



FACT SHEET

Development of a Piping Class Specification



Piping Class 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, specialists, and engineers** involved in calculation, design, selection, manufacturing, safety, quality and maintenance of piping systems in industrial plants.

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.

Methodology

Instructor-led training course in adult learning format with discussions, worked examples and simplified case studies, providing practical knowledge to implement in the field.

Course Duration

The duration of this training course is **12 hours**, divided into several sessions to facilitate the learning process.

What to Expect?

At the end of the course, participants will acquire the **key concepts and theoretical formulations involved in the Specification of Piping Systems** under the most typical operating scenarios. Among other things, participants can expect to:

Acquire vocabulary and fundamentals.

Define the services of an industrial plant.

Get familiar with ASME materials designation.

Design a Piping Class Specification:

- Set pressure-temperature ranges.
- Thickness calculation/selection as per ASME B31
- Selection of flanges, elbows, tees, etc.
- Define the branch ion table of a piping class.

Benefit from Lessons Learned and Best Practices from different international projects



Contents

Piping Systems

Piping System Design

Applicable Codes

ASME Committees

Reference Standards

Components of a Piping System

Joining Methods

Welded Systems

Threaded Systems

Flanged Systems

Nomenclature and Terminology

Components specification

Component Specification

Piping Selection

Calculating required thicknesses

Selection of nominal thicknesses

Component Selection

Elbows | Tees | Caps

Eccentric reducers | Concentric reducers

Flanges | Gaskets | Nuts and bolts

Valves: Gate | Globe | Check | Check valves

Schedule Pipe and Calibrated Pipe

Services of an industrial facility

Services of an industrial facility

Identification of plant services

Grouping of similar services

Materials

Corrosion Allowance

ASME Materials designation

Coding of pipe specifications

Pressure and temperature range

Operating conditions

Design conditions

Branch Table

Branch Table

Pipe-to-pipe connections

Calculation of reinforcements

O'let Fittings

Tee | Reducing Tee | Couplings

Included in the course

Study Notes

Assimilation questions, Quizzes

Case Studies based on real designs.

Q&A



Instructor

Senior Mechanical Engineer with a Master's 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 a piece of 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 an 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,** with the best instructors in each subject.

Arveng Training

Arveng Training has developed effective and practical solutions for today's industrial challenges by delivering specific, high-quality engineering courses utilizing three different approaches: classroom, online, and tailored training. We are proud to have provided more than 250 classroom courses, 1200 online courses, and over 65 in-company sessions. Our training activities have benefitted over 4500 professionals, our greatest accomplishment of all.

We consider our students' time to be of utmost importance. For this reason, all our courses have been designed with the main objective of quickly improving the professional skills of the participants through our expert instructors in different disciplines. **We stimulate creativity, innovation, and initiative to make the participants inquisitive, bringing good engineering practices and lessons learned to the field, that benefit their professional careers.**

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, providing our clients with the best in the sector. We are a team of highly motivated, talented, highly qualified professionals with over 20 years of experience. We aim to exceed expectations by offering efficient, innovative, cost-effective, and transparent services.

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

Through experience gained by partaking in multidisciplinary engineering projects in sectors such as Petrochemical, Energy Generation, and Industrial, we provide answers and solutions to concrete requirements, making the effort to build long-lasting and mutually beneficial relationships.