



# General Process Design Considerations

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## Who Should Attend?

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Engineers and operators in design and operation field for processes and equipment.

## Methodology:

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This interactive Training will be highly interactive, with opportunities to advance your opinions and ideas and will include;

- Lectures
- Workshop & Work Presentation
- Case Studies and Practical Exercise
- Videos and General Discussions

## Certificate:

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**BTS** attendance certificate will be issued to all attendees completing minimum of 80% of the total course duration.

## Objectives:

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- To understand the general process design consideration for the metal selection, best operation conditions form pressure and temperature, piping system design and selection, using and understanding PFD and P&ID diagrams, equipment layout and what is the plot area consideration and relief and flare system.

## Contents:

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- MATERIALS SELECTION:
  - How to select material of construction depending on the working substance.
- DESIGN TEMPERATURE AND PRESSURE:
  - How to select the correct design and operating conditions.
- PIPING SYSTEM DESIGN:
  - Design and select for: pipe, flange, tubing, valves, fitting and gaskets.
- USING PFD AND P&ID DRAWINGS:
  - Using and understanding PFD and P&ID diagrams.
- PLOT AREA CONSIDERATIONS:
  - Equipment layout and what is the plot area consideration.
- RELIEF AND FLARE SYSTEMS:
  - Safety Valves and Relief Valves, Block Valves and Flare Systems. Heat Availability Curves,
  - Flue Gas Curves and Furnace Efficiency.

- FURNACE DESIGN VARIABLES:
- Metal Temperature,
- Deposits and Tube Metal Temperature,
- Furnace Side Pressure Drop (Draft), Process Side Pressure Drop,
- Furnace and boiler Operation, Start`up
- Optimum Excess Air Levels and Monitoring Devices and Techniques.