focus on the heat exchanger & boiler market

Heavy Metal & Tubes seamless and welded tubes are largely used in shell & tube heat exchangers, but also find use in air-fin coolers, boilers, condensers, etc. Not surprisingly, the selection of tubes play a significant role in such equipment as they are used in such vital industrial segments as oil & gas, refineries, chemical & petrochemical, pharmaceutical, power plant, sugar, and fertilizer plants around the world.

The company is also capable of producing tubing up to 34 meters long, which is a significant factor that differentiates from the competition. Very few companies can do this in India. In addition to the above segments, Heavy Metal & Tubes also supplies tubes for the automobile industry,



➤ The accuracy of the U-bend in tubes is ensured by precisely prepared jigs and fixtures.



➤ One of the factors that differentiates Heavy Metal & Tubes from the competition is its ability to produce so many tubes and pipes in different grades, thicknesses, sizes, and lengths in the highest qualities.

railroads (locomotives), defence sector, hydraulic and pneumatic systems, instrumentation and many more.

Quality assurance

"As is known," says Mr. Mathur, "we have been specialised in the manufacture of heat exchanger & boiler tubing for several years now. As these tubes play a very critical part and are at the heart of heat exchangers / boilers for heat transfer operations, it is not surprising that such tubes have to pass through a series of very stringent quality checks during the entire production process."

Building a pathway towards success therefore necessitates that Heavy Metal & Tubes places great emphasis on the quality aspects of its work. It has therefore attained ISO 9001 : 2015, PED & ADW0 accreditation. Moreover, the company has implemented a quality assurance system that covers all production stages from raw materials, cold working, and heat treatment, right through to packing and dispatch. All components of this system correspond to the requirements of national and international codes, as well as, where needed, to individual customer's quality and technical requirements.

The company's quality control department works independently of the manufacturing shop.

Quality is further guaranteed by a wide range of testing facilities, as per code requirement, mandatory & supplementary test including: air-under-water, eddy current, flaring, flattening, hardness, hydro, reverse bend, tensile, ultrasonic, as well as laboratory tests with spectrometers, metallurgical investigations by metallurgical microscope and to determine grain size, corrosion, and microstructure. Both the plants have their own separate laboratory set-up with testing equipment. All tubes undergo hydro testing. Testing is carried out by trained, qualified personnel in compliance with the company's strict 'Quality Assurance Manual'. The tests help to safeguard that the highest quality manufacturing standards can be maintained according to the intended application, technical delivery conditions and customer's specifications. In addition, the production sites have also been equipped with reliable testing and measuring equipment for destructive and non-destructive testing such as Inter-granular corrosion testing, eddy current testing & ultrasonic testing.

Product range

Alloy stainless steel tubes and pipes:

Tube grades produced in carbon steel include: ASTM A-106 Gr. A/B/C, A-179, A-192, A-210 Gr. A1/C, A-334 Gr.1/3/6, A-556 Gr. A2/B2/C2 and their equivalents in ASME, DIN, EN, GOST, JIS, BS, etc.

Alloy steel grades produced include: ASTM A209 T1, A-213 Gr. T2/T5/T9/T11/T12/T22/T91, A-335 Gr. P1/P2/P5/P9/P11/P12/P22/P91 and their equivalents in ASME, DIN, EN, GOST, BS, etc...

Manufacturing size range:

- OD: 4 mm to 220 mm
- Thickness 0.5 to 25 mm

Stainless steel seamless and welded tubes and pipes:

In stainless steel the range includes:

ASTM A-249/268/269/213/312/554/688

Grades TP304, 304L, 304H, 304LN, 310, 310H, 316, 316L, 316H, 316Ti, 316N, 316LN, 317, 317L, 321, 321H, 347, 347H, 405, 410,

Duplex 31803/32205, Super Duplex 32750/32760 and their equivalents in ASME, DIN, EN, GOST, JIS, etc.

Manufacturing size range:

- OD: 4 mm to 220 mm
- Thickness 0.5 to 25 mm

Max up to 34mtrs long tubes can be produced in all grades. Products are also produced to the specific requirements of individual clients.

It goes without saying that the mill and its products have been approved by significant inspection agencies including: ABS, Bureau Veritas, DNV, EIL, IBR, LRIS, Intertek, PDIL, SGS, and TÜV, among numerable others. Additionally, the company is approved by a large number of major customers and end users to whom it regularly supplies products such as PEMEX, QP, SABIC, BHGE, Alfa Laval, BHEL, BPCL, CPCL, FACT, HPCL, IOCL, KFL, L&T, NFL, NPCIL, NTPC, TECHNIP, Reliance, SAIL, and many others.

A star team

"Another factor that particularly stands out in our company is the high standard of technical competence of our staff," says Mr. Mathur. "They are not only knowledgeable and skilled, having relevant technical degrees where appropriate, but are also loyal and committed. Some of our employees have worked with us for anything from fifteen to thirty years. It says a lot about the culture that we can hold on to them and this ensures that we have a great deal of skill and experience in-house to fall back on. Certainly at a time when many

companies find it difficult to fill technical vacancies, we do not experience this type of trouble. Young engineers want to join us and build their careers under our guidance. They feel involved and challenged in contributing to our success and we likewise take a great interest in helping them shape their careers."

Management is equally concerned for all employee's health & safety along with environment hence been accredited with certification ISO 14001 : 2015, ISO 45001 : 2018 and OHSAS 18001 : 2007.

HMT around the world

Roughly 60% of the Heavy Metal & Tubes products are sold within India. The remaining 40% is exported around the world. Today the company's products reach as far as the Americas - Argentina, Canada, Brazil, Chile, Mexico, USA - and Europe - Belgium, France, Germany, Greece, Italy, the Netherlands, Spain, Turkey, and the United Kingdom, whilst in the Middle East their products are exported to Bahrain, Kuwait, Oman, Saudi Arabia, Qatar, UAE. In addition, they also have clients in South Korea, Japan, Singapore, Australia



⚡ Staff feel involved, challenged, and proud of the company's success and the company has the advantage of having a great deal of skill and experience to fall back on in-house.

Heavy Metal & Tubes recent achievements:

- 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.
- Supplied HP heater tubes to BHEL tested at @551 kg pressure.

New milestones

Mr. Mathur stresses that 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.

- 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.

and several other countries. "The quality and services that we provide are very much appreciated by our clients," says Mr. Mathur "as is seen by the large numbers of repeat orders we receive on a regular basis."

With regards to the tubing market for heat exchangers, Heavy Metal & Tubes tend to concentrate its sales to four major regions of the world: India, South Korea in Asia, Italy in Europe, and North America, though manufacturers of heat exchanger equipment in the former Eastern Block countries of Europe and Russia as well as the Gulf nations are also equally important. Certainly not much has changed in the past ten years with regards to this market situation.

Looking to the future

Enlarging your product range is a simple way to serve your customers more and grow. Heavy Metal & Tubes also believes in this. The company is now entering the fittings and flanges and very shortly will define the entire product range.

"Our strategy for the future will be to continue to service the domestic and global markets to the highest possible quality standards with fully Indian origin material right from basic raw materials," says Mr. Mathur. "As such, we expect our business to continue to expand as the demand for tubes and pipes in demanding applications continues to grow. In par-



➤ Specialization in heat exchanger & boiler tubes.

Dedicated plants

Plant for cold drawn stainless steel seamless and welded tubes and pipes

27,500 m2 covered area
14 pilger mills
5 cold draw benches
3 controlled atmosphere furnaces
1 Solution annealing furnace
3 U-bending machines
3 U-bending SR setups
3 TIG Welding tube mills

Plant for cold drawn carbon and alloy steel tubes and pipes

13,500 m2 covered area
9 draw benches
4 Pilger machines
2 U-bend machines
1 U-bend SR furnace
1 U-bend electric resistance heating setup
5 pilger mill
1 controlled atmosphere furnace
1 roller hearth furnace

ticular, we intend to concentrate increasingly on serving the manufacturers of heat exchangers / boilers. To this effect we have expanded our marketing team to aggressively cover this market. We intend to be there for our customers to ensure that their future is also a great success."

Contact Heavy Metal & Tubes at:

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➤ Special shape critical U-tubes of T11 grade (88.9 mm x 4 mm) WT x 15 meters in length.

Meeting Point

You can meet Heavy Metal and Tubes on the Stainless Steel World Expo Floor in Maastricht from 30th November to 2nd December. Visit their stand: J41