

# Occupational health and safety act & regulations (85/1993)

Driven Machinery

## 18. Lifting machines and lifting tackle.

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- (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;  
(As amended by Par. 3(a) of G.N.R. 2483 dd.4/9/1992)
  - (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 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  
(As amended by Par. 3(b) of G.N.R. 2483 dd.4/9/1992)
  - (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.  
(As inserted by Par. 3(c) of G.N.R. 2483 dd.4/9/1992)
- (2) The user shall, where practicable, provide every power driven **lifting machine** with -
  - (a) a brake or other device capable of holding the maximum mass 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 when -
    - (i) the hook or load attachment point of the power-driven **lifting machine** reaches its highest safe position; and
    - (ii) in the case of a winch-operated lifting machine with a lifting capacity of 5000 kg or more, the load is greater than the rated mass load of such a machine.  
(As substituted by Par. 3(d) of G.N.R. 2483 dd.4/9/1992)
- (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 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 per cent 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.  
(As amended by Par. 3(e) of G.N.R. 2483 dd.4/9/1992)
- (6) Notwithstanding the provision of subregulation (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** to be thoroughly examined by a person contemplated in subregulation (5) at intervals not exceeding six months.
- (7) Every user of a **lifting machine** shall at all times keep on his premises a register in which he shall record or cause to be recorded full particulars of any performance test and examination prescribed by sub-regulations (5) and (6) and any modification or repair to the **lifting machine**, and shall ensure that the register is available on request for inspection by an inspector.  
(As substituted by Par. 3(f) of G.N.R. 2483 dd.4/9/1992)

## Occupational health and safety act & regulations

- (8) No user of machinery shall require or permit any person to be moved or supported by means of a lifting machine, unless such machine is fitted with a cradle approved for that purpose by an inspector.  
(As substituted by Par. 3(g) of G.N.R. 2483 dd.4/9/1992)
- (9) No user shall use or permit any person to use a jib crane with a lifting capacity of 5000kg or more at a minimum jib radius, unless it is provided with -
- (a) a load indicator which will indicate to the operator of the jib crane the mass of the load being lifted: Provided that such advice shall not require manual adjustment, from application of the load to the jib 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 limiting device which will automatically arrest the driving effort whenever the load being lifted is greater than the rated mass load of the jib crane, at the particular radius, using any motion or combination of motions permitted by the crane manufacturer to ensure safe lifting: Provided that such a device shall not arrest the driving effort when the *jib-crane* is being operated into a safer condition.
- (As substituted by Par. 3(h) of G.N.R. 2483 dd.4/9/1992)
- (10) No user shall use or allow the use of any **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 of chains have a factor of safety with respect to the maximum mass load they are designed to lift with safety of -
    - (i) ten for natural-fibre ropes;
    - (ii) six for man-made fibre ropes or woven webbing;
    - (iii) six for steel wire-rope except for double part spliced endless sling legs and double part endless grommet sling legs made from steel wire rope, in which 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) steel-wire ropes are discarded and not used again for lifting purposes if the rope shows signs of excessive 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 subregulation (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 deterioration when not in use.
- (11) The user shall ensure that every lifting machine is operated by an operator specifically trained for a particular type of lifting machine; Provided that in the case of lift trucks with a lifting capacity of 750 kg or more and jib-cranes with a lifting capacity of 5000 kg or more at minimum jib-radius, 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 person or organisation approved for this purpose by the Chief Inspector.