



**OCCUPATIONAL HEALTH &
SAFETY ACT – SECTION 18**

DRIVEN MACHINERY REGULATIONS
MCMEGZ TRAINING COMPANY

DEFINITIONS

Block and Tackle – means a lifting device consisting of one or more pulley blocks reeved with fibre ropes, used solely for the raising and lowering of a load or for moving it horizontally, but does not include chain blocks, lever hoists or steel- wire rope pullers;

Capstan-Type Hoist – means a rotating machine used to control or to apply force to move or raise loads by traction on a rope or cable;

Competent Person – means a person who has the knowledge, training, experience and qualifications specific to the work performed: provided that where appropriate qualifications and training are registered in terms of the provisions of the South African Qualifications Authority Act, 1995, those qualifications and that training shall be deemed to be the required qualifications and training;

Hand-Powered Lifting Device – means a lifting device consisting of one or more sheave components reeved with chains, steel rope or fibre ropes, used solely for the raising and lowering of a load or for moving it horizontally and includes chain blocks, lever hoists, hand chain hoists, steel -wire rope pullers and winches, but does not include hand -powered hydraulic lifting devices;

Lifting Machine – means a power-driven machine that is designed and constructed for the purpose of raising or lowering a load or moving it in suspension, but does not include an elevator, escalator or hand powered lifting device;

Lifting Machinery Entity – means a legal entity approved and registered by the chief inspector in terms of regulation 19;

Lifting Machinery Inspector – means a person who is employed by a Lifting Machinery Entity and who is registered by the Engineering Council of South Africa in terms of the Engineering Profession Act, 2000 (Act No. 46 of 2000);

Lifting Tackle – means chain slings, wire rope slings, woven webbing slings, master links, hooks, shackles and swivels, eye bolts, lifting or spreader beams, tongs, ladles, coil lifters, plate lifting clamps and drum lifting clamps used to attach a load to a lifting machine;

Lift Truck – means a mobile lifting machine, but does not include –

- a) a vehicle designed solely for the purpose of lifting or towing another vehicle;
- b) a mobile earth -moving machine; or
- c) a vehicle designed solely for the removal of a waste bin;

Load Path – means all the parts of the lifting machine under stress during the lifting operation;

Man-Cage – means a platform enclosed on all sides, whether closed or open at the top, designed for the purpose of raising and lowering persons by means of a lifting machine, but does not include mobile elevated work platforms and suspended access platforms;

Point of Operation – means that place in a machine where material is positioned and where the actual work is performed;

Safe Working Load – means the mass load applicable to a piece of equipment or system as determined by a competent person taking into account the environment and operating conditions;

Thorough Examination – means examination or inspection to determine whether the equipment is safe to use;

Training Provider – means a training provider for lifting machinery operators approved and registered by the chief inspector in terms of regulation 20;

SECTION 18

LIFTING MACHINES, HAND-POWERED LIFTING DEVICES AND LIFTING TACKLE

- 18.1. No user may use or permit the use of a lifting machine or hand- powered lifting device 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 safe working load: provided that when such safe working load varies with the conditions of use of the manufacturer, a table showing the safe working load with regard to every variable condition shall be posted by the user in a conspicuous place easily visible to the operator;
 - c) the manufacturer's identification plate displaying the name of the manufacturer, the design standard, the serial or reference number and the country of origin is affixed to such machine;
 - d) and it has at all times at least three full turns of rope on the drum of each winch that forms part of such a machine when such winch has been run to its lowest limit, and that is controlled by an automatic cut -out device: provided that paragraphs (b) and (d) above shall not apply to capstan-type hoists.
- 18.2. The user shall ensure that every power- driven lifting machine is fitted with a brake or other device capable of holding the safe working load should –
- a) the power supply or lifting effort fail;
 - b) the load attachment point of the power- driven lifting machine reach its highest and lowest safe position; or
 - c) the load condition be greater than the rated load condition of that machine.
- 18.3. The user shall cause every chain or rope that forms part of the load path of a lifting machine or hand-powered lifting device to have the factor of safety prescribed by the standard to which that 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 10, respectively, with regard to the safe working load of that machine.

18.4. The user shall cause every hook or any other load- attaching device that forms part of the load path of a lifting machine or hand -powered lifting device to be so designed or proportioned that accidental disconnection of the load under working conditions cannot take place.

18.5.

- a) The user shall cause the entire installation and all working parts of every lifting machine or hand powered lifting device, as well as ancillary lifting equipment used with the machine or device, excluding lifting tackle to be subjected to a thorough examination and a performance test, as prescribed by the standard to which the lifting machine was manufactured, by a lifting machinery inspector of a lifting machinery entity, which shall determine the serviceability of the structures, ropes, machinery and safety devices before they are put into use and every time they are dismantled and re- erected, and thereafter at intervals not exceeding 12 months: provided that, in the absence of a manufacturing standard or a standard incorporated under section 44(1) of the Act, the whole installation of the lifting machine shall be tested with 110% of the safe working load applied over the complete lifting range of such machine and in such a manner that every part of the installation is stressed accordingly.
- b) The lifting machinery inspector of the lifting machinery entity referred to in paragraph (a) must have knowledge of the erection, load-testing and maintenance of the type of lifting machine or similar machinery involved.
- c) Notwithstanding paragraph (a), mobile cranes, self-erecting cranes and mobile elevated work platforms shall be excluded from the performance test after each re-deployment within the 12 - month period referred to in that paragraph.

18.6. Notwithstanding sub-regulation (5), the user shall cause all ropes, chains, hooks or other attaching devices, sheaves, brakes and safety devices forming an integral part of a lifting machine or hand –powered lifting device to be subjected to a thorough examination by a competent person at intervals not exceeding six months.

18.7.

- a) Every user of a lifting machine or hand -powered lifting device shall at all times keep on their premises a register in which the user shall record or cause to be recorded full particulars of any performance test and examination referred to in sub-regulations (5) and (6) and any modification or repair to such lifting machine or hand -powered lifting device, and shall ensure that the register is available on request for inspection by an inspector.
- b) Every user of a leased lifting machine or hand -powered lifting device shall at all times keep on their premises a register in which the user shall have the latest applicable performance test and service records not older than 12 months.
- c) The owner and the lessor of leased equipment shall keep and maintain full service history records on their premises for at least 10 years.

- 18.8. No user shall require or permit any person to be moved or supported by means of a lifting machine unless that machine is fitted with a man-cage designed and manufactured according to an approved SANS standard approved for that purpose by an inspector and after a risk assessment has been done.
- 18.9. No user shall use or permit any person to use any power- driven lifting machine unless it is provided with-
- a) in the case of a power-driven lifting machine with a lifting capacity of greater than 5 000 kg, a load indicator capable of indicating to the operator of the machine the mass of the load being lifted: provided that such device shall not require manual adjustment, from the application of the load to the power- driven lifting machine until the release of that load, using any motion or combination of motions permitted by the crane manufacturer to ensure safe lifting; and /or
 - b) a load- limiting device that will automatically arrest the driving effort whenever the load being lifted is greater than the safe working load of the power- driven lifting machine at that particular radius, using any motion or combination of motions permitted by the crane manufacturer to ensure safe lifting: provided that such device shall not arrest the driving effort when the power- driven lifting machine is being operated into a safer position: provided that power- driven lifting machines manufactured or refurbished prior to the commencement of these Regulations shall be deemed to comply with these Regulations.
- 18.10. No user may use or allow the use of any lifting tackle unless –
- a) every item of lifting tackle is well constructed of sound material, is strong enough, is free from defects and is 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 traceable identification particulars and the safe working load that it is designed to lift with safety;
 - c) the ropes, chains or woven webbing have a factor of safety with respect to the safe working load they are designed to lift; the safety factor being
 - I. 10 for natural -fibre ropes;
 - II. seven for man -made fibre ropes or woven webbing;
 - III. 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 be at least eight;
 - IV. five for steel chains; and
 - V. 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) all lifting tackle is inspected and discarded if such items show any sign of damage, defect, wear or distortion that would make them unsafe for use, as per manufacturer's specification; and
- e) such lifting tackle is examined at intervals not exceeding three months by a competent person, appointed by the user in writing for this purpose, who shall record and sign results of such examination.

18.11. The user shall ensure that every lifting machine is operated by an operator specifically trained for that particular type of lifting machine: provided that in the case of a lifting machine listed in the National Code of Practice for Training Providers of Lifting Machine Operators, the user shall not require or permit any person to operate such a lifting machine unless the operator is in possession of a certificate of training, issued by a training provider accredited by the Transport Seta approved for the purpose by the chief inspector.