

FACT SHEET

Development of a piping class specification



Piping Class piping systems specification: applicable codes, joining methods, plant services, thickness calculation, component selection.

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?

Know the codes applicable to piping design

Differentiate the different joining methods

Know the different components of a system

Design a Piping Class piping specification

Establish pressure-temperature ranges

Calculation/selection of thicknesses per ASME B31

Selection of flanges, elbows, tees, etc.

Define piping class tapping table.

Course Duration

Full Course: 40 hs; to be completed in 60 days. The Virtual Campus will be open for 120 days (flexibility).

Methodology

At your own pace

Available 24/7, Self-paced course

“Learn by doing” concept

Non-scheduled sessions

Included in the course

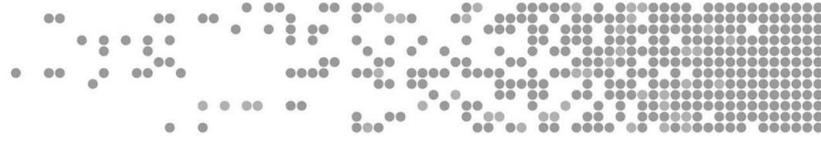
Study notes

Summary videos

Conceptual questions

Case studies

Access to the campus



Contents

Lesson 1: Piping Systems

Piping System Design

Applicable Codes

Reference Standards

Components of a System

Joining Methods

Nomenclature and Terminology

Exercises & Case Studies

- *Vocabulary and terminology*
- *Assimilation questions*
- *Identification of components*
- *Identification of joining methods*

Lesson 2: Facility Services

Industrial Facility Services

Identification of plant services

Grouping of similar services

Materials

Allowable Corrosion

Coding of pipe specifications

Pressure and temperature range

Operating conditions

Design conditions

Exercises & Case Studies

- *Assimilation questions*
- *Service grouping*
- *System coding*
- *Pressure and temperature range*

Lesson 3: Component Specification

Component Specification

Piping Selection

Calculating Required Thicknesses

Selection of Nominal Thicknesses

Component Selection

Elbows | Tees | Caps

Eccentric reducers | Concentric reducers |
Concentric reducers Flanges | Gaskets | Nuts and bolts

Valves: Gate | Globe | Check | Check valves

Schedule Pipe and Calibrated Pipe

Exercises & Case Studies

- *Assimilation Questions*
- *Piping Calculations*
- *Fittings Selection*
- *Flange Selection*

Lesson 4: Branch Table

Branch Table

Pipe-Tube Connection Joints (Grafts)

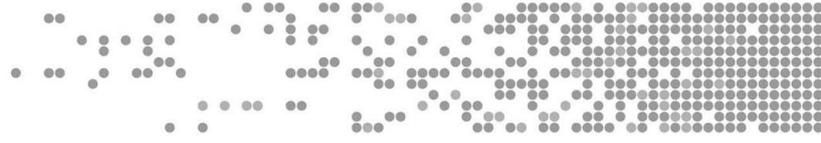
Calculation of reinforcements

O'let Fittings

Tee | Reducing Tee | Couplings (sleeves)

Exercises & Case Studies

- *Assimilation Questions*
- *Stiffener Calculation*
- *Selection of O'let fittings*
- *Selection of couplings (sleeves).*



Instructor

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, CEPESA, 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.

Tailored Training

The most effective training is one that satisfies the needs of each company's business focus and deliverables. **We adapt our training programs to each specific requirement, offering bespoke solutions for each need.** The result, 100% tailored programs, developed to maximize the time investment and deliver tangible and intangible returns to the work teams.

After assessment phase, a tailored training plan is designed jointly with the client. This plan is specifically tailored to meet the client's needs, focusing on effectively enhancing the capabilities of the work team. **We provide practical, dynamic and hands-on training,** making available the best instructors in each subject.

Arveng Training

Arveng Training has developed effective and practical courses for the needs of today's industrial challenges by delivering specific and high-quality engineering training courses utilizing all three approaches: classroom, on-line and tailored training. We are proud to have imparted more than 250 classroom courses, 1200 online courses and over 65 in-company sessions. Our training activities has benefited over 4500 professionals. Our greatest pride is in the letters of recommendation we receive from so many of our customers in this area.

We consider the time of our students as the most valuable. For this reason, all our courses have been designed with the main objective of quickly the professional skills of the participants, through our expert instructors in different disciplines. **We stimulate creativity, innovation and initiative to make the participants inquisitive to bring good engineering practices and lessons learned to the field that benefits their employers in the long term.**

Our Company

Arveng Training & Engineering SL is a leading company providing Training and Engineering services based in Madrid, Spain. Our mission and vision are to be a leading training and engineering services company. We are a team of highly motivated, talented high qualified professionals with more than 20 years of experience. Our main goal is to provide our clients, the best training and engineering services and to exceed their expectations in all their spheres of industrial activity, through our renowned services which are based on efficient, innovative, cost-effective and transparent principles.

Established in July 2010, mainly oriented to the industrial sector, from the very beginning Arveng has always worked with closeness, responsibility and commitment in the different areas of activity.