

ECITB

**Mechanical
Joint
Integrity**

MJI 10

**HAND TORQUE BOLTED CONNECTION
TECHNIQUES**

MJI 18

**HYDRAULICALLY TENSION BOLTED
CONNECTION TECHNIQUES**

MJI 19

**HYDRAULICALLY TORQUE BOLTED
CONNECTION TECHNIQUES**



**EC
ITB** 
**APPROVED
PROVIDER**

CAMLY



Member of the IAF/MLA for QMS

ECITB Mechanical Joint Integrity

BASIC PRINCIPLES

Control of the training and competence assurance of personnel working on mechanical joints is a critical factor in achieving asset integrity. Therefore, an important element of the competence assurance and management system is to ensure that any person working on a given joint has been trained and assessed as competent to perform the task.

All personnel involved in mechanical joint operations should have sufficient knowledge of the specific tasks to be undertaken and the risks which the work will entail, along with sufficient experience and ability to carry out their duties in relation to mechanical joint integrity operations, whilst recognizing their limitations and be able to take appropriate action in order to prevent harm to themselves and those affected by the work.

CAMLy PTE LTD as ECITB Approved Training Providers (ATP) will ensure all personnel who are responsible for Mechanical Joint Integrity activities are trained and tested to in line with ECITB and Step Change in Safety guidance.

Our training programs follow a four (4) stage model for achieving and managing the competence of individuals involved in Mechanical Joint Integrity activities and particularly those expected to undertake these duties in the workplace.

ECITB Mechanical Joint Integrity

FOUR KEY STAGES IN ACHIEVING COMPETENCY

Stage 1 (Training)

The training will consist of classroom and workshop practical activities. The courses are normally from 1 day to 2.5 days depending upon the subject matter. Each person will be taught theoretical and practical skills. The training courses require each candidate to demonstrate the attainment of knowledge and practical skills through a theory knowledge test and practical workshop exercises. successful candidate will gain a Certificate of Training.

Stage 2 (Work Based Task Assignment)

Each candidate after attending an approved training course will requires a period of workplace experience to practice new skills and knowledge. This period allows for the consolidation of skills and knowledge against work-based tasks before the candidate can move on to Stage 3.

Stage 3 (Assessment)

Stage 3 requires each candidate to complete a formal assessment of their job knowledge, skills and ability in each Mechanical Joint Integrity subject. The ECITB technical competence validation tests are consist of online knowledge test and a workshop practical test to validate the candidate skills, knowledge and ability. Successful candidate achieves the Certificate of Achievement which is valid for a period of 3 years.

Stage 4 (Renewal)

To confirm the candidate current skills, knowledge and ability, the ECITB technical competence validation test is undertaken every three (3) years to prove ongoing performance development. Renewal assessment is similar to stage 3 consist of online knowledge test and workshop practical test

ECITB Mechanical Joint Integrity

ECITB APPROVED COURSES

- **MJI 10**

- Hand Torque Bolted Connection Techniques
- 1 Day Duration

- **MJI 18**

- Hydraulically Tensioning Bolted Connection Techniques
- 1 Day Duration

- **MJI 19**

- Hydraulically Torque Bolted Connection Techniques
- 1.5 Days Duration

- **MJI 10, 19**

- Hand & Hydraulically Torque Bolted Connection Techniques
- 1.5 Days Duration

- **MJI 10, 18, 19**

- Hand, Hydraulically Tensioning & Torque Bolted Connection Techniques
- 2.5 Days Duration

Please contact training@camly.sg to request suitable dates and more course details

ECITB Mechanical Joint Integrity

MJI 10 HAND TORQUE BOLTED CONNECTION TECHNIQUES

COURSE SUMMARY

- One of three modular mechanical joint integrity training courses derived from ECITB technical training standards covering isolation, dismantling techniques, component inspection, alignment, assembly and hand torque tightening of flanged and clamped connections delivered by an ECITB Approved Training Provider and Trainer.

COURSE DURATION

- 1 Day
- 1.5s Day course when combined with MJ19
- 2.5s Day course when combined with MJ18 & MJ19

COURSE CONTENT

- This unit specifies the skilled performance expected of persons trained to dismantle, inspect, prepare, assemble and tighten flanged and clamp connector pipe joints using hand torque equipment.
- Instruction and practice in observing health and safety requirements and approved working practices.
- Prepare work areas for the preparation and tightening of flanged and clamp connector pipe joints.
- Prepare equipment for the preparation and tightening of flanged and clamp connector pipe joints.
- Prepare materials for the preparation and tightening of flanged and clamp connector pipe joints.
- Dismantle, inspect, prepare, assemble and tighten flanged and clamp connector pipe joints.
- Reinstate the work area after the preparation and tightening of flanged and clamp connector pipe joints.

PRE- REQUISITES

- Candidates must have a basic mechanical background preferably in pipe-fitting, mechanical fitting or in engineering craftsman trades.

Please contact training@camly.sg to request suitable dates and more course details

ECITB Mechanical Joint Integrity

MJI 18 HYDRAULICALLY TENSION BOLTED CONNECTION TECHNIQUES

COURSE SUMMARY

- One of three modular mechanical joint integrity training courses derived from ECITB technical training standards covering isolation, dismantling techniques, component inspection, alignment, assembly and hydraulic bolt tensioning of flanged connections delivered by an ECITB Approved Training Provider and Trainer.

COURSE DURATION

- 1 Day
- 2.5 Days course when combined with MJI10 & MJI19

COURSE CONTENT

- This unit specifies the skilled performance expected of persons trained to dismantle, inspect, prepare, assemble and tighten bolted connections using hydraulic tensioning equipment.
- Instruction and practice in observing health and safety requirements and approved working practices.
- Prepare work area for the assembly and tightening of bolted connections using hydraulic tensioning equipment.
- Prepare equipment for the assembly and tightening of bolted connections using hydraulic tensioning equipment.
- Prepare materials for the assembly and tightening of bolted connections using hydraulic tensioning equipment.
- Assemble bolted connections.
- Tighten bolts using hydraulic tensioning equipment.
- Check integrity of assembled bolted connection.
- Reinstatement of the work area after the assembly and tightening of bolted connections using hydraulic tensioning equipment.

PRE- REQUISITES

- Candidates must have a basic mechanical background preferably in pipe-fitting, mechanical fitting or in engineering craftsman trades.

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ECITB Mechanical Joint Integrity

MJI19 HYDRAULICALLY TORQUE BOLTED CONNECTION TECHNIQUES

COURSE SUMMARY

- One of three modular mechanical joint integrity training courses derived from ECITB technical training standards covering isolation, dismantling techniques, component inspection, alignment, assembly and hydraulic bolt torquing of flanged connections delivered by an ECITB Approved Training Provider and Trainer.

COURSE DURATION

- 1.5 Day (MJI10 training certificate required as Pre-requisites)
- 1.5 Days course when combined with MJI10
- 2.5 Days course when combined with MJI10 & MJI18

COURSE CONTENT

- This unit specifies the skilled performance expected of persons trained to dismantle, inspect, prepare, assemble and tighten bolted connections using hydraulic torque equipment.
- Instruction and practice in observing health and safety requirements and approved working practices.
- Prepare work area for the assembly and tightening of bolted connections using hydraulic torque equipment.
- Prepare equipment for the assembly and tightening of bolted connections using hydraulic torque equipment.
- Prepare materials for the assembly and tightening of bolted connections using hydraulic torque equipment.
- Assemble bolted connections.
- Tighten bolts using hydraulic torque equipment.
- Check integrity of assembled bolted connection.
- Reinststate the work area after the assembly and tightening of bolted connections using hydraulic torque equipment.

PRE- REQUISITES

- Candidates must have a basic mechanical background preferably in pipe-fitting, mechanical fitting or in engineering craftsman trades.

Please contact training@camly.sg to request suitable dates and more course details