FACT SHEET (ONLINE)

Piping Systems in Industrial Plants: III

Piping Systems in Industrial Plants: Stress analysis fundamentals, Design of Expansion loops, Expansion joints, Selection of supports, structural supports calculation.

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?

Learn to design/calculate the number of expansion loops required and to select expansion joints.

Select supports according to purpose and loads, and learn to calculate structural supports.

Learn to configure, design and calculate buried piping systems for different requirements.

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

Start anytime!

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

Stress analysis fundamentals

General considerations

Piping expansion

Induced loads in anchored pipelines

Induced and allowable stresses: ASME B31

Expansion loops and joints

Simplified calculation methods

Nozzle loads

Piping supports design

Support loads

Types and functions of supports

Supports arrangement

Reactions and displacements

Structural supports calculation

Connection to equipment nozzles

Buried piping systems

Design considerations

Soil properties

External loads:

Vertical, impact, superficial

Trench configuration

Calculation methods

Complementary Parts

Part I: Optimal diameter, Pressure loss, Selection of components, Plot Plan and Pipe racks.

Part II: Wall thk calculation, External Pressure verification, Insulation, Non-standard flanges.

All three parts together cover the **most relevant of Piping Systems design and calculation.**

Case Studies

Module 1: vocabulary, terminology, materials and standard components.

Module 2: calculation of number of loops required through simplified methods.

Module 3: selection of supports according to purpose and loads, structural supports calculation.

Module 4: combination of loads scenarios and design of buried piping systems.

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.