

	AI TAKAMUL COMPANY FOR ENGINEERING TESTS AND PROFESSIONAL SAFETY LIMITED Lifting Inspection	Doc No: QC-LIF-P-014
		Level: 3
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Title: Inspection Procedure of Hooks		Rev: 2
Established By: Ashraf Elsaid	Position: Lifting Supervisor	Date: JULY-2022
Approved By: Ahmed Mohamed	Position: Operation Manager	

Inspection Procedure of Hooks

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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 hooks.

3. REFERENCE STANDARDS:

BS EN 1677- 2: 2000 + A1: 2008	<i>Components for slings: Safety- Part-2: Forged steel lifting hooks with latch (Grade 8)</i>
BS EN 1677-3:2001+A1:2008	<i>Components for slings. Safety. Forged steel self-locking hooks. Grade 8</i>
BS EN 1677- 5: 2001 + A1: 2008	<i>Components for slings-Safety-Part-5: Forged steel lifting hooks with latch (Grade 4)</i>
ASME B30.10 - 2019	HOOKS - SAFETY STANDARD FOR CABLEWAYS, CRANES, DERRICKS, HOISTS, HOOKS, JACKS, AND SLINGS
B30.20	Below-the-Hook Lifting Devices

4. THOROUGH EXAMINATION:

Inspection intervals of hooks shall not exceed six months.

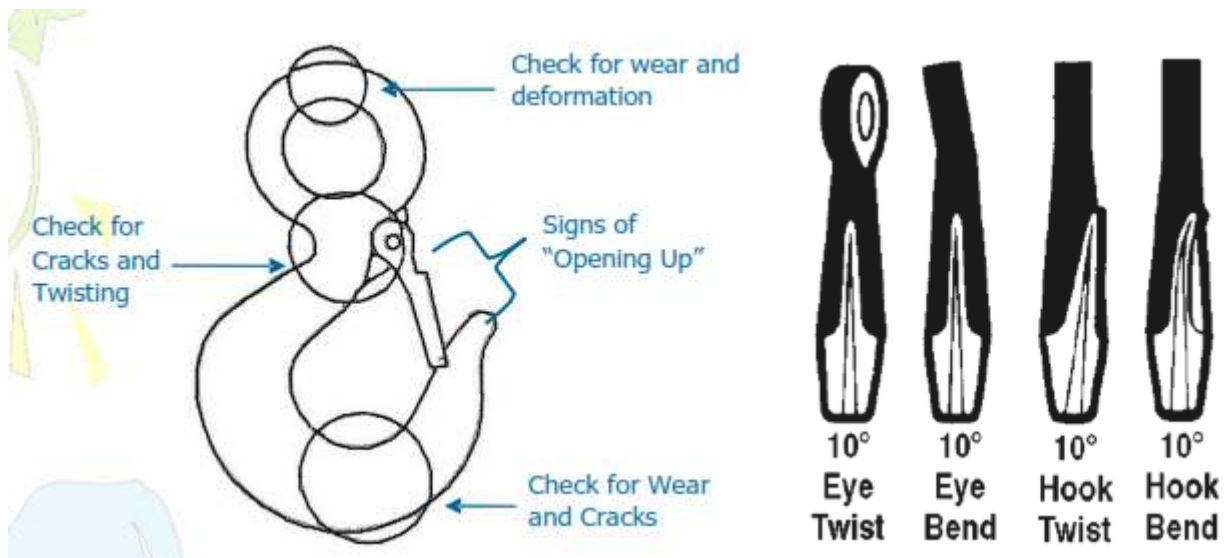
Hooks shall be checked for the following points:

- The manufacturer's test certificate of the hook and any previous periodic-inspection certificate shall be available for review.
- WLL and identification mark are legible
- Distortion, ensure that the hook is not bent and check throat opening against manufacturers tables to ensure that there has been no overloading of the hook
- Checks with manufacturers tables to ensure correct size of hook is being used for safe working load.
- Examine self-locking hook for proper operation.
- examine hook for pitting corrosion (resulted whether by rust or acid attack).
- The hook must be checked for wear if this exceeds 8% of the original size then the hook must be removed from service
- Check securing and operation of safety latch if fitted



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- Examine cracks, nicks, and gouges



5. REJECTION CRITERIA:

If any of the following conditions are present in hooks, they shall be replaced from service (until repaired or replaced):

- Any bending or twisting exceeding (8°), or as recommended by manufacturer.
- Any wear exceeding 8% - or as recommended by manufacturer – of the original section dimension of the hook or its load pin
- Any self-locking hook that does not lock.
- Any latch that does not close the hook throat.

6. PROOF LOAD TEST:

Hooks shall be proof load tested prior to initial use when:

- New
- After repair.

Proof Load Test of hooks shall be carried out as described below:

- Prior to Proof Load Test of hooks, the qualified person shall ensure that Identification tag is present and identification number & (WLL) is correct and clearly marked.
- Inspection shall be carried out as described in (4. *Thorough Examination*)
- After satisfactory completion of inspection, the hook shall be fitted to a suitable jig where a breaking strength can be applied gradually, controlled by a certified Load Gauge.

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- Proof Load requirements: Hook shall be proof loaded to the following values:

TABLE (1): Proof Load Test requirements for hooks

WLL (Kg)	Proof Load (Kg)
WLL < 45,360	2 x WLL
45,360 ≤ WLL < 54,432	1.93 x WLL
54,432 ≤ WLL < 90,720	1.83 x WLL
90,720 ≤ WLL < 113,400	1.66 x WLL
113,400 ≤ WLL	1.33 x WLL

- Proof Load shall be applied for minimum of (15 sec).
- The hook shall withstand the proof load without permanent deformation except that the permanent increase of throat opening is allowed maximum for 1% or 0.5mm, whichever is greater.
- For duplex (rams-horn) hooks with a pin hole the proof load shall be as per table above. The load on the hook shall be distributed evenly between two prongs.
- During the test the hook shall be visually examined to ensure no faults, cracking or excessive deformation had taken place.



After the test the hook shall be measured and compared with previous measurements to ensure that test criteria are satisfied.

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7. MARKING:

Each hook shall be legibly and indelibly marked in a place where the marking will not be removed by use and in a manner that will not impair the mechanical properties. This marking shall include at least the following information:

- a) code number;
- b) the grade number;
- c) the manufacturer's name, symbol or mark;
- d) the traceability code.

NOTE Item a) is the code number which identifies WLL of the hook (as per BS EN 1677).

If the item is not already marked, it shall be clearly stamped or marked with an identification number and if the test is satisfactory, the WLL and date of the test.

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