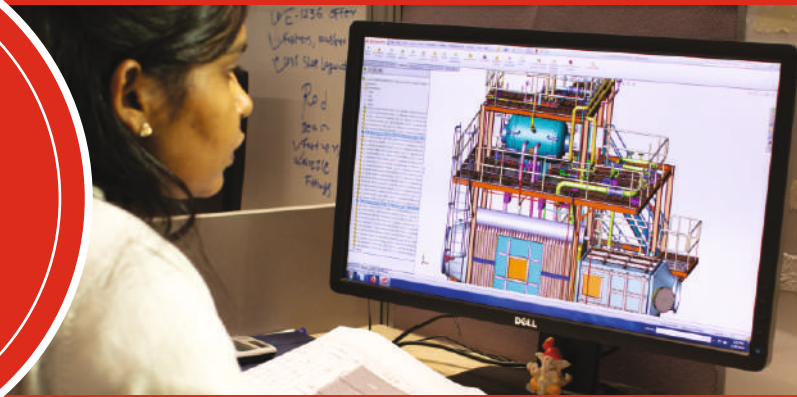


LLOYDS STEELS INDUSTRIES LTD.

Design, Engineering and Fabrication of Heavy equipment & packages such as Hydro Carbon Equipment, Air/Gas drier, Waste Heat Recovery Boilers, Steel Plant Equipment, Power Plant Equipment and Naval Equipment. Established in 1974 in Mumbai, Lloyds Steels Industries Ltd. broadened horizons with the heavy fabrication and machine building unit at the outskirts of Mumbai, in Murbad. Equipped with design engineering team with engineers having more than 15 years experience and team of 15 draftsman to design engineering & drawings preparations in house.

Design team is equipped with different design softwares with valid licence like – **PV Elite 2023, AUTOCAD 2022, PLANT 3D, INVENTOR PROFESSIONAL, SOLID WORKS**

Quality
Service
Expertise



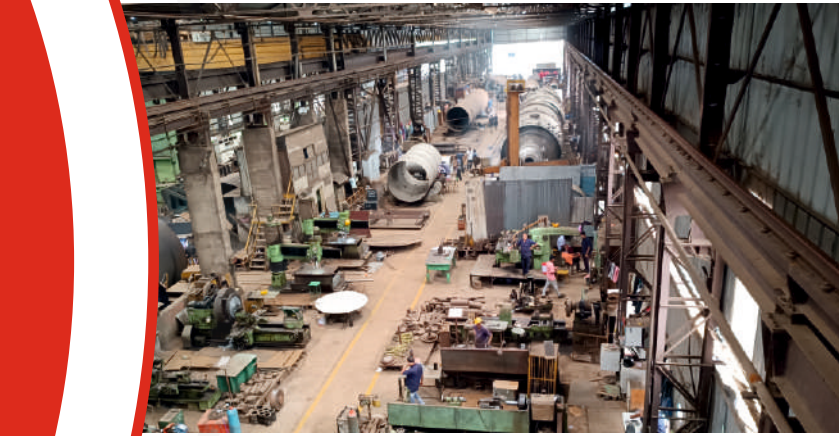
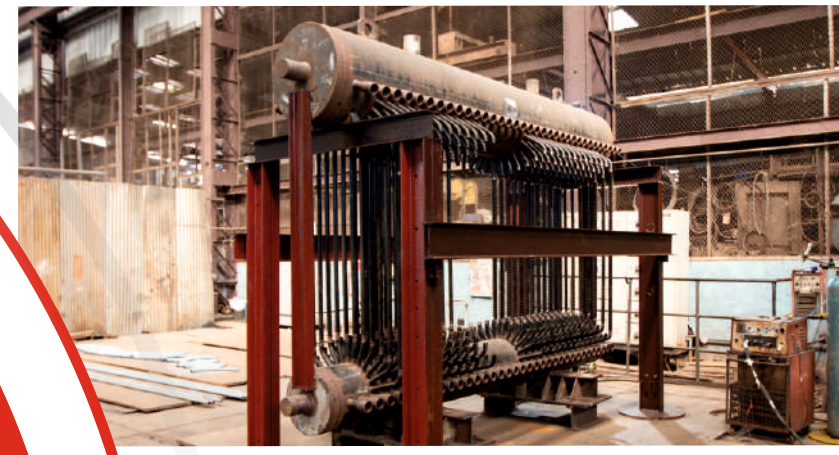
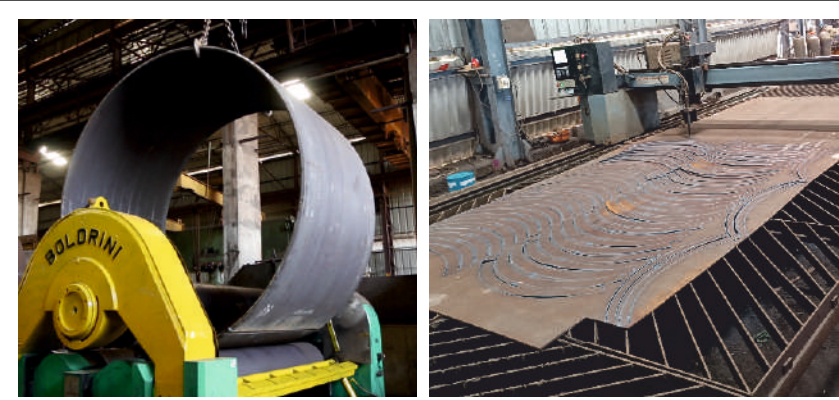
The workshop is accredited with following certifications,

- IBR certified workshop for manufacturing of Steam Boilers, Steam Piping, Pressure Vessels and Heat Exchangers.
- ISO 9001:2015 certification by SGS, UK.
- ASME Coded vessels with U, U2, S stamps
- PESO approval as per SMPV rules

The workshop is also approved / enlisted by international consultants/clients like Thyssenkrupp, Tecnimont, Aker Kvaerner, Worley, EIL, LINDE, PDIL, L&T, TATA projects, TOYO Engineering, IOCL, HPCL, BPCL, NRL, HRRL, Technip, ISRO, NPCIL, Petrofac, HMEL, MECON etc.

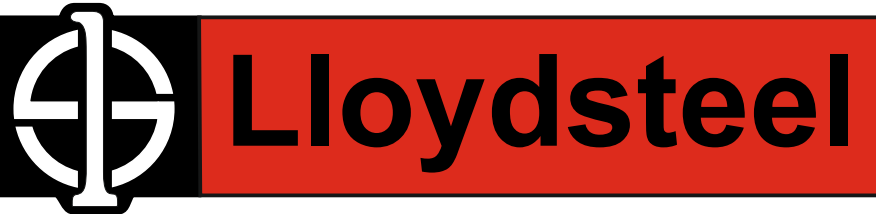
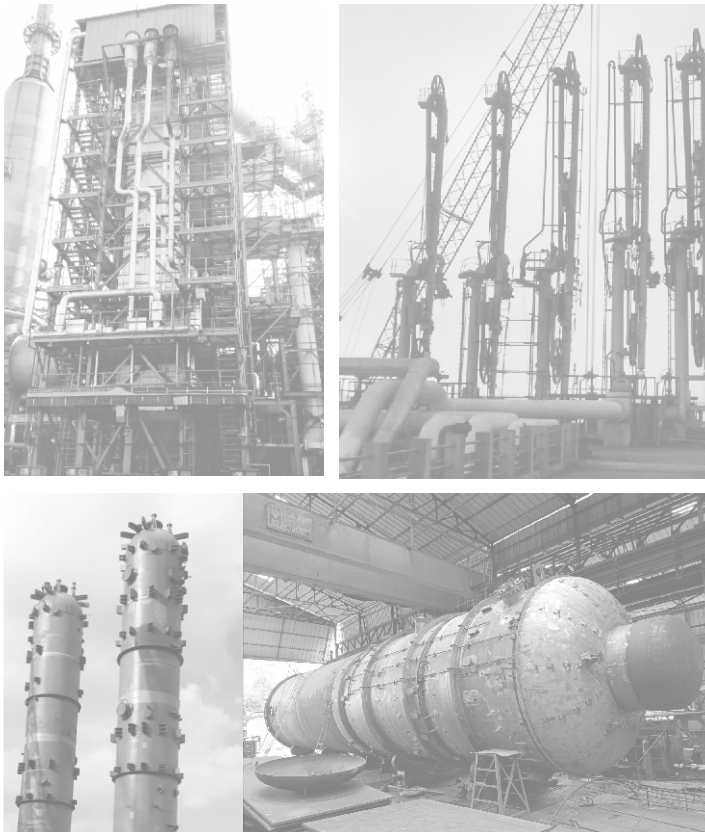
Also Approved by reputed Inspection Agencies like LR, BV, TUV, EIL, SGS, IRS, ABS, DNV, PDIL, TPL etc.

- Waste Heat Recovery Boilers
- Process Columns
- Pressure Vessels / Reactors
- Heat Exchangers
- Marine, Truck & Wagon Loading / Unloading Arms
- Skid Mounted Dryers for Air, Liquid & Gas
- Steel Plant Equipment & Machinery
- Steering Gear & Stabilisers for Indian Naval ships and other equipment for Naval application
- Turnkey projects in the field of Hydro carbon, Power and Steel Plant



Accreditations





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- sggangishetti@lloyds.in, svnagraj@lloyds.in, infoengg@lloyds.in,
- 91-22-6291 8111

Factory & Registered office

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- Plot no. K-3, Additional MIDC, Murbad Area, Kudavali, Dist. Thane - 421401, Maharashtra, INDIA.
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WASTE HEAT RECOVERY BOILERS

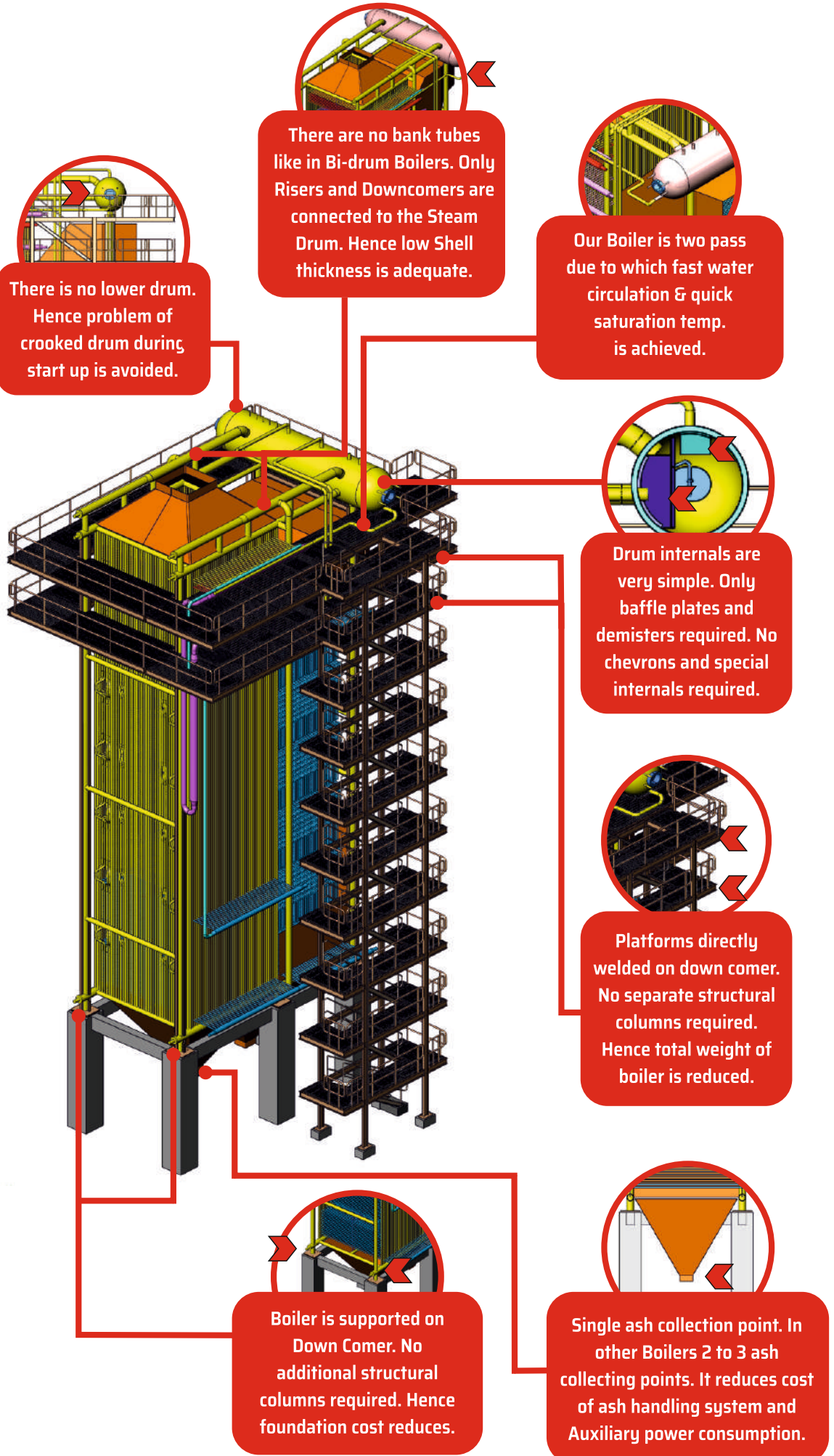


Lloydsteel

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Advantages of Our Boilers



We have supplied all the boilers with Instrumentation and Electricals.

All the necessary documentation related to the boilers including preparing of PFD's, P&ID's, H&MBD's and technical specifications of Field Instruments for procurement done by us. We have in-house plate bending machine of rolling capacity of 90 mm thick plates. We also have in-house Stress Relieving facility at our Murbad works having furnace dimensions of 6 Mtr x 6 Mtr x 14 Meters Long.

Stress Analysis of critical piping, Vibration Analysis and STADD analysis of Structure is outsourced from our associates. We have IBR certified welders for carbon steel and Alloy steel material of plate, tube and piping. We have semi-automatic tube bending machine for bending upto 3" size.



PROCESS OF MANUFACTURING

- Material identification is done under IBR inspection.
- Tube Layout is made on plate for single coil, considering the centre to centre distance of top and bottom headers.
- Tube bending layout is made on plate as per drawing. Bendings are checked for thinning and ovality.
- Bent tubes are laid on respective coil assembly fixture.
- Fixed supports are set and welded between the coil tubes.
- For making of panel, fixture is made, aligned and checked by water level.
- Fin plates are fixed between two panel tubes and welded using CO2 welding & the panel tube welding with Bottom & Top headers is done.
- For R.H. & L.H. Panel tubes are marked for hole drilling
- For Boiler Headers marking and drilling is done as per drawing.
- For Boiler Cage base plates, drain connection and T-beam welding is done on pipes.
- Radiography Test of tube to tube weld joint is done.
- Stress relieving of Top & Bottom Headers welded joints is carried out.
- All the openings of the Panel are closed for hydro test. Hydro test is taken @ 117 Kg/cm²(g) for 30 minutes.
- After successful Hydro test Linseed Oil Painting is done on Panels.



We have manufactured high Pressure vertical type waste heat recovery boilers for Gopani Iron & Power Ltd, and Lloyds Metals and Energy Limited for Power Plant application 15 MW & 30 MW respectively. Boiler capacities were 55 TPH, 12 TPH having pressure of 67 Kg/cm²(g) & Temp 490 Deg C. We have also manufactured and supplied AFBC Boiler of 90 TPH, 67 Kg/cm² (g) & Temp 490 Deg C. Our scope for Boilers is Design, engineering, manufacturing, supply including the installation and erection / commissioning.

We have supplied Waste Heat Boilers to,

- Lloyds Metals and Energy Ltd., Ghugus,
- Gopani Iron & Power Ltd., Tadali,
- Mid India Ltd, Gandhidham,
- IOCL Paradip,
- HPCL, Vizag,
- Numaligarh Refinery Ltd, Numaligarh,
- IOCL, Bongaigaon.
- Atmospheric Fluidized Bed Boiler (AFBC) to Lloyds Metal & Energy Ltd.



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HYDROCARBON EQUIPMENT & PACKAGES



LLOYDS STEELS INDUSTRIES LTD.

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Lloyds Steels Industries Limited (LSIL) is in the business of manufacturing of hydro carbon equipment from 1974, LSIL was setup in Andheri Mumbai and later shifted to MIDC Murbad, Dist Thane. LSIL is an ISO 9001: 2015 certified and ASME approved fabricator company. LSIL workshop is approved / enlisted by international consultants like Thyssenkrupp, Tecnimont, Aker Kvaerner, Jacobs, EIL, LINDE , PDIL, TOYO, Technip, ISRO, NPCIL, IBR & PESO.



LSIL product range includes Reactors, Columns, Pressure Vessels, Heat exchangers, Skid mounted Drying Unit for Air, Liquid & Gases. LSIL has in-house design facilities for these items. Design department is having latest software for handling these requirements.



LSIL have executed various project involving different types of Raw materials such as Carbon Steel SA 516 Grade 60/70, SA 537 CL1, Stainless Steels (SS 304L, SS 316L, SS321), Alloy Steels, Clad Stainless Steel, Clad Monel, Low Alloy Steel (SA 387 Grade 22 CL 2), Low Ferrite Content Steel ,HIC, NACE.

CLIENT :

BPCL - INTEGRATED REFINERY EXPANSION

EQUIPMENT :

PROCESS STRIPPER (IF-V-206) & UVSL JOB NO : 1199

DIMENSION :

58 MTR LG x 4.9 MTR ID x 50/48 MM THK

WEIGHT : 465 MT (SHIPPED IN 4 SECTIONS)

MOC : SA 516 GR 60 HIC + NACE

INSPECTION : ENGINEERS INDIA LIMITED



Since last 3 decades Lloyds has designed, manufactured ,supplied and commissioned more than 500 Air /Liquid / Gas Dryers to

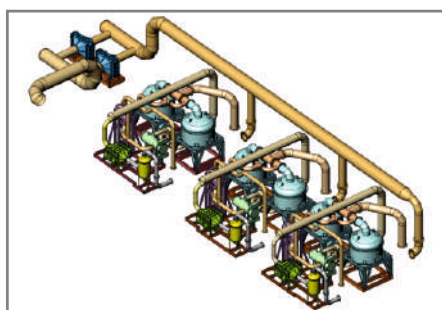
- Refineries
- Petrochemical Industries.
- Fertilizers Industries.
- Nuclear power plants.
- Chemical Industries.
- Textile Industries



LSIL major clients included ONGC, NPCIL, BOC GAIL NRL Numaligarh, MRPL Mangalore, Mangalore Fertilizers, Technip, Madras Fertilizers, Chennai, IOCL, SPIC, BPCL, Fertilizers Corporation of India, IFFCO, ISRO, SHAR, JK Synthetics, RCF Mumbai , Zuari Agro , IPCL etc. For Nuclear Power Corporation LSIL have supplied Heavy Water Vapour Recovery Dryers for their TAPP, Tarapur, KAIGA, KAPP & RAPP projects.



Ethylene dryer for Opal- Dahej



Npcil - Tarapur tapp 3 &
4 Dual fixed Bed type



3 nos Air Dryer Unit³
Type : Heatless, Capacity : 13400 NM³ /hr
For Paradeep Refinery project of IOCL

Skid mounted Drying package for
Air, Liquid and Gases

IOCL Sitarganj Mechanical & Civil
works of 3x600 mt capacity LPG
mounted bullets and 3x18 m dia
fire water tanks



Various Projects executed at ONGC, GGS, IOCL Jodhpur,
BPCL Kochi. We have executed Waste Heat based
Recovery Power plants of 15 MW & 30 MW on turn key
basis for Ms. Gopani Iron Plant & Power Ltd. and Lloyds
Metal & Energy Industries Ltd. respectively



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STEEL PLANT EQUIPMENT & MACHINERY



Lloydsteel

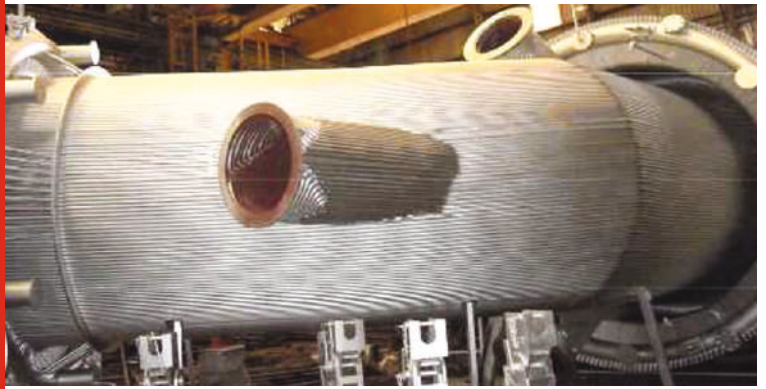
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LSIL have executed many projects for various steel plants with equipment for Steel Melting shop, Rolling Mills, processing lines, Cold rolling mill complex and raw material handling plants such as Sponge iron & Pellet Plants

● A. Equipment Manufactured and supplied:

- Water cooled Furnace Roof, Upper shell, Lower shell
- Ladles
- Ladle Turret
- Mould Oscillator
- Slab Caster complete segments
- Slab roller table
- Aux equipment such as stands
- Water cooled panels and ducts and headers
- Tundish and Tundish car
- Withdrawal and straightening unit
- Furnace Shell
- VD Vessel and VD Cover
- Upper hood, Lower hood, Combustion chamber



Upper hood section 2 for IISCO Burnpur through SMS Siemag



VD Vessel & Cover Assembly for SMS Siemag



Lower Shell- Bhushan Steel



Lower Shell- JSW Toranagallu



Furnace roof for JSW through SMS Siemag

B. Equipment Manufactured and supplied for Hot Rolling Mill:

- Slab charging and discharging machine
- Roller tables
- Down Coilers including the wrapper rolls etc.
- Roller table bridge between Down coilers
- Vertical edger
- Coiling furnace
- Laminar cooling system
- Hydraulic side guides before and after the Mill
- Recuperator
- Accumulator for Descaling unit
- Coil cars 25 MT
- Tunnel Furnace, Trucks, Movable Cars
- Slab Reject Roller Tables
- Shear Base Frames
- Plate Finishing Line including cooling beds,
- Turn over device and Roller tables
- Billet Caster Dummy Bar, Withdrawal &
- Straightening m/c
- Transfer Cars

Raw material processing plants:

Manufactured and executed Sponge iron on turnkey basis at various project sites

- Supplied 500 TPD & 100 TPD Kilns / Cooler and other equipment
- Executed 1.20 MTPA Hematite iron ore Pelletisation plant at AISCO Barbil with technical design from China
- Supplied 2 x 100 TPH Iron Ore Grinding Ball Mills
- Supplied 200 TPH dryer with HAG for iron ore drying
- Manufactured Rotary Kiln for Pellet Plant



Charging Machine for RSP Project through Tenova



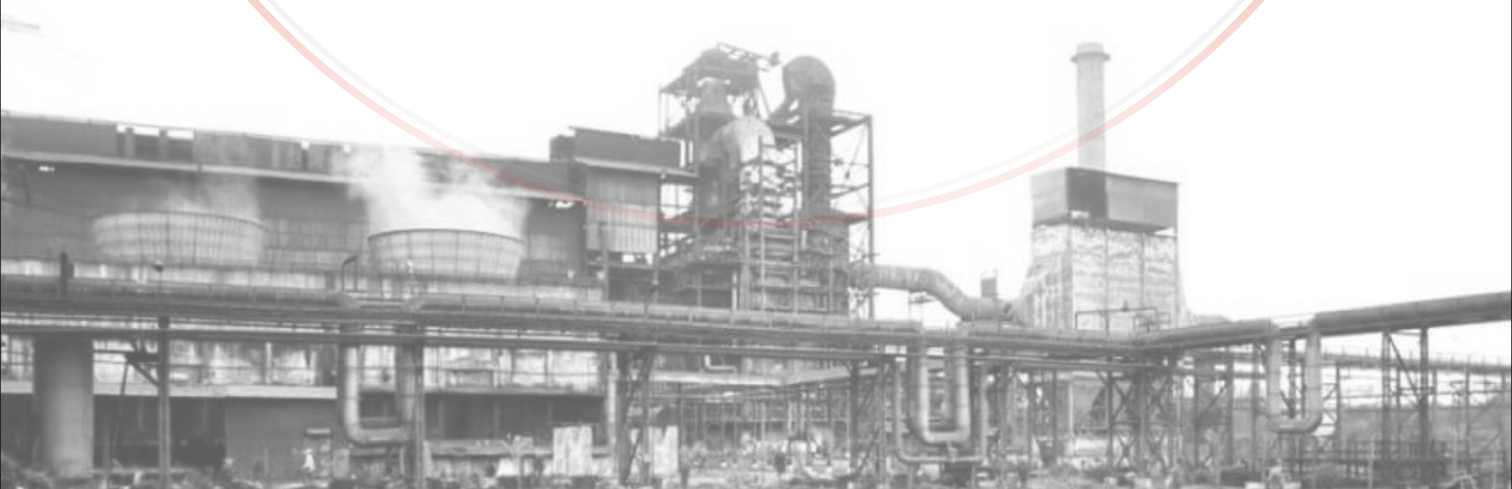
Rotary kiln, cooler & ABC / DSC equipment for sponge iron plant



Cooling Bed 60 Mtr x 80 Mtrs with roller tables for Welsupn Anjar for Plate Mill Project

● Some of the major projects executed are,

- Refurbishing of DCR Mill for Tin Plate Company of India Limited at Jamshedpur
- Tunnel furnace for thin slab caster at Ispat Industries Dolvi (Now JSW Steels Dolvi)
- 4 HI Cold Rolling Mill with Hyd AGC & Flatness control system at Lloyds Steels Wardha Steel Plant.
- Charging & Discharging machine for Rourkela Steel Plant through Tenova Hypertherm.
- Rotory trimmer chopper base frame - 9 Nos (501 MT) for Plate Mill Welspun Anjar,
- Plate Mill - 300 mm, 400 mm & 600 mm Roller table & 80 x 60 Mtrs Cooling bed for 4500 mm Plate Mill at Welspun Anjar
- 2 sets of centering device for Rocking shear & side guides for Welsun Anjar
- Caster equipment for BMM Ispat Ltd through SMS Concast Poona
- SMS / EAF equipment for Uralmass Russia, JSW Steels, Bhushan Steels through SMS India.
- CCM / Caster equipment for JSPL Raigad plant through VAI Automation(Now Primetals)
- 1.20 MTPA Pellet Plant Project for 100% Hametite iron ore for AISCO Barbil Orissa.
- Sponge iron projects for Gopani, LMEL, Topsworth Steels, Gupta Metalics and Welspun Anjar.
- Water cooled equipemt for ISSCO Burnpur, KSPL, Uralmass Russia through SMS India
- Teeming Ladle transfer Car to JSW Dolvi works



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LOADING ARM AND MARINE / NAVAL EQUIPMENT



Lloydsteel

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Lloyds Steels Industries Limited in Technical cooperation agreement with FMC Technologies France (Now Technip FMC) supplies various Marine, Truck / Rail Loading arms for LPG, Petroleum / Chemical products & Sulphur Application loading arms, Piggable and Manifold systems. LSIL is having this technical collaboration with FMC since 1985. FMC provides design and drawings and backup guarantee. Supply of critical components by FMC.

Fabrication, total system assembly, Hydro test and Yard testing at LSIL works.

Erection and commissioning by LSIL.

As of now, Lloyds Steels has references of,

Marine Loading Arms - 115 Nos

Truck Loading Arms - 922 Nos

Wagon Loading Arms - 1184 Nos

LSIL was first company in India to enter in the field of fully powered hydraulically controlled MARINE LOADING ARMS, Leading manufacturers of Truck and Wagon Loading Arms for handling different products.



ADVANTAGES OF LSIL LOADING ARMS,

- Experienced manufacturer of Marine Loading arms in India
- Leading manufacturers of Truck and Wagon Loading Arms for handling different products.
- Trained officials for After Sales & Service to take care of problems encountered with loading arms with short notice period.
- Manufactured and commissioned more than 44 MLA's from our shop, Installed in all over India
- Sole experienced manufacturer of Marine Loading arms in India
- Swivel joints patented with replaceable snap in races. Hence grooves of swivel joints do not get damaged.
- Provides backup engineering, maintenance and supply of spare parts for next 25 years at economical cost.
- Loading arms can be inspected at various stages of production including balancing test, hydraulic test and yard test
- Supervision of Erection, installation and commissioning by expert engineers at competitive cost.
- Domestic qualified manufacturer of marine loading arms and provide full service backup at a short notice.



16" MLA at OSTT jetty, HPCL Vizag - 5 nos



Client : Coromandel International Ltd, Kakinada
Trailer Mounted Marine Loading Arm along with Jumper Assembly
for Liquid Ammonia (Size :8" x50")



Client : Indian Oil Corporation Ltd.
Paradeep - Marine Loading Arm Qty 6 Nos

LSIL have supplied following loading arms,

- BPCL- JNPT - 6 Nos. MLAs for POL product
- BPCL- Kochi - 4 Nos. MLAs for POL product
- IOCL- Kandla - 2 Nos. MLAs for LPG and 3 Nos. for PO product
- IOCL- Tuticorin - 2 Nos. MLAs for POL product.
- HPCL, Mangalore - 2 No. LPG MLA.
- ESSAR- Vadinar - 5 Nos. MLAs for POL product.
- NALCO - Vizag -1 No. Trolley mounted MLA for Caustic Soda.
- IOCL Paradeep - 6 Nos. MLAS for POL product
- MCF Mangalore - 1 No Trailer mounted MLA for Liquid Ammonia
- Karaikal Port - 1 No. Trailer mounted MLA for POL product.
- Chennai Port Trust - 6 Nos. MLAS for POL product including 4 Nos. for Crude Oil
- CIL- 1 No. MLA for Liquid Ammonia
- RGPPL Dhabhol - 4 Nos. MLAS for LNG product .

Naval Projects for Indian Navy (Steering Gear System & Fin Stabilizer System)

Lloyds Steels Industries Limited is in Technical Teaming Agreement with Calzoni S.r.L., Italy (Now L3 Harris Technologies, Inc.) supplies Steering Gear with Controls, Fin Stabilizer with Controls for Indian Naval Ships and Indian Coast Guard Ships. Lloyds Steels Industries Ltd. is registered with DGQA (WP), Navy, New Delhi for manufacturing & supply of...

- Steering Gear with Controls
- Fin Stabilizer with Controls
- Heat Exchanger
- Water/Non Water Tight Doors With Hatches
- Helicopter landing Grid
- Roller Shutter with Fittings for Helo hanger Door
- Capstan/Windlass/Winch
- Boat Davit



Supply track records

- Steering Gear System for INS Kukri Class (3 Ships) Corvettes
- Steering Gear System for INS Kora Class (4 Ships) Corvettes
- Steering Gear System for INS Kamorta Class (4 Ships) Corvettes
- Steering Gear System for INS Brahmaputra Class (3 Ships) Frigates
- Fin Stabilizer system for INS Brahmaputra Class Frigates (3 Ships)
- Fin Stabilizer system for Indian Coast Guard's OPVs
- Water Tight Hatches for Mauritius OPVs built by GRSE Ltd., Kolkata
- Hydraulic Power Pack Assembly For ASW Corvette Class Steering Gear
 - Bhramaputra – Steering gear with controls & Stabilizer - Manufactured and Erected by Lloyds Steels Industries Ltd.



—Steering Gears with Controls for P28



—ASW Corvett Class Ship
INS Kamorta, INS Kadmatt,
INS Kiltan and INS Kavaratti
Ship build by GRSE Kolkata

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