

## **OCCUPATIONAL HEALTH AND SAFETY ACT OF 1993**

### **LIFTING MACHINES AND LIFTING TACKLE**

#### **ACT No. 85 SECTION 18**

1. No user shall use or permit the use of a lifting machine unless:
  - a) It has been designed and constructed in accordance with a generally accepted technical standard.
  - b) It is conspicuously and clearly marked with the maximum mass load which it is designed to carry with safety: provided that when this mass load varies with the conditions of use of a table showing the maximum mass load with respect to every variable condition shall be posted up by the user in a conspicuous place easily visible to the operator and;
  - c) It has at all times at least three full turns of rope on the drum of each winch which forms part of such a machine when such a winch has been run to its lowest limit.
2. The user shall, where practicable, provide every power driven lifting machine with:
  - a) A brake or other device capable of holding the maximum load should the power supply fail, or which is such that it will automatically prevent the uncontrolled downward movement of the load when the raising effort is interrupted; and
  - b) A limiting device which will automatically arrest the driving effort whenever any one of the following conditions occurs:
    - When the load reaches the highest and lowest safe position; or
    - When the load is greater than the rated mass load of the machine.
3. The user shall cause every chain or rope which forms an integral part of a lifting machine to have a factor of safety as prescribed by the standard to which such a machine was manufactured; provided that in the absence of such prescribed factor of safety, chains steel-wire ropes and fibre ropes shall have a factor of safety of at least four, five and ten, respectively, with respect to the rated carrying capacity of the lifting

machine.

4. The user shall cause every hook or any other load attaching device which forms an integral part of a lifting machine to be so designed or proportioned that accidental disconnection of the load under working conditions cannot take place.
5. The user shall cause the whole installation and all working parts of every lifting machine to be thoroughly examined and subjected to a performance test, as prescribed by the standard to which the lifting machine was manufactured, by a person who has knowledge and experience of the erection and maintenance of the type of lifting machine involved or similar machinery and who shall determine the serviceability of the structures, ropes machinery and safety devices before they are put into use following every time they are dismantled and re-erected, and thereafter at intervals not exceeding 12 months:

Provided that in the absence of such prescribed performance test the whole installation of the lifting machine shall be tested with 110 % of the rated mass load, applied over the complete lifting range of such machine and in such a manner that every part of the installation is stressed accordingly.

6. Notwithstanding the provisions of Sub Regulation (5) the user shall cause all ropes, chains, hooks or other attaching devices, sheaves, ratchets, pawls, lifting and lowering screws, rams, hydraulic systems, brakes and safety devices forming an integral part of a lifting machine to be thoroughly examined by a person contemplated in Sub Regulation (5) at intervals not exceeding six months.
7. Every user of a lifting machine shall keep on his premises a record which shall be open to inspection by an inspector in which he shall record all performance tests and examinations as contemplated in Sub Regulations (5) and (6) as well as all modifications and repairs to such lifting machines.
8. No user of machinery shall require or permit persons to be moved or supported by means of a lifting machine unless such a machine is fitted with a cradle approved for that purpose by an inspector.
9. Notwithstanding the provision of Sub Regulation (2) (b), no user shall use or permit any person to use a jib crane with a hoisting capacity of five tons or more unless it is fitted with at least:

- a) An automatic safe load indicator which requires no manual resetting or adjustment, from application of a load to the crane until the release of that load, using any motion or combination of motions permitted by the crane manufacturer to ensure safe lifting; or
- b) A limit device which will automatically arrest the driving effort whenever the load being lifted is greater than the rated mass load of the lifting machine.

10. No user shall use or allow the use of lifting tackle unless the following conditions are complied with, namely that:

- a) Every item of lifting tackle is well constructed of sound material, is strong enough and is free from patent defects and is in general constructed in accordance with a generally accepted technical standard.
- b) Every lifting assembly consisting of different items of lifting tackle is conspicuously and clearly marked with identification particulars and the maximum mass load, which it is, designed to lift with safety.
- c) Ropes or chain have a factor of safety with respect to the maximum mass load they are designed to lift with the safety of:

- Ten for natural fibre ropes;
- Six for man made fibre ropes or woven webbing;
- Six for steel wire ropes except for double part spliced endless sling legs and double part endless grommet sling legs made from steel wire rope, in which case the factor of safety shall at least eight;
- Five for steel chains; and
- Four for high tensile or alloy steel chains.

Provided that when the load is equally shared by two or more ropes or chains the factor of safety may be calculated in accordance with the sum of the breaking strengths taking into consideration the angle of loading.

- d) Steel wire ropes are discarded and not used again for lifting purposes if the rope shows excessive signs of wear, too many broken wires, corrosion or other defects that have made its use in any way dangerous.
- e) Such lifting tackle is examined at intervals not exceeding three months by a person contemplated in sub-regulation (5) who shall enter and sign the result of each such inspection in a book kept for this purpose, and
- f) Such lifting tackle is stored or protected so as to prevent damage or deteriorating when not in use.

11. The user shall ensure that every lifting machine is operated by an operator specifically trained for the particular type of lifting machine: provided that in the case of lift trucks and cranes the user shall not require or permit any person to operate such a lifting machine unless the operator is in possession of a valid certificate of training issued by a person or organisation approved for this purpose by the Chief Inspector.

**N.B. The user means either the owner, or the company management and not the lifting machine operator.**