

# Module **BTTB**

## Bolt Tightening

### *BTT Bolt Tightening*

BTTB (8 h)



**Aim:** The aim of this module is to prepare participants for company specific bolt tightening training, through scenario-based training.

#### **PROGRAM: BTTB Basic Technical Training Bolt Tightening**

1. Introduction to the module
2. Bolt tightening in the wind industry
  - 2.1 Limitations of the training
  - 2.2 Recap of the BTT Mechanical
  - 2.3 Bolt tightening theory
  - 2.4 Quality assurance in bolt tightening
3. Framing the scenario: Bolt torquing using energy powered tools
  - 3.1 Introduction to bolt torquing in the wind industry using energy powered tools and accessories
  - 3.2 Attitude requirements for working with energy powered torquing tools and accessories
4. Pre-task phase: Planning and preparation
  - 4.1 Planning the task
  - 4.2 Preparing for the task
  - 4.3 Planning for safety
5. The task phase: Safely and correctly torquing bolts using electrical and hydraulic tools
  - 5.1 Setting up equipment for use
  - 5.2 Bolt torquing
  - 5.3 Bolt loosening
  - 5.4 Safety, quality and trouble shooting
6. Post-task phase: Pack up and review
  - 6.1 Post-use inspection and packing
  - 6.2 Post-job documentation
7. Framing the scenario: Bolt tensioning using energy powered tools
  - 7.1 Introduction to bolt tensioning in the wind industry using energy powered tools and accessories
  - 7.2 Attitude requirements for working with energy powered tensioning tools and accessories
8. Pre-task phase: Planning and preparation
  - 8.1 Planning the task
  - 8.2 Preparing for the task
  - 8.3 Planning for safety
9. The task phase: Safe and correct tensioning of bolts using hydraulic tools
  - 9.1 Setting up equipment for use
  - 9.2 Bolt tensioning
  - 9.3 Bolt loosening
  - 9.4 Safety, quality and trouble shooting
10. Post-task phase: Pack up and review
  - 10.1 Post-use inspection and packing
  - 10.2 Post-job documentation
11. Using mechanical handling aids to assist with bolt tightening tasks
  - 11.1 Mechanical handling aids typically used in the wind industry

- 11.2 Using mechanical handling aids
- 11.3 Hazards associated with using mechanical handling aids
- 11.4 Mitigating hazards associated with mechanical handling aids
12. Training review

#### **BTTB Module** (BTT Bolt Tightening)

**Duration:** 8 hours (1 day)

**BTTB Program:** Sections 1 to 12

**Maximum students:** 12 people per Edition.

**Prerequisites:** BTTM

#### **Certificate validity:**

Permanent (the company may require re-certification if no hydraulic work is carried out for an extended period of time).

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