FACT SHEET (ONLINE)

TEMA – Shell & Tube Heat Exchangers Part III

Equipment design for general applications: Design Combination of design loads, Design and calculation of Supports - vertical and horizontal eqpt, design of Non-standard flanges.

Who Should Attend?

This course is intended for graduates (or soon to be), designers, freelancers, technicians and engineers involved in: calculation, design, selection, manufacturing, safety, quality and maintenance of systems and equipment in industrial processes.

Previous knowledge of this subject is not required to attend to the course.

Training Objectives

The main objective of this course is to transfer to participants the theoretical and practical skills required in projects, obtained from experience and sound engineering practices.

What to Expect?

Get familiar with the different internal and external attachments used in S&T heat exchangers.

Learn to define the combination of applicable loads in S&T heat exchangers: Wind & Seismic.

Design and calculate supports for S&T heat exchangers, horizontal and vertical equipment.

Learn to design Non-standard flanges (size, pressure and/or temperature out of commercial range).

Methodology

Available in English and Spanish

Self-guided Hands-On

40 hs Dedication, 60 days Open

Self-paced course

Available 24/7

“Learn by doing” concept

Non-scheduled sessions

Available on IPhone / Android

Resources Available

Study Notes

Introductory Videos

Multiple Choice Assignments

Real Data Sheets

Calculation Sheets Included

Extra Material

Instructor Support

Virtual Campus: Schoology

Contents

Shell and tube heat exchangers

Parts and types of heat exchangers

External Elements

Main components

TEMA heat exchanger classification

Internal attachments

Impingement Plate, extraction bolts, vortex breakers

External attachments

Clips, davits, lifting devices, platforms

Loadings

Loads imposed by wind & seismic effects

Local loads

Combined effects

Design of supports

Saddles for horizontal equipment

Brackets for vertical equipment:

Anchor bolts

Design of non-standard flanges

Design criteria

Loads definition

Types of flanges

Bolts and gaskets

Complementary Parts

Part I: Heat Transfer Tubes, Tubesheet Design, Flat Covers Design.

Part II: Design of Shells & Heads, Design of Conical Transitions, Design of Nozzles..

All three parts together cover the **complete design of a Shell & Tube Heat Exchanger.**

Case Studies

Module 1: vocabulary, terminology, material selection, internal and external attachments.

Module 2: definition of wind and seismic loads, superimposed effects (worst case scenario).

Module 3: design and calculation of supports for S&T heat exchangers, horizontal and vertical equipment.

Module 4: design of Non-standard flanges (size, pressure and/or temperature out of commercial range).

Instructor

Javier Tirenti. Senior Mechanical Engineer and Master in Business Administration (MBA). **More than 20 years of experience in design, calculation and fabrication of pressure vessels, heat exchangers, storage tanks, piping systems and structures in general.**

Duties of the above mentioned positions cover the entire cycle of an equipment, **from the very conception, drawings, design and calculation, technical specifications, technical requisitions, vendor drawings, to the manufacturing phase and installation assistance**. Among the developed projects, clients such as SHELL, EXXON, REPSOL, CHEVRON, GALP, CEPSA, TUPRAS and SAUDI ARAMCO can be found.

Vast experience providing specific training sessions in both, classroom and online approaches. More than 75 training courses carried out in different institutions and in-company, courses oriented to graduates, designers, engineers and experienced professionals.