XCELERATE TRAINING INSTITUTE

your learning & development partner

MECHANICAL ENGINEERING

# Flange Integrity Training Course

| DURATION | LANGUAGE | FORMAT |
|---|---|---|
| 5 days | English | Classroom / Online |

## Upcoming dates

| Dates | Venue | Format | Fee |
|---|---|---|---|
| 22 – 26 Feb 2027 | Live online | Online (live) | €1,200 |
| 2 – 6 Aug 2027 | Live online | Online (live) | €1,200 |
| 6 – 10 Sep 2027 | Dubai | Classroom | €4,800 |

### Register or ask a question

Online: x8ti.com/course/flange-integrity-training-course-2/

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# Flange Integrity Training Course

## Introduction

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Introduction

The role of engineers is crucial because they help machines run smoothly by keeping them in working order, and also help to keep workers' lives safe. Therefore, this Flange Integrity Course is essential to understand the basics of how to operate machinery safely. A flange is a protrusive rim, collar, or ring on an object such as a column, beam, or pipe that provides added strength for the addition of another object. This course provides participants with the necessary foundation and practical skills to make and break flange joints with manual bolt-up methods. Participants will also become proficient in safeguarding the reliability of flanges on pipework and vessels.

How can this "Flange Integrity Course" course contribute to your career? One of the key requirements in any job description today for engineers is to be aware of and trained in Public Safety and Security. To succeed in your current role or advance to the next stage in your career, you need to know the relevant equipment, strategies, policies, and procedures to promote effective security operations and ensure protection and maintenance of the equipment, premises, and people.

This Xcelerate Training Institute course will empower you with an introduction to flange joints, types of flanges, materials, sizes, and temperature rating so that you can carry out your tasks with confidence and accuracy.

Learning Objectives

- Plan and prepare for the work
- Break flange under flange management procedure
- Inspect flange and its components
- Make flange joints following flange management procedures
- Study the correct procedures for assembling pipe flange connections
- Select and use the correct materials for gaskets and bolting
- Identify the methods of controlled bolting using torque & tension tools/equipment
- Assess their competency in practically applying these procedures

Training Methodology

- Lectures
- Videos
- Seminars & Presentations
- Group Discussions
- Assignments

- Case Studies & Functional Exercises

Benefits for Your Organization

- Benefit from training your employees on the definition and importance of mechanical information, along with the different roles played within the Flange Integrity guidelines
- Document your Flange Integrity information systematically and efficiently
- Improve productivity by teaching your staff about the Flange Integrity work process and how it fits into the overall organizational work processes
- Achieve improved Flange Integrity, higher employee morale, increased productivity, and reduced costs of damage control
- Assess Flange Integrity rating by evaluating its effectiveness to reduce injuries and illnesses and identifying and eliminating workplace hazards
- Reduce the damages caused by inadequate Flange Integrity processes

Benefits for You

- Master the knowledge and techniques to see the future of an effective Flange Integrity process
- Learn how to do a good job with your machines and why it is important to do so
- Learn tips, tricks, and concepts to help you succeed as a mechanical analyst
- Make a valuable contribution to your organization by being in a position to determine if you should implement a program at your site, or better understand an existing program
- Get an opportunity to work through hands-on exercises in detail to gain the skills needed to facilitate a Flange Integrity study
- Gain the skills to plan, manage, facilitate, and scribe for a Flange Integrity project

Target Audience

- Mechanical Technicians
- Technical Authorities
- Turnaround Managers
- Commissioning Engineers
- Lead Engineers
- Reliability Engineers
- Shutdown Coordinators
- All technical pipelines and facilities personnel

Course Outline

FLANGE TYPES & ASSEMBLY

- Flange types
- Flange dismantling
- Flange inspection
- Flange assembly

CHARACTERISTICS OF MATERIALS USED

- Characteristics of steel, castings, and forgings

- Types of discontinuities
- ABS requirements for steel, castings, and forgings

SAFTEY CONCERNS & ISSUES

- Key safety concerns in the Joint Integrity Industry
- Acceptable level of flange imperfections
- Recommendations for acceptable gasket contact surface flatness and defect depth

FLANGE GUIDELINES & SPECIFICATIONS

- Flange joint alignment guidelines
- Hardened washer usage guidelines and specification
- Alternative flange bolt assembly patterns

CALCULATIONS AND OTHER REPORTS

- Assembly bolt load / calculation methods
- Gasket types and materials
- Flange joint leak report
- Training and certification standards
- Flange completion certificates and tagging

TYPES OF GASKETS AND GUIDELINES

- Gasket types
- Gasket identification
- Assembly instruction
- The ASME PCC-1-2013 Guidelines for Bolted Flange Joint Assembly

PLANNING AND PREPARATION

- Identify the tasks
- Inspect the job site
- Confirm whether isolation's are completed as per the standard
- Confirm hazard controls
- Coordinate with relevant personnel
- Select suitable tools
- Check the calibration and certifications of tools
- Complete checklists and other required documentation

BREAK FLANGE

- Prepare tools with care and accuracy
- Connect with required drain lines
- Undo nuts as per standard procedures
- Split flange and drain the pipe
- Identify any skills escalations
- Management of open pipes
- Complete checklists and other required documentation

INSPECT FLANGE AND COMPONENTS

- Evaluate cold pull and refer if required
- Assess the degree of misalignment and refer if applicable
- Clean and inspect the flange surface – front and back
- Check all studs and nuts
- Confirm that the components are compliant with relevant standards
- Identify any issues and take suitable action

MAKE FLANGE JOINT

- Select the appropriate gasket
- Check whether all components are as per the specifications
- Apply lubrication as required
- Complete the initial assembly of the unit
- Insert the blind as required
- Attach the drain as required
- Re-check the gasket
- Re-check the alignments of the components
- Tighten components using the relevant tools
- Use torque calibration charts
- Complete checklists and other required documentation

COMPLETE THE TASK

- Check the joint alignment one last time
- Arrange for any other required checks
- Confirm joint integrity
- Complete checklists and other required documentation

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# Registration Form

## Flange Integrity Training Course

Preferred dates: ..... Venue or online: .....

Duration: 5 days Language: .....

Please complete and email this form to us, or register online. We confirm your place and send the invoice within one working day.

### Delegate information

Full name (Mr / Ms / Dr / Eng): .....

Position: ..... Telephone / mobile: .....

Official email: ..... Personal email: .....

### Company information

Company name: .....

Address: .....

City / country: ..... VAT / tax number: .....

### Person responsible for training & development

Full name (Mr / Ms / Dr / Eng): .....

Position: ..... Telephone / mobile: .....

Email: .....

### Payment

☐ Please invoice me ☐ Please invoice my company

Signature: ..... Date: .....

**Call**
+491631686678

**Email this form**
info@x8ti.com

**Register online**
Open the course page