



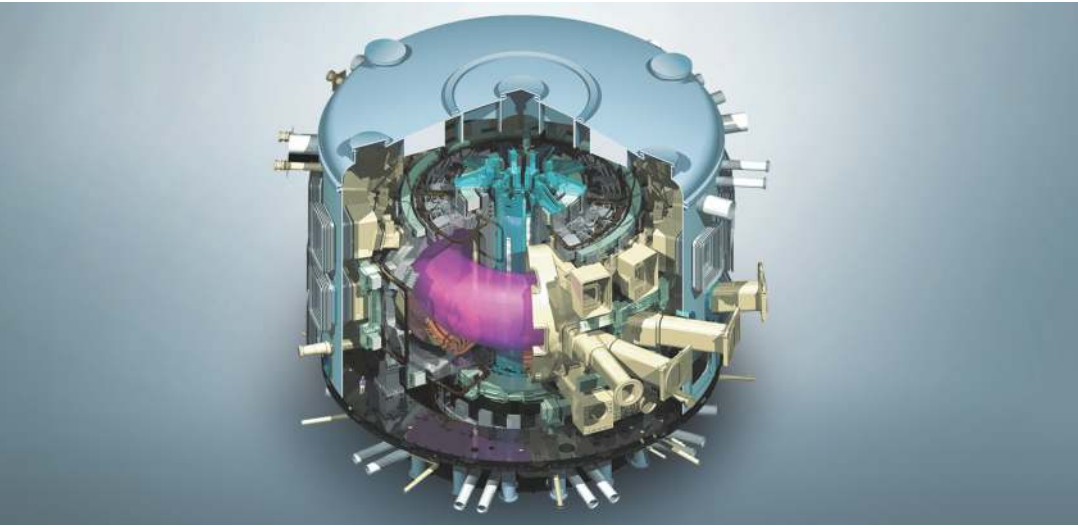
Reliable Solutions for Critical Piping

Design | Detail Engineering | Fabrication of Pipe Spools | Hot Induction Bending | Testing



L&T Heavy Engineering
Piping Centre

Building on a Rich Legacy



Larsen & Toubro

Larsen & Toubro is a multi-billion-dollar technology, engineering, construction, manufacturing and financial services conglomerate, with global operations. Its products and systems are marketed in over 30 countries. L&T is one of the largest and most respected companies in India's private sector. A strong, customer-focused approach and the constant quest for top-class quality have enabled L&T to attain and sustain leadership in its major lines of business over seven decades.

L&T is one of the world's top five heavy engineering manufacturers. The company has earned global recognition for the size and complexity of the equipment and systems that it designs and manufactures.

L&T Heavy Engineering

L&T's Piping Centre is part of L&T Heavy Engineering – a business vertical which operates at the upper end of the technology spectrum, and has been at the forefront of introducing new processes, products and materials into the manufacturing sector.

L&T Heavy Engineering manufactures and supplies a broad spectrum of engineered-to-order, critical equipment and systems to core sector industries like Thermal Power, Refinery, Oil & Gas, Petrochemical, Fertiliser, Chemical, Nuclear Power, Aerospace, as well as for Defence.



A World-Class Facility for Critical Piping

The Piping Centre is located at L&T's sprawling 763-acre manufacturing complex at Hazira, 300 km north of Mumbai. It offers a blend of technology, expertise, people and processes – all primed to provide cutting-edge piping solutions to core sector industries.

Around 150 experienced piping engineers and 450 skilled workmen deliver solutions based on the organisation's all-round capabilities. The Centre's capabilities encompass Engineering, Project Management, Fabrication and Supply Chain Management. This translates into cost-effective, on-time delivery of world-class piping solutions.

Piping solutions provided by L&T's Piping Centre cover the entire chain starting from engineering up to site support throughout the life-cycle of the plant.

L&T's Piping Centre offers pre-fabricated piping spools and hot induction bends for applications under high-pressure and high-temperature, as well as corrosive applications to the core sector industries such as Thermal and Nuclear Power, Refineries, Oil & Gas, Petrochemicals and Fertilisers. We believe in a flexible approach to customer needs, and meet them with extensive, multi-disciplinary competencies and best-in-class technology.

Products fabricated here can be shipped via road, or via ship from Adani Port on the Arabian Seafront, located approximately 8 km from the facility.

Our Strengths



Our Values are our Roadmap for Success

Compliance to international safety standards, on-time delivery, high quality standards, a flexible approach to customer needs, technical integrity and attention to every detail are the keys to provide world-class piping solutions. These values are ingrained in every member of our team.

Our People

L&T's Piping Centre is staffed by a highly-experienced team with the right skills and the high-level competency required for the industry.

Our team is proficient in the areas of piping engineering, welding technology and fabrication. Top priority is accorded to Health, Environment and Safety. Our team members complement their experience with the knowledge-base of L&T's Heavy Engineering team, and update their skills through frequent training programmes. This goes a long way towards fulfilling L&T's vision – to provide reliable solutions that meet global standards of engineering and service.

Our Customers

L&T's Piping Centre has an impressive customer reference list across sectors in India and abroad for providing reliable piping solutions and meeting project schedules.





Our Products

L&T's Piping Centre is a one-stop-solution for pre-fabricated piping for Power Plants & Process Industries. Our offerings include :

Thermal Power Piping

- Main steam, cold reheat, hot reheat, HP/LP bypass piping
- Auxiliary PRDS and auxiliary steam piping
- Spray water piping for reheater and superheater attemperators
- Boiler feed water suction and discharge lines
- Extraction steam piping
- CEP suction and discharge lines
- Heater drain and vents

Characteristics

- Temperature: Up to 604°C
- Pressure: 517 kg / cm² (g)
- Typical Materials: Alloy Steel: A335 Gr.P92, P91, P22, P11, P36
Carbon Steel: A106 Gr.B/C
- Thickness: Up to 120 mm

Nuclear Power Piping

- Main coolant piping (reactor cooling piping)
- Auxiliary and safety system piping in reactor
- Main steam line

Characteristics

- Temperature: Up to 350°C
- Pressure: 176 kg / cm² (g)
- Typical Material: SA 333 Gr.6, SA335 Gr.P22, SA106 Gr.B&C, SS304L

Oil & Gas Piping

- Steam heater unit piping
- Condensate unit piping
- Re-boiler unit piping
- Vapouriser unit piping
- Fire water piping
- Process fluid piping (two-phase)

Characteristics

- Temperature: Up to 468°C / -45°C
- Pressure: Up to 317 kg / cm² (g)
- Typical Materials:
Alloy Steel: A335 P22/P11
Carbon Steel: A106 Gr.B/C
Low Temperature Carbon Steel (LTCS): API5LGrX.60, X65, X70, X80
Stainless Steel: 304/304L, 316/316L, 321/321L, 347/347H
Duplex SS: UNS S31803
Non-Ferrous: Inconel 600, UNS N06625
- Thickness: Up to 50 mm

Fertiliser Plant Piping

- HP steam superheater
- Feed / steam preheater
- CO₂ removal unit piping
- Desulphurisation unit piping
- Compressor unit piping

Characteristics

- Temperature: Up to 627°C
- Pressure: 150 kg / cm² (g)
- Typical Materials: SS304L, SS321H, SA335 Gr.P11 & P22, SA106 Gr.B&C

Our Facilities – Where Quality Meets Criticality



A World-class Facility

The L&T Piping Centre is a state-of-the-art facility supported by a fully-equipped machine shop and an advanced testing facility.

Piping Centre Facilities	
Annual Capacity	: 18,000 MT (1 million inch dia) per annum
Total Land Area	: 155,000 m ² (approx. 38 acres)
Raw Material Storage Area	: • Open warehouse : 47,300 m ² • Covered warehouse : 1,000 m ² • Fitting storage shop : 500 m ²
Fabrication Shops	: 10,200 m ² x 2 Bays (with 9 cranes of capacity up to 20 MT)
Pipe Preparation Shop	: 1,400 m ² (2 Bays) (with 2 cranes of capacity up to 7.5 MT)
Identification / Marking Shop	: 1,400 m ² (2 Bays) (with 2 cranes of capacity up to 12 MT)
Open Fabrication Area	: 35,000 m ² (with 4 cranes of capacity up to 10 MT)
Radiography Enclosure	: 15 m (L) x 7 m (W) (4 enclosures)
Gas-fired Furnace	: 12 m (L) x 6 m (W) x 3.6 m (H) 70 MT bogie capacity, SCADA-controlled, up to 1150°C
Surface Preparation Booth	: 13 m (L) x 6 m (W) x 5 m (H) (2 booths)
Painting Booth	: 13m (L) x 6m (W) x 5m (H) x (2 booths)
Finished Goods Storage Area	: 5,000 m ²

The Technology Edge – Equipment and Facilities

Hot Induction Bending Machine

Make: Cojafex, The Netherlands
Model: PB 1400 R

Capacity
Outer Diameter : 4" to 56"
Thickness : 5 to 100 mm
Bend Radius (0°-90°) : Max.10200 mm
(90°-180°) : Min. 150 mm
: Min. 1700 mm

Advantage: CNC- controlled motion with precise temperature monitoring and control to ensure high quality bends.



Heat Treatment Furnace

Make: Seco Warwick

Specifications
Type : Gas Fired
Control : SCADA
Load Capacity : 70 MT
Temperature : 1150°C
Size : 12m X 6m X 3.6m

Advantage: In-house furnace with SCADA-based control system ensures temperature uniformity and high quality heat-treatment.



Welding Processes



Make: Lincoln, USA
Model: Powerwave AC/DC1000SD

Advantage: Ensures higher weld productivity with superior and consistent quality.

Edge Preparation Machine



Make: SAFOP, Italy
Model: TUB MATIC-1200 CNC

Capacity
Outer diameter : 89 to 1200 mm
Thickness : Max. 100 mm
Length : 16000 mm

Advantage: CNC controlled mechanism helps achieve high accuracy narrow / ultra-narrow groove edge preparation.

Induction Heating

Make: Miller, USA
Model: Proheat 35

Capacity
Input power : 400 V AC, 3 Ph
Output power : 35 KW 100% DC, 5-30 kHz

Advantage: Ensures uniform heat distribution across the thickness of pipes during pre/post-heating and stress-relieving.



Painting Enclosure

Make: Redemaco Engineering

Specifications
Size : 13 m X 6 m X 5 m
Door Opening : 6.4 m X 5.5 m
No of Guns : 4
Type : Airless

Advantage: Indoor in-house facility ensures uniform surface coating thickness.



Blasting Enclosure

Make: Redemaco Engineering

Specifications
Size : 13 m X 6 m X 5 m
Door Opening : 6.4 m X 5.5 m

Advantage: Indoor in-house facility ensures superior external and internal surface preparation.



The Quality Edge – Testing Systems

PMI Testing



Hardness Testing



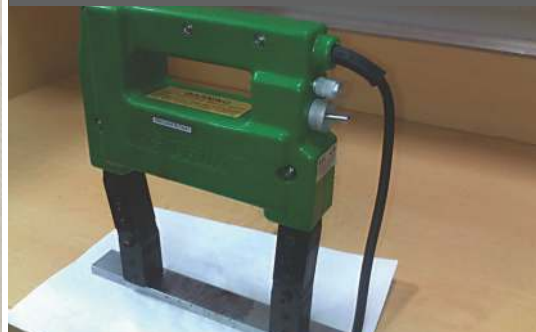
TOFD Testing



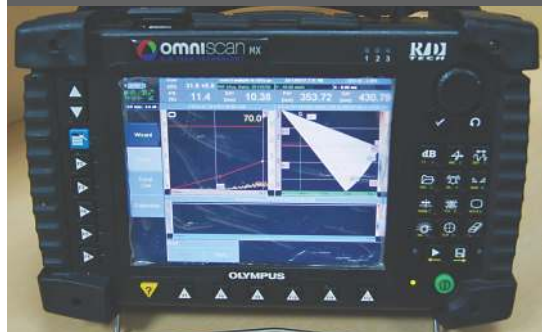
Y-RT Enclosure



Magnetic Particle Testing



Ultrasonic Testing



Redefining Spool Quality

Quality forms the fabric of everything that we do. Our Quality Management System is designed to meet the most stringent global standards of pipe spools. Project specifications are thoroughly reviewed by engineering and quality personnel to understand and comply with customer requirements. The plant is equipped with state-of-the-art inspection and testing facilities required to certify the quality of raw materials, welding, fabrication, painting and packing. The Company is approved by various national and international bodies for the manufacture and supply of pre-fabricated spools and hot induction bends.

We hold globally-recognised certifications for quality systems and fabrication.



ISO 9001:2015



BS OHSAS 18001:2007



ISO 14001:2004



ASME 'PP' Stamp



ASME S – Stamp



ASME U – Stamp



ASME U2 – Stamp



NBBI – R Stamp



ISO 3834:2

Universal Testing Machine (Tensile Test)



Profile Projector for Checking Notch of Impact Specimen



Dropweight Testing Machine



Impact Test Machine and Specimen Cooler



Testing Systems

Mechanical	Metallurgical
Tensile Test	Metallographic Study
Impact Test	Microhardness Test
Dropweight Test	Spectrometric Test
Hardness Test	

Non-Destructive Examination
Radioactivity Detection system
Ultrasonic Examination
Liquid Penetrant Examination
Magnetic Particle Examination



Environment, Health & Safety – Globally Benchmarked

Our integrated approach towards the vital area of Environment, Health and Safety (EHS) is based on national and international standards, and extends beyond legal compliance.

Safety

L&T's Piping Centre brings the culture of safety into every aspect of its operations. Every employee of the Centre, including contract personnel, are put through an extensive safety awareness and training programme at regular intervals. Safety monitoring is undertaken at an apex level within L&T to ensure that the safety culture is ingrained into the organisational fabric.

Environment

We are committed towards environmental conservation, and meet the norms for Environment Management with:

- Zero liquid discharge
- 100% Reuse of treated sewage
- Efficient sewage treatment plant
- Effective ambient air quality and stack monitoring
- Use of sky lighting and turbo ventilators at all shops
- Use of green fuel (natural gas)
- More than 16% green belt area

Certificates

Safety: OHSAS18001:2007

Environment: ISO14001:2004

Factory (India)

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L&T Heavy Engineering
Piping Centre

A wholly owned subsidiary of Larsen & Toubro Limited

L&T Heavy Engineering - Piping Centre

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