



INDUSTRY GUIDANCE NOTE

TOPIC: Lifting Operation			Reference Number: IGN 01/2019
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LIFTING OPERATIONS

Note to Employers, Owners, Users and Inspectors of Cranes and Lifting Equipment and Principals.

1. SUMMARY

This Industry Guidance Note (hereinafter referred to as IGN), which is issued by the Safety, Health and Environment National Authority (SHENA), acts as a guidance to all employers and users of cranes and lifting equipment to comply with the laws relating to workplace safety.

The Workplace Safety and Health Order, 2009, and the Workplace Safety and Health (Construction) Regulations, 2014 and the Workplace Safety and Health (General Provisions) Regulations, 2014 place duties on persons and employers who own, operate or have control over any lifting equipment. This includes all organisations whose employees are involved in the use of a lifting equipment, whether owned by them or not. All lifting operations involving lifting equipment must be properly planned by a competent person, appropriately supervised and carried out in a safe manner.

The legislation also require that all equipment used for lifting is fit for purpose, appropriate for the task, suitably marked and subject to certification and statutory periodic thorough examination and inspection by an authorised examiner. Records must be kept of all thorough examinations and inspections and any defect or failure found by the authorised examiner on the lifting equipment (accessories) must be reported to the person responsible for the equipment; and any defect or failure found by any person including the authorised examiner or the competent person as the case may be, on lifting machines such as cranes including any crane accident must be reported immediately to both the person responsible for the lifting machine and SHENA.

2. INTRODUCTION

What is a lifting operation?

A lifting operation is an operation concerned with the lifting or lowering of a load. A load is an item or items being lifted, which includes objects or persons.

Kindly refer to Appendix A for different types of lifting equipment and how to control and manage the risk at the workplace.

What is a lifting equipment?

Lifting equipment means any work equipment for lifting and lowering loads. This includes lifting accessories and attachments used for anchoring, fixing or supporting the equipment.

Examples of lifting equipment (lifting appliances, lifting gears and lifting machine) include:

- overhead cranes and their supporting runways;
- motor vehicle lifts;
- mobile cranes and cranes fitted to vehicles (Hiab Truck);
- a building cleaning cradle and its suspension equipment;
- goods and passenger lifts;
- telehandlers and fork lifts;
- lifting appliance includes a pulley block, gin wheel and chain block or set of chain blocks;
- lifting gears include any chain, rope, chain sling, webbing sling, rope sling, hook, shackle, swivel or eyebolt and cage, basket or work platform used for carrying persons while it is suspended from the load line of a crane, container, skid, spreader bar etc.; and
- lifting machine includes any crane etc.

3. PRIOR TO UNDERTAKING ANY LIFTING OPERATION

What should you do?

If your organisation undertakes lifting operations or is involved in providing lifting equipment for others to use, you must manage and control the risks to avoid any injury to persons or damage to asset or the environment.

Where you undertake lifting operations you must-

- plan them properly;
- use people who are sufficiently trained and competent example crane operator, rigger and banksman;
- supervise the activities appropriately;
- ensure that the activities are carried out in a safe manner; and
- ensure all lifting equipment (including accessories and machines) possess a valid certificate from an authorised examiner.

3.1 Selecting The Right Lifting Equipment

- Legislation require that lifting equipment must be of adequate strength and stability.
- Lifting equipment should be positioned or installed in such a way as to reduce the risk, as low as reasonably practicable (ALARP), of the equipment or load striking a person, or of the load drifting, falling freely or being unintentionally released.

Where people are being lifted, there are additional requirements to prevent people from being injured in or by the carrier e.g. man riding appliances shall be fitted with dual brake and emergency lowering system, more frequent thorough examinations (six months instead of 12 months), etc. Man basket should have 10:1 design factor, handrail, overhead guard, door should be opened from outside, etc.

3.2 Marking Of Lifting Equipment

All lifting equipment, including any accessories involved, must be clearly marked to indicate their 'Safe Working Loads' (SWL) - the maximum load the equipment can safely lift and valid color coded. Where the SWL of any equipment or accessory depends on its configuration, the information provided on the SWL must reflect all potential configurations such as load chart for the crane shall be kept at the crane cabin. In some cases, the information should be kept with the lifting machinery, e.g. the rated capacity indicator fitted to a crane, showing the operator the SWL for any of the crane's permitted lifting configurations, etc. Date of inspection and due date of the inspection shall be marked on the lifting machine and should be visible.

Lifting accessories must also be marked to show any characteristics that might affect their safe use. Where equipment is used to lift persons, it should be marked to indicate the number of persons that can be lifted in addition to the SWL of the equipment. Lifting equipment which is not designed for lifting people must be clearly marked to indicate it should not be used to lift people.

3.3 Planning, Organising and Carrying Out Lifting Operations

All lifting operations involving lifting equipment must be:

- properly planned by a competent person e.g. person in charge (PIC);
- appropriately supervised;
- carried out in a safe manner (such as lifting plan, risk assessment, toolbox talk); and
- in possession of relevant permit to work.

In planning any lifting operation, the identification and assessment of risk is key to identifying the most appropriate equipment and method for the job.

Lifting operations range from:

- the very simple and commonplace, where minimal on-the-job planning by trained, competent people may be all that is needed to manage risk; to
- Very complex operations, which require sophisticated and detailed planning/records, with very high levels of expert input, monitoring and supervision – undertaken by specially trained personnel.

The complexity of the plan and the extent of the resources used to manage risk must reflect the complexity and difficulty of the lifting operation.

3.4 Thorough Examination and Inspection

Lifting equipment must be thoroughly examined by an authorised examiner. Examinations and inspections are required in a number of situations, including:

- Where it is put into service for the first time (unless there is a valid Declaration of Conformity made less than 12 months earlier);
- Where it depends on installation, or re-installation/assembly at another site; or
- Where it is exposed to conditions which can cause deterioration resulting in danger.

Records must be kept of all thorough examinations, and inspections should be made and held by the equipment owner and any defect or failure found by the authorised examiner on the lifting equipment (accessories) must be reported to the person

responsible for the equipment; and any defect or failure found by any person including the authorised examiner or the competent person as the case may be, on lifting machines such as cranes including any crane accident must be reported immediately to both the person responsible for the lifting machine and SHENA.

How often must a lifting equipment be examined and inspected?

You must have lifting equipment thoroughly examined and inspected:

- where it is put into service for the first time – unless the equipment has a Declaration of Conformity less than one year old and was not assembled on site. If it was assembled on site, it must be examined by an authorised examiner or the competent person to establish the assembly was correct and safe, e.g. a platform lift installed in a building; or
- after assembly and before use at each location for equipment that requires assembly or installation before use, e.g. tower cranes; or
- where it is regularly in service: - for lifting machines every 12 months (unless for man-riding equipment every six months), for lifting accessories (gears) every 6 months.

General Notice

Any organisation involved with lifting equipment and operations, such as training providers, inspection bodies, authorised examiners, crane owners, construction companies, crane maintenance companies and any person who plans to erect any tower cranes, etc. shall be required to register with SHENA.

Please ensure widest cascade across your organisation. For further details or queries, please refer to info@shena.gov.bn.

APPENDIX A

<p align="center">Offshore Crane Mobile Crane</p>	<p align="center">Overhead Travelling Crane Truck Mounted Crane (Hiab Truck)</p>	<p align="center">Runway Beam Connected with Chain Block</p>	<p align="center">Forklift Truck (FLT)</p>
Trained and Certified Crane Operator	Trained and Certified Crane Operator	Trained and Certified Rigger	Trained and Certified Fork Lift Truck Operator
Specific Crane Checklist	Specific Crane Checklist	Specific Runway beam & Chain Block Checklist	Specific Pre-start inspection checklist.
Lifting Equipment maximum load rating visible and legible	Lifting Equipment maximum load rating visible and legible	Lifting Equipment maximum load rating visible and legible	Fork Lift maximum load rating visible and legible
Equipment, lifting points of the load and lifting tackles need a valid certificate	Equipment, lifting points of the load and lifting tackles need a valid certificate	Equipment, lifting points of the load and lifting tackles need a valid certificate	Equipment and attachment (if applicable) need a valid certificate
Certified Banksman and Rigger to assist lifting operation	Banksman in case of blind lift.	Banksman in case of blind lift.	Banksman to control the traffic and aid the Operator.

Sample guidance of different lifting equipment with control measures