حكومة دبي
GOVERNMENT OF DUBAI

مركز الإمارات العالمي للاعتماد
Emirates International Accreditation Centre

مركز الإمارات العالمي للاعتماد

Emirates International Accreditation Centre

المتطلبات العامة لاعتماد جهات التفتيش العاملة في مجال معدات الرفع واكسيسواراتها

Accreditation Requirements for Inspection Bodies working in the field of Lifting Equipment & Lifting Accessories

EIAC-RQ-IB-002

Signatories	
Approved:	Director, Inspection Bodies Accreditation Department

Revision history			
Issue no.	**Rev. No.**	**Details**	**Date**
1	00	First Issue for use under EIAC Name	15-11-2018
1	01	Modify Clause 6: References	20-10-2019
1	02	Correct the competency of Inspector for IB Level 2 mentioned in Annex A	19-05-2020
1	03	Revised due to the incorporation of the new identity of the Dubai Government	23-07-2024
1	04	Revised due to a modification in the Definitions section (move the definition of 'Critical Components and Areas' to EIAC-RQ-IB-001)	04-10-2024

This document and all its contents are property of Emirates International Accreditation Centre (EIAC). The content is protected by copyrights laws.
Any printed copy of it shall be treated as 'Uncontrolled'. Always refer to the controlled online version.

CONTENTS

This document and all its contents are property of Emirates International Accreditation Centre (EIAC). The content is protected by copyrights laws. Any printed copy of it shall be treated as 'Uncontrolled'. Always refer to the controlled online version.

1 Scope

1.1 Inspection Services:

This document, including its Annexes – where applicable, is used as accreditation criteria, along with ISO 17020 standard, for Inspection Bodies (IBs) inspecting Lifting Equipment and Lifting Accessories.

1.2 Type of Inspections

This document will cover the following types of inspection:

a) Initial Approval
b) Design Review
c) Inspection of Manufacturing Process
d) Initial Inspection
e) Periodic Inspection

Major Inspection

This document and all its contents are property of Emirates International Accreditation Centre (EIAC). The content is protected by copyrights laws. Any printed copy of it shall be treated as 'Uncontrolled'. Always refer to the controlled online version.

2 Definitions

2.1 Accredited Inspection Body

An Inspection Body (IB) that is accredited by an internationally recognized Accreditation Body (AB).

2.2 Lifting Equipment

Any lifting machine/device, whether powered, manually, mechanically or electrically, and that is able to move, either vertically or horizontally or both, or suspend loads, including the supporting structures and related parts used in connection with such a machine, but excludes continuous mechanical handling devices (i.e. conveyors), such as but not limited to:

f) Cranes (tower, mobile, overhead etc),
g) Wall/Pillar Cranes, Derricks, Swing Jibs and Davits,
h) Runway Beams, Monorails, all Pad Eyes, Gin Poles and Gin Wheels,
i) Winches, Hoists (air and electric), Crabs, Chain Blocks, Lever Hoists, Jaw Winches
j) Pull Lifts, Trolleys,
k) Elevators/Lifts
l) Escalator,
m) Forklifts, Self Loader and Side Booms,
n) Lifting Jacks (pneumatic or hydraulic).

2.3 Lifting Accessories, or Loose Lifting Gear

Any item used to connect a load to the Lifting Equipment, but which is not in itself a part of the load or the Equipment, such as:

a) Chain Slings,
b) Wire Rope Slings,
c) Webbing Slings, Round Slings
d) Rings,
e) Links,
f) Hooks,
g) Shackles,
h) Eye Bolts,
i) Swivels,
j) Snatch Blocks,
k) Beam Clamps and Plate Clamps,
l) Lifting Beams/Spreader Beams.

2.4 An “Equipment”

By itself (stand-alone), in this context, refers to all types of products defined in 2.3

This document and all its contents are property of Emirates International Accreditation Centre (EIAC). The content is protected by copyrights laws. Any printed copy of it shall be treated as ‘Uncontrolled’. Always refer to the controlled online version.

2.5 Major Repair/Alteration

It is a repair that affects either the quantum of the load lifting capacity, or changes to its function or methods of controlling those functions, therefore change in design, such as (but not limited to) the followings:

a) Increase of the safe working load or an increase in performance,
b) Increase of the rated speeds,
c) Alteration to load carrying parts (e.g. anchorages, spelter sockets, primary structures, etc), and
d) Repair or alteration that affects strength and/or stability.

2.6 Repair/Alteration

Restoring the original state of an Equipment by rebuilding or exchanging parts or units or the following changes (but not limited to):

a) Increase of the reach (outreach, lifting height, etc),
b) Alteration of current or voltage,
c) Alteration to safety devices,
d) Alteration to driving mechanisms and controls, and
e) Alteration of guiding rails.

2.7 Inspection

Any physical activity, related to ensuring that an Equipment, in its entirety, and at a given location or environment, meets the specified design and operating Standards and is safe to operate for a specified period. The period is defined by the fact that the Equipment should remain always the same.

2.8 Nondestructive Testing (NDT)

NDT is a wide group of analysis techniques used in science and industry to evaluate the properties of a material, component or system without causing damage.

2.9 Load

Any material, persons, or any combination of these, that are lifted, lowered or suspended by an Equipment.

2.10 Working Load Limit (WLL)

Maximum load (mass) an Equipment may bear safely in the most efficient configuration.

2.11 Safe Working Limit (SWL)

Maximum load (mass) an Equipment may bear safely in a particular configuration (i.e. a sling used in a chocked condition its safe working load is approximately 0.8 of its WLL).

2.12 Load Test

The application of a predetermined load to assess the ability of the Equipment to withstand its SWL.

This document and all its contents are property of Emirates International Accreditation Centre (EIAC). The content is protected by copyrights laws. Any printed copy of it shall be treated as 'Uncontrolled'. Always refer to the controlled online version.

2.13 Proof Load Test

The application of a predetermined load excess of SWL to assess the ability of the Equipment to withstand operation requirements. This applied proof load shall never exceed the elastic limit of the item being tested.

2.14 Factor of Safety (FOS) or Coefficient of Utilization or Working Coefficient

The factor of safety is the ratio between Minimum Breaking Load (MBL) and WLL work load limit. It varies with the product to take account of the susceptibility to damage and considers the type of stresses the item will withstand in normal use. Where the conditions of use are more severe than those considered by the product standard, the user would apply an increased FOS, so reducing the value of the SWL from that of the WLL.

2.15 Inspection Certificate

Certificate issued by EIAC accredited Inspection Body (IB), to indicate compliance of Equipment with safety requirements and its fitness for use.

2.16 Inspection Report

Report issued by a EIAC accredited IB, when the Equipment do not comply with the requirements of the relevant standards, with full description as to why the Equipment failed the inspection.

2.17 Initial Approval

It is a Certificate issued to an Equipment indicating compliance of Design, Manufacturing Process and Initial Inspection.

2.18 Design Review

It is the process of reviewing the design of particular Equipment to meet a certain standard requirement before put into production.

2.19 Inspection of Manufacturing Process

It is the process of inspecting the manufacturing/repairing process for an Equipment against its reviewed [approved] design.

2.20 Initial Inspection

It is an Inspection after production for commissioning purpose.

2.21 Periodic Inspection

It is a Thorough Inspection that includes visual, functional and load testing (where applicable) an Equipment that was already installed/commissioned and operational, or after being repaired/altered.

The inspection shall also take into consideration the reviewed [approved] design, risks involved, including the location of the Equipment and its surrounding environment that can jeopardize compliance to the requirement of the inspection standard and, in some cases, the IB may require to witness some of the installation processes on-

This document and all its contents are property of Emirates International Accreditation Centre (EIAC). The content is protected by copyrights laws. Any printed copy of it shall be treated as 'Uncontrolled'. Always refer to the controlled online version.

site; critical stages of the installation may require inspector's verification. The Equipment shall never be proof load tested during the Periodic [Thorough] Inspection.

Note 1: The inspection period is based on a normal working day of up to 8 hrs and a 5/6-day working week (approximately 2400 hours/annum). When usage of the Lifting Equipment exceeds these figures, the Inspection Body must specify exactly, in writing, what the period of these inspections is. Factors such as the environment, frequency and type of usage, quality of maintenance shall be taken into account prior to establishing the period of the inspection. It is the responsibility of the Equipment owner to inform the Inspection Body with regards to the figures and conditions under which the Equipment were used.

Note 2: As a result of a periodic inspection, the Inspection Body may recommend a major inspection if deemed necessary.

2.22 Major Inspection

Inspection, that includes visual, functional and proof load test, in accordance with the manufacturers' recommendation and inspection standards' requirement, to assess the suitability of the Equipment for continued safe operation when:

a) An inspection after major repair/alteration.
b) Cranes that have reached the end of their design life or, where this is unknown, after 25 years for the structure and 10 years for the mechanical components.
c) Old Equipment that are to be re-commissioned after reviewing their designs and assuring that they are in compliance with the current standard requirements.
d) Equipment that went through Major Repair.
e) Equipment that was upgraded or modified.
f) At Inspector's discretion.

2.23 Related Authority

Regulatory bodies, regulating the work of Equipment and their owners/users, such as in the Emirate of Dubai, Dubai Municipality (i.e. Public Health and Safety Department, Building Department, Environmental Department), Department of Civil Aviation, Dubai Ports Authority-Ports Customs & Free Zone Corporation, Jebel Ali Free Zone Authority (JAFZA), Dubai Civil Defense, and other Free Zone Authorities.

2.24 Shall

The word Shall is used when stating a mandatory requirement.

2.25 Should

The word Should is used when the statement is advisory

This document and all its contents are property of Emirates International Accreditation Centre (EIAC). The content is protected by copyrights laws. Any printed copy of it shall be treated as 'Uncontrolled'. Always refer to the controlled online version.

3 Specific Criteria for Competence

3.1 Requirements for Technical Competence of Staff:

3.1.1 The inspection body shall assess the competence of all categories of persons involved in inspection process. No under-training inspector shall be allowed to perform inspection activities independently under any circumstances.

3.1.2 The minimum number of the technical staff and their educational background, qualifications, competence and experience, for each level, is stipulated in

3.1.3 Annex A

3.2 Levels of Supervision and Requirements for Technical Support

Following are the classified levels of supervision that must be exerted by the Inspection Bodies and circumstances under which they shall be exerted:

3.3 Occasional (on Senior Inspectors)

If the senior inspector is the highest level of competence in the IB then he/she is responsible for holding sufficient records that proves review of his work has been done as per this requirement either by him or by any of his peers. Otherwise, if he has a higher authority supervising him, at least annual review is necessary.

3.4 Frequent (on inspectors)

Direct contact with Supervisor at least weekly. Technical support from qualified senior inspectors to be readily available.

3.5 Constant (on inspectors under-training)

Direct daily contact with Supervisor. Technical support from qualified senior inspectors to be readily available.

3.6 Training Needs

The training shall include:

a) Safe conduct of the inspectors' duties, in particular safe practices applicable to Lifting Equipment.
b) Risk assessment.
c) Knowledge of applicable statutory requirements.
d) Codes of practice and standards.

This document and all its contents are property of Emirates International Accreditation Centre (EIAC). The content is protected by copyrights laws. Any printed copy of it shall be treated as 'Uncontrolled'. Always refer to the controlled online version.

4 Requirements for Site[1] Work

4.1 Preparation for Site work:

a) The Inspection Body shall allocate inspection activities based from the work program for each inspector in the form of Work Orders. Work Orders to be used by inspectors on site shall contain the following information as minimum:

- Identifiable number traceable to the client request/contract;
- Type of the Equipment and related information about critical items to be inspected;
- Site location (site map is recommended to be provided);
- Instructions for inspections; and,
- Contact person on behalf of the IB's client

b) Upon arriving at any inspection site, there shall also be an obligation from the IB for the inspector to enquire the following information:

- Information about previous inspections.
- If the Inspector cannot obtain sufficient information, the inspection must be treated like an Initial Inspection.
- Equipment design reviewed by an accredited IB (if accredited IBs are within reach/available).

[1] Site: Place at which inspection is being undertaken.

This document and all its contents are property of Emirates International Accreditation Centre (EIAC). The content is protected by copyrights laws. Any printed copy of it shall be treated as 'Uncontrolled'. Always refer to the controlled online version.

5 Inspection Methods and Procedures

5.1 Methods and Procedures to be used:

The Inspection Body shall use the relevant up-to-date international standards for the inspection.

5.2 In addition to the relevant international standards, the manufacturer's technical literature applicable to the Equipment shall also be part of the inspection methods.

5.3 Initial Approval

5.3.1 The Initial Approval shall be given in a form of Certificate to an Equipment by a EIAC accredited IB after issuing the following Reports:

a) Design Review;
b) Inspection of Manufacturing Process; and,
c) Initial Inspection.

5.3.2 In case the design of completely identical Equipment has been previously reviewed by the same IB, the design review scope for the new Equipment can be reduced to verifying the design basis (design standards, local law and load assumptions) and comparing the design documents for the new Equipment for compliance to the already reviewed documents. New set of design review documentation shall be issued. This applies only when no copyrights/personal rights are being violated.

5.4 Periodic Inspection

5.4.1 All Equipment shall be thoroughly inspected against the relevant inspection standard as well as the Initial Approval documents, where applicable.

5.4.2 The IB Shall ensure that underground footing foundation and/or attachment(s) to a structure has been adequately verified (in however format), for the following Equipment (not limited to):

a) Tower Crane
b) Window Cradle
c) Construction Hoist
d) Elevator
e) Escalator

5.4.3 The IB shall verify that installation is in compliance with the reviewed design, where applicable.

5.5 Major Inspection

5.5.1 IBs shall ensure Equipment that were majorly repaired are subjected to Major Inspection.

5.5.2 Major Inspection shall include the following:

a) Design Review to the extent of the major repair and its effect on the total system;
b) Repair Inspection;

This document and all its contents are property of Emirates International Accreditation Centre (EIAC). The content is protected by copyrights laws. Any printed copy of it shall be treated as 'Uncontrolled'. Always refer to the controlled online version.

c) Visual Inspection;

d) Functional Test; and,

e) Proof Load Test.

6 References

6.1 ISO/IEC 17020:2012 Conformity assessment — Requirements for the operation of various types of bodies performing inspection.

6.2 ILAC-P15:07/2016: Application of ISO/IEC 17020:2012 for the Accreditation of Inspection Bodies.

This document and all its contents are property of Emirates International Accreditation Centre (EIAC). The content is protected by copyrights laws. Any printed copy of it shall be treated as 'Uncontrolled'. Always refer to the controlled online version.

7 Annex A

Minimum number of permanent staff:

Lifting Equipment and Lifting Accessories						
Inspector (or, however named)						
IB Level	**Mechanical**	**Structural (Civil)**	**Electrical**	**Experience (for each principle)**	**Type of Inspection**	**Total Minimum Number**
	Number of staff	**Number of staff**	**Number of staff**			

1	**Degree**	**Degree**	**Degree**	B.Sc. Engineering Degree, shall have at least 4 years experience working within an engineering discipline related to Lifting Equipment[2].	• Initial Approval
					  ○ Design Review
					  ○ Inspection of Manufacturing Process
					  ○ Initial Inspection
					• Major Inspection
					• Periodic Inspection
						3

	1	**1**	**1**			
2	**Degree/ Diploma**	**Degree/ Diploma**	**Degree/ Diploma**	B.Sc. Engineering Degree, shall have at least 2 years experience working within an engineering discipline related to Lifting Equipment[2]. Diploma in Engineering discipline, shall have at least 6 years experience working within an engineering discipline related to Lifting Equipment[2].	• Periodic Inspection	1
	1 of any discipline					
Chief/Senior Inspector/Technical Manager (or, however named)[2]						
Inspector (or, however named)						
IB Level	**Level of Qualification**			**Experience**		**Total Minimum Number**
	Mechanical	**Structural (Civil)**	**Electrical**			
All	Degree in any discipline			6 years experience working within an engineering discipline related to Lifting Equipment[3].		1

[2] *NOTE: Chief/Senior Inspector/Technical Manager (or, however named) can count for an inspector.*

[3] *NOTE: Or, Lifting Accessories, in case the IB was only accredited for Lifting Accessories.*

This document and all its contents are property of Emirates International Accreditation Centre (EIAC). The content is protected by copyrights laws. Any printed copy of it shall be treated as 'Uncontrolled'. Always refer to the controlled online version.

8 Annex B

Inspection frequencies for IBs working in the Emirate of Dubai are summarized in the below table, taking into account that any Equipment (what so ever) utilized to lift persons shall be inspected within a period not greater than 6 months:

Equipment Type	Major Inspection (Proof Load Test[i])	Periodic Inspection (Load Test)
Lifting Equipment, including (but not limited to): Tower crane, Overhead traveling crane, Mobile crane, Forklift, Pedestal crane, Hoist, Derrick, Wall/pillar crane, Runway beam, Winch, and Vehicle lift.	During Initial Inspection During Major Inspection At discretion of survey	Every twelve (12) months
Lifting Equipment used for lifting persons, including (but not limited to): Crane used for man-riding duties, Window cradle, Construction hoist, Powered working platform (MEWP), Suspended/man basket, and Elevator.	During Initial Inspection During Major Inspection At discretion of survey	Every six (6) months
Other Lifting Equipment, used for lifting goods and person that are cannot be subjected to proof load test, including (but not limited to): Escalator, and Passenger conveyer.	During Initial Inspection During Major Inspection At discretion of survey	Every six (6) months (excluding load test)
Other Lifting Equipment, used for lifting goods and person that are cannot be subjected to proof load test, including (but not limited to): Escalator, and Passenger conveyer.	During Initial Inspection During Major Inspection At discretion of survey	Every six (6) months (excluding load test)

This document and all its contents are property of Emirates International Accreditation Centre (EIAC). The content is protected by copyrights laws. Any printed copy of it shall be treated as 'Uncontrolled'. Always refer to the controlled online version.

Equipment Type	Major Inspection (Proof Load Test[ii])	Periodic Inspection (Load Test)
Manual Lifting Equipment, including (but not limited to): Chain Block, Pulley, and Mobile or movable jack.	During Initial Inspection During Major Inspection At discretion of survey	Every six (6) months
Lifting Accessories, including (but not limited to): Chain slings and wire rope slings, Ring, Link, Hook, Shackle, Eyebolt, Swivel, Snatch block, Pad eye, Beam clamp, Plate clamp, Lifting beam, and Webbing sling and round sling, Cargo net	During Initial Inspection At discretion of survey	Every six (6) months (excluding load test)

[i] Proof load shall be in accordance with the manufacturers' recommendation and inspection standards' requirement.

[ii] Proof load shall be in accordance with the manufacturers' recommendation and inspection standards' requirement.

This document and all its contents are property of Emirates International Accreditation Centre (EIAC). The content is protected by copyrights laws. Any printed copy of it shall be treated as 'Uncontrolled'. Always refer to the controlled online version.