

SOP 10 – Safe lifting operations

S10.1 Purpose

This procedure is prepared to ensure effective management on Lifting Operation and Lifting Accessories to minimize risk due to the material handling operation.

S10.2 Scope

The procedure is applicable to EESL program's facilities to fulfill the general and also the legislative requirement.

S10.3 Control of Lifting Equipment

Lifts utilizing cranes, hoists, or other mechanical lifting devices will not commence unless:

- An assessment of the lift has been completed and the lift method and equipment has been determined by a competent person;
- Operators of powered, lifting devices are trained and certified for that equipment;
- Rigging of the load is carried out by a competent person;
- Lifting devices and equipment has been certified for use within the last six (6) months (at a minimum);
- Load does not exceed dynamic and/or static capacities of the lifting equipment;
- Any safety devices installed on lifting equipment are operational;
- All lifting devices and equipment have been visually examined before each lift by a competent person.
- Ensure no one standing or working below suspended load.

S10.4 Precautions to be followed for custom-made lifting devices

Any custom-made lifting device must be:

- Designed by a qualified person
- Designed with a safety factor of 5
- Proof tested to 125% of rated capacity
- Marked with the rated capacity
- Certified by a competent body
- Inspected every 6 months

S10.5 Handling and Storage of lifting devices

Proper handling of lifting devices is essential to ensure long-term usability of the equipment

- Wire ropes must never be allowed to lie on the ground for any length of time or on damp or wet surface, rusty steel or near corrosive substances. They must be stored in a clean dry place; wire rope slings must be cleaned after use, inspected and hung on pegs to prevent corrosion and kinking
- Lifting accessories must be stored in conditions that do not lead to damage or deterioration.
- Slings must be hung up to prevent damage

- Chain blocks, turn buckles, chains and similar tackle should be hung up and Lightly oiled
- All rope must be kept away from flame cutting and electric welding operations
- Avoid contact between any sling and solvents and chemicals.
- Suitable precautions should be taken to prevent any sharp edges of loads coming into contact with slings

S10.5.1 Thorough Examinations and Inspections of lifting devices

Any new equipment that has not been used before are accompanied by a test certificate/declaration of conformity, which confirms that the equipment has undergone a thorough examination (not more than 12 months previously) and specifying the Safe Working Load, prior to first use. A thorough examination is to be performed following the repair or replacement of a structural component. All other lifting Equipment must undergo a thorough examination at least every 12 months. For passenger lift in Administrative Building, it is ensured that the passenger lift is safe to use and that it receives periodic thorough examinations and inspections, in accordance with local regulations. Lifting accessories / attachments must be visually inspected on each occasion before use.

S10.6 Planning and Control of Lifting Operations

S10.6.1 Categorization of Lifting Operations

Lifting operations are categorized as routine operations if they involve the following:

- Regular shop floor material movement
- Fork-lift trucks in a warehouse
- Construction site hoist
- Mobile elevated work platform (MEWP) used for general maintenance
- A vehicle tail lift

S10.6.2 Risk Assessment of Lifting Plans

A risk assessment must be prepared for all lifting operations.

- For routine lifting operations an initial risk assessment and lifting plan is required but need not be repeated i.e. generic risk assessments and lifting plans may be used. However, they must be subject to regular documented reviews (at least annually) to ensure that they are still valid.
- Every lifting operation is planned and controlled by the concerned supervisor who ensures that safe procedures are undertaken. Factors to be considered when planning lifting operation include the following:
 - a) Identification of lifting operations to be performed and load characteristics; determine the load characteristics e.g. weight, center of gravity, stability, and physical size.
 - b) Making ample allowances for unknown factors, and determine the available capacity of the equipment being used. In cases where the assessment of load weight is difficult, safe load indicators of weighing devices must be fitted. It is equally important to rig the load so that it is stable. Unless the center of gravity of the load is below the hook, the load will shift.

- Identification and positioning of equipment to be used:
 - a) Determine lifting equipment position i.e. where it is to be sited to make the lift
 - b) Determine suitability of ground to ensure equipment stability i.e. is the ground sufficiently competent to support the predicted ground loading imposed by the lifting equipment and the load.

S10.6.3 Hire of Lifting Equipment and Services

The following precautions must be taken while hiring equipment for lifting operations

- All mobile cranes and lifting equipment brought onto Site must have valid test certificates to demonstrate they have been inspected before being allowed to operate on site.
- If lifting equipment or services are to be hired / purchased, responsibilities for supply of equipment, personnel and documentation must be agreed in the contract.

S10.7 Responsibility

While the responsibility of implementing the procedure lies on all EESL personnel, employees of the vendor, contractor and their supply chain actors, specific responsibilities have been allotted, keeping the significance of the standard in mind.

S10.7.1 Project head/in-charge/owner

Ensures that the procedure is followed during Lifting Operation

S10.7.2 EHSS Representative

Apart from the responsibility of implementing the entire EHSS manual and SOPs, the following specific responsibilities should be undertaken

- Ensures that only trained personnel are engaged.
- Conducts awareness programme for the personnel engaged on such jobs
- Monitor and audit implementation of this procedure

S10.7.3 Operational Managers / Maintenance Managers

- Responsible for proper deployment of trained personnel.
- Ensure proper lifting accessories are present.

S10.7.4 Competent Person

Responsible for periodic checking of lifting tools and accessories as per legal requirement.

S10.7.5 Employees

Employees' engaged in lifting operations must:

- Never put any part of their body under a suspended load
- Never ride a load while it is being lifted
- Be aware of suspended loads, signals of the operators and any lifting equipment supports
- Use lifting equipment as instructed and report any defects

S10.8 Records and documents for safe lifting operations

- Records of testing of Lifting Tools and Accessories
- Safety and preventive Training Records.

History of amendments

The latest versions of the Documentation Format must be used at all times. This page needs to be updated whenever there is a change in the version number of the documents.

S. No	Date of amendment	Version	Details of amendment
1.	DD.MM.YYYY	01	Initial approval of the documentation format

Prepared by

Approved by