

	AI TAKAMUL COMPANY FOR ENGINEERING TESTS AND PROFESSIONAL SAFETY LIMITED Lifting Inspection	Doc No: QC-LIF-P-016
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Title: Inspection Procedure of Lifting Beams		Rev: 2
Established By: Ashraf Elsaid	Position: Lifting Supervisor	Date: JULY-2022
Approved By: Ahmed Mohamed	Position: Operation Manager	

Inspection Procedure of Lifting Beams

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1. YOUR SAFETY IS FIRST:

Your safety wear is mandatory at job sites including in general: suit, shoes, helmet, gloves, ear plugs, glasses, and mask.

2. SCOPE:

This Procedure covers the inspection and testing of lifting beams.

3. PRODUCT/ MANUFACTURE STANDARDS:

BS EN 13155:2020	<i>Cranes - Safety - Non-fixed load lifting attachments</i>
BS EN 13001-3-1:2012+A2:2018	<i>Cranes - General design - Part 3-1- Limit States and proof competence of steel structure</i>

4. LIFTING BEAMS:

Lifting beams are types of below-the-hook lifting devices comprising of member(s) equipped with attachment points, lifting beams are used to stabilize and support a load during an overhead lift. Lifting beams are used to keep the lifting slings below the device at or near a 90° angle to avoid damage to the load, damage to rigging hardware and lifting slings, and helps keep the slings from sliding off of the load during the lift.

5. THOROUGH EXAMINATION:

Lifting beams shall be thoroughly examined at intervals not exceeding **six months**, and depend on the conditions of the service, by a competent person.

For thorough examination of lifting beams the following shall be examined:

- Marking: as per 7. MARKING
- The beam shall be checked thorough its length for dimensional distortion
- Structural members (main body) shall be checked for distortion, physical damage, wear, corrosion, cracks, gouges.
- Hollow section in structural members shall be checked for dents, localized buckling, cracks.
- Welds and surrounding areas (HAZ) shall be inspected visually and using proper NDT techniques (such as MPI or UT) for: cracks, distortion, corrosion.
- Surface condition shall be checked for damage resulting from corrosion.
- Hooks attachment points should be inspected for wear and elongation of holes.
- For bolt connections, threads condition and security of bolting shall be checked for tightness, the bolted sections shall be free of cracks, corrosion, damage.
- Lifting beam attachments such as shackles, eyebolts, etc. shall be inspected to check the wear, physical damage and distortion.

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6. PROOF LOAD TEST:

Lifting beams are designed according to BS EN 13155 to withstand a static load of $2 \times WLL$ without any deformation. Lifting beams proof load test = $2 \times WLL$

Proof load test is to be performed after any repair or modification of the lifting beam as per manufacturer's requirements.

A thorough examination is performed prior to proof load test to check the beam condition.

Proof load test of Lifting beams is performed by suspending test weights from the attachment points.

The load shall be applied without shock.

The load shall be raised clear of the ground and held for one minute at least (to be hold for 5 minutes).

All ancillary equipment shall be thoroughly examined and tested as per the related inspection procedures.

After proof load test, the beam is re-examined as per 5. THOROUGH EXAMINATION.

7. MARKING:

The lifting beam shall be legibly and clearly marked with the following:

Identification Mark / number, WLL, Manufacturer name and address, Weight of the unloaded attachments (when it exceeds 5 % of the Working load limit of the equipment or 50 kg, whichever is the less).

If the beam is not already marked, it shall be clearly stamped or marked with an ID number, WLL and the date of inspection

8. REPORTING AND CERTIFICATION:

A certificate of test and thorough examination will be issued upon the satisfactory completion of the examination, i.e. the lifting equipment is safe to operate

A defect report will be issued if the lifting equipment fails to meet the requirements.

9. Inspector Competency and Qualification:

Inspector shall have minimum qualification of LEEA Foundation – LEEA Lifting Equipment General



Fig 1
Lifting Beam

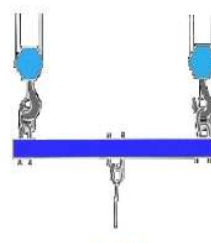


Fig. 2
Equalizer Beam

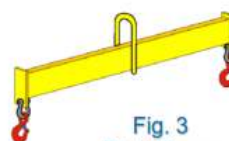


Fig. 3
Rigid Beam