



FACT SHEET (LIVE COURSE)

Welding & Non Destructive Examination



Design and assessment of welded joints for general applications: Fundamentals, Code organization and scope, Processes, PQR, WPS, WPQ, Non Destructive Examination, Defectology.

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.

Methodology

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

Duration

The duration of this training course is **16 hours**, divided into several sessions to facilitate the learning process.

What to expect?

Acquire the vocabulary and basics

Comprehend fundamentals

Understand the organization of the ASME IX code

Get familiar with the welding processes

Understand Non Destructive Examination

Assess welds through defectology

Develop the main parts of:

Welding Procedure Specification (WPS)

Process Qualification Report (PQR)

Welder Procedure Qualification (WPQ)



Contents

Welded joints fundamentals

Weld seam
Type of welds
Bevels
Melting zone
Heat treatments
Soldability

ASME IX code organization

Introduction to the ASME code
Section IX
QW part, welding

Most used welding processes

TIG, SMAW, MIG/MAG, FCAW, SAW

Welding procedures (WPS)

Welding procedures (WPS)

Procedure and Welder qualification

PROCESS qualification (Art. II)
WELDER qualification (Art. III)

Welding specifications

Carbon and stainless steel

Non Destructive Examination

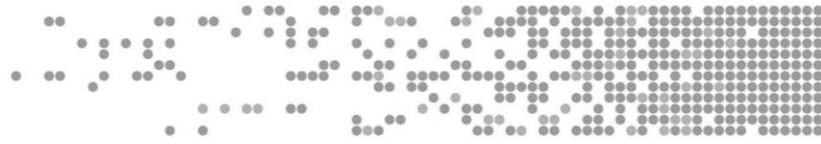
Visual inspection
Penetrant liquids inspection (PL)
Magnetic particle inspection (MP)
Ultrasonic test (UT)
Radiographic test (RT)

Welded joints defectology

Cracks, porosity
Solid inclusions
Lack of fusion
Lack of penetration
Shape defects

Case studies in the classroom:

Design of welded joints
Calculation of welded joints
ASME Sec. IX handling:
 Materials identification
 Variables identification
 Allowable ranges for WPS, PQR y WPQ.



Instructor

More than 18 years of experience in working in multidisciplinary projects, mainly within the Oil & Gas sector, both upstream and downstream, acting as: QC specialist, Project Engineer, QC & Inspection Manager and Engineering Manager among others.

Vast Experience developing EPC projects, from the very conception, drawings, design and calculation, technical specifications, technical requisitions, vendor drawings, to the manufacturing phase and installation assistance. Extensive experience in the fields of Metallurgy, Welding and Non Destructive Examination.

Extensive knowledge of international standards and end users / customers specifications.

Experience providing specific training sessions for experienced professionals, in both online and classroom approaches. Training sessions given in different institutions and companies in Spain.

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 de-signed 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 100 classroom courses, 200 online courses and over 15 in-company sessions. Our training activities has benefited over 1,500 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.