



PCE119

Fired Process Heaters

Course Introduction:

This course will introduce the basics of thermal and mechanical design and safe, efficient operation of fired heaters. Emphasis will be on common design methods, considerations of fuel type, combustion air supply and control, combustion chemistry and control, and safe heater operation. Attendees are encouraged to bring the details of current problems for discussion with an instructor or general discussion with other attendees.

Course Objectives:

Upon successful completion of this course, the delegates will be able to:

- ✓ Identify heater types and factors governing design
- ✓ Apply combustion calculations and sampling
- ✓ Deal with the design of tubes, in-tube pressure drop including flow regime issues
- ✓ Improving efficiency
- ✓ Maintenance planning

Who Should Attend?

This course is intended for all engineers, operators, maintenance and safety personnel and other professionals involved with design and operation of fired process heaters.

Course Outline:

Day 1:

- Description of heater types and factors governing choice of design
- Combustion calculations and sampling
- Radiant zone design

Day 2:

- Convection zone design
- Application of burners
- Combustion air supply and control
- Instrumentation and Burner Management Systems

Day 3:

- Improving efficiency
- Design of tubes, in-tube pressure drop including flow regime issues
- Operation, testing, tune-up and troubleshooting of heaters

Day 4:

- Emissions control
- Refractories
- Corrosion and fouling

Day 5:

- Fuel considerations
- Maintenance planning
- Heater CFD Modeling

Course Certificate:

International Center for Training & Development (ICTD) will award an internationally recognized certificate(s) for each delegate on completion of training.

Course Methodology:

A variety of methodologies will be used during the course that includes:

- (30%) Based on Case Studies
- (30%) Techniques
- (30%) Role Play
- (10%) Concepts
- Pre-test and Post-test
- Variety of Learning Methods
- Lectures
- Case Studies and Self Questionnaires
- Group Work
- Discussion
- Presentation

Course Fees:

To be advised as per course location. This rate includes participant's manual, and-Outs, buffet lunch, coffee/tea on arrival, morning & afternoon of each day.

Course Timings:

Daily Course Timings:

08:00 - 08:20	Morning Coffee/Tea
08:20 - 10:00	First Session
10:00 - 10:20	Recess (Coffee/Tea/Snacks)
10:20 - 12:20	Second Session
12:20 - 13:30	Recess (Coffee/Tea/Snacks)
13:30 - 15:00	Last Session

