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**Crystal
industrial**

ASME Stamp Pressure Vessels And Heat Exchangers for Oil & Gas, Refinery And Petrochemical Industry




www.crystalindustrial.in

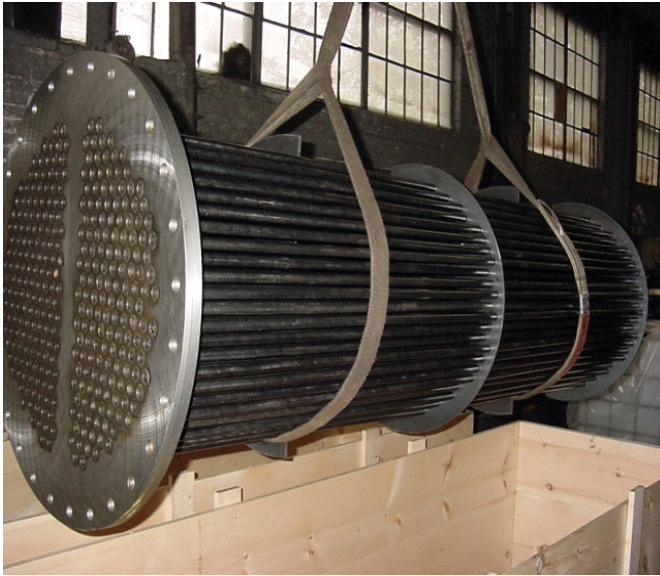


SHELL & TUBE HEAT EXCHANGER

OVERVIEW

For crystal, Shell and Tube Heat Exchanger manufacturing is a natural extension of its exotic materials fabrication expertise. Today's process industry demands more and more equipment in exotic material like Duplex Stainless Steel, Monel, Inconel, Titanium, Clad Materials etc.

Crystal harnesses its expertise in manufacture of these materials and welding of dissimilar materials to deliver high quality "shell and Tube Heat Exchanger". All products from Crystal come with same quality of highest standard, which has earned them the authorization to use  certification stamp.




APPLICATIONS

Shell and tube heat exchangers are widely used in various applications Oil & Gas, Refineries, and other large chemical processes and is suited for higher pressure industrial process applications. They are available in various diameters and lengths. The heat exchangers are designed for a wide range of liquid to liquid and steam to liquid application.

The shell and tube heat exchangers are constructed using tube sheet tube baffles and shell. It is manufactured using the most advanced technology available and is specifically engineered for a wide range of applications. Every unit is designed, manufactured and tested to meet the quality requirements of ASME codes.

PRODUCT RANGE

The heat exchangers are designed and manufactured to meet the requirement of TEMA, ASME code and  stamping requirement

The heat exchangers are supplied in fixed tube sheet type and other various types with removable tube bundle i.e. floating type, "U" tube bundle type, kettle reboiler type etc.. The removable tube bundle like floating type has the advantage of removable tube bundle and access for cleaning both inner and outer side of tube and shell.



SURFACE CONDENSERS



Crystal undertakes manufacturing of heat exchangers based on customers datasheet/design and also develop the equipment based on process data given by customer. Crystal also supplies “Steam Surface Condensers” and “Condensing System” for steam turbines upto 20MW Incorporating thermo-hydraulic & Mechanical Design.

Steam surface Condensers are critical components. Crystal design an economically sized condenser suitable for small turbine ratings under 25 MW. The circular configuration is compact in design and easy for shipping. All heat exchangers manufactured by Crystal meet the requirements of ASME codes. We also custom fabricate to meet all the requirements of our customers.

Crystal manufactures surface condensers features high overall heat transfer coefficients which results in smaller heat transfer areas and thus optimal use of available space and extremely low oxygen concentrations in the condensate. Condensers are designed to stand up to turbine and steam generator overloads and to variations in cooling water temperature at different times of the year.


Crystal’s customers can source a wide range of their specialized shell & tube heat exchanger needs under one roof at crystal. Surface condensers with special designed Baffles are manufactured by drilling facility available in house. Our drilling machine has a capacity to drill up to 150 MM thick Tube sheet.



PRESSURE VESSELS - OVERVIEW



Crystal supplies high reliability, high integrity Pressure Vessels, Towers & Columns in practically all engineering metals used by process industry. Crystal supplies pressure vessels that are designed to operate safely at a specific pressure & temperature .

Crystal is approved by **ASME** for the manufacture of pressure vessels as per  code stamp. Crystal has manufactured pressure vessel under reputed international inspection agencies like LLOYDS, TUV, BUREAU VERITAS, AKER KVAERNER, UHDE, TOYO.

The type of vessels offered by crystal are :

- Pressure vessels
- Accumulator shells
- Filters
- Tanks
- Towers
- Columns
- Cladded drums

Crystal also supplies all the above products in cladded construction. Crystal manufactures internals for towers and columns. The towers and columns can be offered with complete set of internals pre-installed.



PRESSURE VESSEL - PRODUCT RANGE



The equipment from Crystal are offered with complete engineering package incorporating :

- Code Design
- Stress Analysis
- Vibration Analysis
- Seismic Analysis
- Wind Load Analysis

Specification :

DESIGN CODE	ASME section VIII Div-1, Div-2
DIAMETER	Upto 4 meter
LENGTH	Upto 12 meter
THICKNESS	Upto 50 mm

What makes Crystal a unique manufacturer is the complete insight of the metallurgical processes in manufacture and welding of the different engineering materials. Crystal handles welding of dissimilar materials, whether for joining or for corrosion resistant overlays, equally competently.

Crystal fabricates pressure vessels in :

- All grades of Stainless steels,
- Duplex/ Super Duplex
- Super Austenitic Stainless steels,
- Monel,
- Inconel,
- Hastelloy,
- Clad steels etc.



QUALITY CONTROL SYSTEM

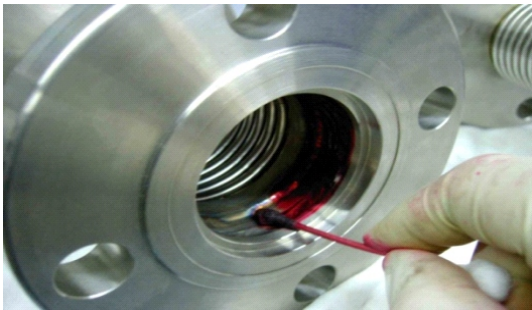
Crystal follows stringent quality control system so that all the parameters are complied and customer get high quality product:



ULTRASONIC TESTING



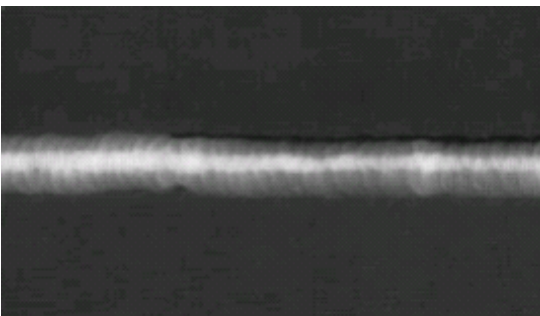
HARDNESS TESTING



DYE PENETRANT TESTING



MAGNETIC PARTICLE INSPECTION



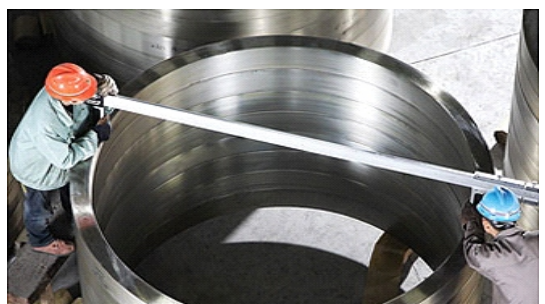
RADIOGRAPHY



HYDROTESTING



POSITIVE MATERIAL IDENTIFICATION



DIMENSIONAL INSPECTION



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CERTIFICATIONS



- ✓ ISO 9001 : 2008 Certificate
- ✓ ISO 14001:2004 Certificate
- ✓ OHSAS 18001 : 2007 Certificate
- ✓ ASME Stamp Certificate
- ✓ National Board Registration
- ✓ IBR Approved

CLIENTS





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CERTIFICATE OF AUTHORIZATION

The named company is authorized by the American Society of Mechanical Engineers (ASME) for the scope of activity shown below in accordance with the applicable rules of the ASME Boiler and Pressure Vessel Code. The use of the certification mark and the authority granted by this Certificate of Authorization are subject to the provisions of the agreement set forth in the application. Any construction stamped with this certification mark shall have been built strictly in accordance with the provisions of the ASME Boiler and Pressure Vessel Code.

COMPANY:

Crystal Industrial Syndicate Private Limited
L-129/130/131, MIDC Taloja
District: Raigad
Maharashtra PIN-410208
India

SCOPE:

Manufacture of pressure vessels at the above location and field sites controlled by the above location (This authorization does not cover impregnated graphite)

AUTHORIZED: February 3, 2012

EXPIRES: January 7, 2015

CERTIFICATE NUMBER: 38,171

Vice President
Conformity Assessment

Director, Accreditation and Certification



The American Society of Mechanical Engineers

