



TWO DAY`S TRAINING PROGRAM ON

Heat Exchanger (Tube, Shell and Plate Type)

(Fundamentals, Thermal Design, Operation & Maintenance)

16-17 March 2020@ Mumbai.

Objective of the program: Heat Exchangers are one of the most important and commonly used equipment' s in chemical process industry. Thermal design provides key design parameters for the fabrication of heat exchangers. It is thermal design that provides input for mechanical design and later on fabrication of the exchangers. Proper understanding and knowledge related to fundamentals, thermal design, operation and maintenance of heat exchangers is extremely necessary and useful for Process engineers, plant Process engineers as well as manufacturers of heat exchangers for right design and manufacturing and smooth operation of the heat exchangers. It is this objective that this program will try to achieve.

Learning Outcome: The attendees of the training program would be able to acquire following learning' s from the training Program:

- i. Concept and basics of heat exchangers
- ii. Different types of Heat Exchangers
- iii. How to manage fouling in heat exchangers?
- iv. How to tackle flow induced vibrational issues?
- v. Specifying the configuration/geometry of the exchanger.
- vi. How the international codes/standards are used in thermal design of the exchangers?
- vii. Various aspects related to operation, maintenance and troubleshooting of heat exchangers.
- viii. Comparative study among various type of heat exchangers
- ix. Pipe tracing
- x. Heat transfer fluids

Specific Features of the Program:

- i. The program focuses on learning through example & illustrations.



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- ii. It combines design as well as operational aspects of heat exchangers and hence aims at providing comprehensive knowledge and learning to participants.
 - iii. The program aims to have interactive sessions for better learning and understanding.
 - iv. It explains how the international standards are used in design, operation and maintenance of heat exchangers.

Who should attend? Process engineers & managers and Mechanical engineers & managers in plants and design organizations, heat exchanger vendors and manufacturers.

Prerequisites: Anyone who is a graduate Process or Mechanical engineer working in a design engineering organization, plant or Vendor Company preferably with minimum 1-2 year's work experience can attend this training program.

Workshop/Programme Contents:

- Introduction to Heat Exchangers
- Types of Heat Exchangers
- Shell and Tube Exchangers
 - Construction
- Design Considerations for Shell and Tube Heat Exchangers
- Fouling Factor in Heat Exchangers
- Double Pipe Heat Exchangers
- Classification of Shell and Tube Heat Exchangers
- Materials of Construction
- Cleaning of Heat Exchangers
- Other types of Shell and Tube Heat Exchangers
- Flow in Heat Exchangers
- Comparison of flows in tubular heat exchangers
- Regenerative and Non-regenerating heat exchangers
- Plate type Heat Exchangers
- Fouling in Plate Heat Exchangers
- Advantage of Plate Heat Exchangers over Shell and tube heat exchangers
- Application of Heat Exchangers
- Spiral plate and spiral tube heat exchangers
- Comparison between spiral-plate heat exchangers and shell-and-tube exchangers
- Pipe tracing



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- Heat Transfer Fluids

Certification: Every successful participant will be awarded a course completion certificate.

Delivery Methodology (Strategy):

- Introduction and Objective Setting
- Knowledge Presentations,
- Assignments & Exercise,
- Feedback and Assessment
- Discussion and Interaction
- Delivery 9:30 AM to 17:30 PM

Registration Details:

Dates of the program: 16-17 March 2020@Mumbai.

Participation fees: Rs. 22500/- Per participant (GST@18% extra, Includes Lunch, Snacks Tea for both Days, Hard copy of Course Material, Welcome Kit).

Payment: ECS/NEFT/DD in favor of "Centre for Industrial Solutions and Advanced Training" Payable at Nagpur, Maharashtra, India. Account No: 0509102000003353 Bank: IDBI, Wardha-442001, MS, India; IFSC Code: IBKL0000509; MICR Code 442259001.

Venue: To be informed by an email 10 days prior after confirmation.

Expert Profile: Attached/to be shared as per requirement.

For Registration,

1. **We prefer on line Registration through our web www.cisat.co.in.**
2. **In other case do send confirmation via email to Vikas 00-91-7709012815; vikas@cisat.co.in; cisat.nagpur@gmail.com; or you can do call Vikas +91-7709012815 or 8669546332**

TERMS & CONDITIONS FOR Workshop:

1. All training courses will require a minimum of 6 participants.
2. In the event of cancellation of a course, we will endeavor to inform all candidates a week before the course is due to take place. In such case all course fees paid will be reimbursed in full or the payment will be transferred in full to another course.

Web:www.cisat.co.in; Email: cisat.nagpur@gmail.com; Contact:+91- 7709012815 (Branches: Pune/Nagpur/Bhilai)

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3. CISAT shall not accept liability for any consequential loss and shall have no liability to reimburse any other costs that may have been incurred, including transport costs, accommodation etc.
4. Special arrangements can be made for group bookings.
5. Certificate of participation will be issued when payment has been received in full.

Contact for any In-house Training Program at your plant or location.

- HR Solutions and complete professional Training (HR/Soft Skill/Technical-Electrical/Mechanical/Automation /Process/Certification/Out Bound/Safety/Manufacturing excellence- TPM, TQM, 5S, Six Sigma etc)
- Course Content and presentations development – Customized to your company requirement.
- E-learning Development, Virtual Learning
- Online LMS or HR Automation system- Automated
- Employee Certification, skill or competency mapping and testing, Mentoring etc. From workers to Management level employees