



**Lifting Equipment Engineers Association**

## **Guide to Documentation and Marking – Part 2 Powered Lifting Machines**

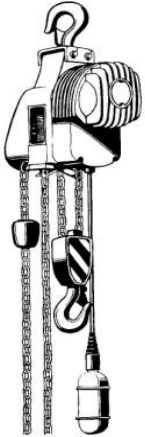
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### **Introduction.**

This guide is aimed at manufacturers, distributors and users of lifting equipment within the European Economic Area. It has been developed as a quick reference guide to ensure that lifting equipment is supplied with the correct documentation and marking as required by current legislation, standards and best practice guidance.

LEEA 059-2 is one of a series of guides related to documentation and marking of a range of generic forms of lifting equipment as listed below:

- Part 1 – Manual Lifting Machines
- Part 2 – Powered Lifting Machines
- Part 3 – Lifting Machine Supporting Structures
- Part 4 – Lifting Accessories, Non-fixed load lifting attachments.
- Part 5 – Lifting Accessories, Slings
- Part 6 – General accessories and Components for slings.

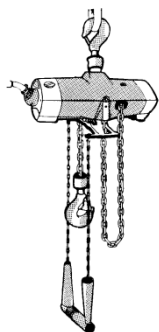
<b>Item &amp; Standard</b>	<b>Required Information</b>
<p><b>Power Operated Hoists</b></p> <p><b>Electric Hoist</b> Generally used where a permanent lifting facility is required in conjunction with either an overhead runway, jib crane or overhead travelling crane.</p>  <p><b>BS EN 14492-2 Cranes – Power Driven Winches &amp; Hoists – Part 2: Power Driven</b></p>	<p><b>Documents to be supplied in accordance with the relevant legislation &amp; relevant standard:</b></p> <ul style="list-style-type: none"> <li>- <b>EC Declaration of Conformity (Guidance LEEA 030.1e)</b></li> <li>- <b>Manufacturer’s instructions for use (Guidance LEEA SI.14.3)</b></li> </ul> <p><b>Marking requirements:</b></p> <ul style="list-style-type: none"> <li>- <b>CE Mark</b></li> <li>- <b>Business name and address of the manufacturer</b></li> <li>- <b>Designation of the machinery</b></li> <li>- <b>Type designation</b></li> <li>- <b>Identification number, if any</b></li> <li>- <b>Year of manufacture</b></li> <li>- <b>Explosion proof class (if applicable)</b></li> <li>- <b>IP rating</b></li> <li>- <b>Safe working load</b></li> <li>- <b>Range of lift</b></li> <li>- <b>Group of mechanisms.</b></li> <li>- <b>Details of lifting media, Chain diameter, pitch and grade or wire rope construction and minimum breaking force.</b></li> <li>- <b>Power supply information, voltage, phase(s), frequency, rated flow (hydraulics) and rated pressure (pneumatics).</b></li> <li>- <b>Motor size (kW)</b></li> <li>- <b>Rated hoisting speed.</b></li> <li>- <b>Rated traverse speed if fitted with combined trolley.</b></li> </ul> <p><i>Note if manufacturer does not provide a unique identification mark, then the owner of the equipment will be responsible for ensuring that the equipment is marked with one.</i></p>

## Hoists.

### LEEA COPSULE – Section 6

#### Pneumatic Hoist

Generally used where there is a requirement for a powered hoist but the use of an electric hoist is not allowed for safety reasons. Can be considerably smaller units than the equivalent electric powered chain hoist.



#### BS EN 14492-2 Cranes – Power Driven Winches & Hoists – Part 2: Power Driven Hoists.

### Information Which Should Be Exchanged Between The User & Designer Or Supplier

As electric power operated hoists are frequently used for miscellaneous lifting purposes, precise details of the load to be lifted are not always available. In these circumstances, only a general specification can be given and this should include the following information:

1. Maximum load to be lifted or SWL.
2. Type of hoist, ie chain or wire rope.
3. Range of lift.
4. Maximum drawn up dimension.
5. Maximum extended dimension.
6. Type of suspension, eg hook/eye, push/geared/electric travel trolley, in the case of a trolley suspension, details of the runway beam section and size.
7. Lifting speed(s).
8. Power supply, voltage, phase(s) and frequency.
9. Details of the power feed system if required.
10. Type of control, eg pendant, remote etc, including pendant length etc. If unspecified, the manufacturer will assume pendant control and this will be arranged to suit the hoist on the basis of the operating level being at the extended dimension.
11. Special service conditions or safety requirements which may affect the hoist design, eg outdoor use, use in a flammable atmosphere etc.
12. Classification if known or details of the state of loading and duty cycle etc.
13. Any accessories that may be required, eg slack chain collecting box, working limits etc.
14. Any other special requirements.

It may subsequently be found that a more detailed exchange of information is necessary to ensure the correct selection. For all but the simplest or repeat installations, a visit by the supplier to survey the site should always be considered as this will minimize the information exchange and reduce the chance of incorrect selection.

Further technical information may be required by the user at the time of installation or for maintenance purposes. It will be contained in the manufacturer's operations and maintenance handbook, which will be supplied with the hoist, and does not otherwise form part of the information exchange.

### Hydraulic Hoist

Similar operation to the pneumatic powered chain hoist although instead of air pressure being used & then expelled into the atmosphere, oil pressure is used & remains captive within a sealed unit

### BS EN 14492-2 Cranes – Power Driven Winches & Hoists – Part 2: Power Driven Hoists.

#### Note:

Unless instructed otherwise, the supplier will assume the hoist is to be used in normal service conditions and the hoist will be supplied from the manufacturer's standard range of equipment.

#### Additional information for Pneumatic Hoists:

The exchange of information necessary for pneumatic hoists will generally take the same form as for electric hoists except for the power supply details, these should be given as follows:

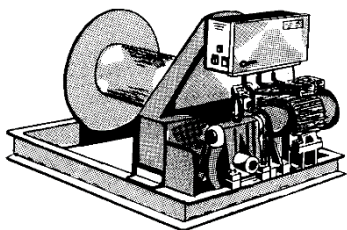
1. Pressure & delivery rate.
2. Type of supply system, e.g. coiled hose, including any requirements for filters, lubricators & pressure regulators.
3. Type of control. If hoist has powered trolley, this should include the requirements for the trolley controls.

#### Additional information for Hydraulic Hoists:

The exchange of information necessary for hydraulic hoists will generally take the same form as for electric hoists except for the power supply details, these should be given as follows:

1. Pressure & delivery rate.
2. Type of supply system.
3. Type of control. If hoist has powered trolley, this should include the requirements for the trolley controls.

### Winches used for Lifting Purposes



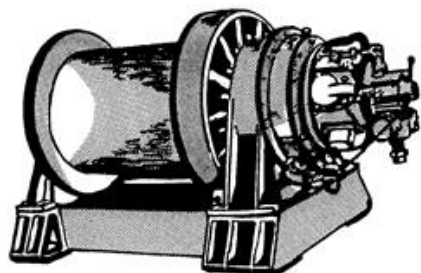
#### Documents to be supplied in accordance with the relevant legislation & relevant standard:

- EC Declaration of Conformity (Guidance LEEA 030.1e)
- Manufacturer's instructions for use. (Guidance LEEA SI.15.3)

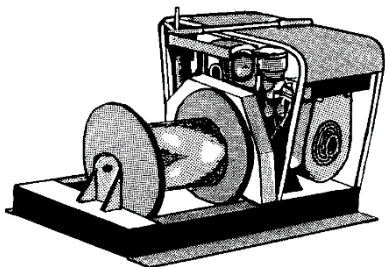
#### Marking requirements:

- CE Mark
- Business name and address of the manufacturer
- Designation of the machinery
- Type designation

### Electric Winch.



Pneumatic winch



Petrol winch

- Identification number
- Year of manufacture
- Explosion proof class, if applicable
- Safe working load or pulling force. Including relevant information for first and last layer.
- Group of mechanisms
- Details of the lifting media, chain diameter, pitch and grade or wire rope construction and minimum breaking force.
- Power supply information, voltage, phase(s), frequency, rated flow (hydraulics) and rated pressure (pneumatics)
- Motor size (kW)
- Rated hoisting speed.
- Direction and rotation of the drum.

*Note 1: for vehicle recovery winches and winches on boat trailers the following statement should also be marked on the winch; 'this winch shall only be used for vehicle recovery or for pulling and lowering boats off trailers.'*

*Note 2: the wire rope / chain fitted to the winch, together with any permanent attachments made to the rope/chain, must be considered as individual items. They must therefore carry their own marking in accordance with the individual requirements applicable. Similarly, any pulley blocks used in association with the winch must also be treated as individual items and marked accordingly.*

#### **Additional information:**

Although not required by legislation, new winches will usually be issued with a manufacturer's record of proof load testing in addition to, although possibly combined with, the EC Declaration of Conformity. This document forms an important part of the record of the winch. It should be retained & cross referenced to the winch's historical records for inspection by the Competent Person or HSE.

#### **Information Which Should Be Exchanged Between The User & Designer Or Supplier**

As winches are frequently used for miscellaneous lifting purposes, precise details of the load to be lifted and rigging arrangement to be used are not always available. In these circumstances, only a general

<p style="text-align: center;"><b>BS EN 14492-1 Cranes – Power Driven Winches &amp; Hoists – Part 1 Power Driven Winches.</b></p> <p><b>LEEA COPSULE - Section 7</b></p>	<p>specification can be given and this should include the following information:</p> <ol style="list-style-type: none"> <li>1. Details of the rigging arrangement in so far as is known, eg use of pulley blocks, diverters etc.</li> <li>2. Maximum load to be lifted or line pull required.</li> <li>3. Winch mounting details, eg wall, floor, built into a structure.</li> <li>4. Type of winch, eg worm geared, power operated.</li> <li>5. Rope drum storage capacity.</li> <li>6. Effective and actual length of wire rope required.</li> <li>7. Details of wire rope termination, eg hook, eye.</li> <li>8. Where applicable, operating speed(s).</li> <li>9. Where applicable, details of the power source or number of operatives required at full load.</li> <li>10. Details of any other lifting equipment and accessories required, eg pulley blocks, tripod (shearlegs).</li> <li>11. Details of application in so far as is known, eg nature of load, duty cycle, whether temporary or permanent installation.</li> <li>12. Special service conditions which may affect the winch or its associated equipment, eg flammable atmosphere, chemical environment, outdoor use.</li> <li>13. Special safety considerations, eg positive limits to prevent overwinding, overload protection, use for man-riding applications.</li> <li>14. Any special requirements for painting or protective finish.</li> <li>15. Any other special requirements.</li> </ol> <p>It may subsequently be found that a more detailed exchange of information is necessary to ensure correct selection. Where the winch is committed to a single purpose use or is a permanent installation, this is not difficult, but similar consideration should be given to units that are to be used for multipurpose or temporary installations. For all but the simplest installations, a visit by the supplier to survey the site should always be considered as this will minimize the information exchange and reduce the chance of incorrect selection.</p>
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## APPENDIX 1

The following appendix has been developed as a guide to support the requirements of LEEA 059.

The relevant legislation is:

- Machinery Directive 2006/42/EC
- Supply of Machinery (Safety) Regulations 2008
- Provision and Use of Work Equipment Regulations 1998
- Lifting Operations and Lifting Equipment Regulations 1998
- Management of Health and Safety at Work Regulations 1999.

It is emphasised that this guidance applies to legal requirements only. If the equipment or service provided is to a standard or other specification, additional documents or marking may be required. For each product type within the guidance these marking requirements have been specified

Lifting equipment includes any manual or power operated lifting machine and any lifting accessory which can connect the load to the lifting machine or the lifting machine to its supporting structure.

The guiding principle for all documentation is that it must be legible, complete and accurate. Information which is untrue can result in prosecution. In particular the traditional practice of 'back to back' documentation is now unacceptable.

### **NEW EQUIPMENT**

New lifting equipment must comply with The Supply of Machinery (Safety) Regulations 2008 as amended in 2011. (SOMSR) The Responsible Person must issue an EC Declaration of Conformity (DOC) and affix the CE marking. This document and marking are evidence that the Responsible Person has claimed compliance. The equipment must also be accompanied by instructions. The information to be contained in the EC Declaration of Conformity and the instructions and the other marking requirements are defined within the guidance for each product type.

*Note: Some machinery and safety components are subject to special attestation procedures. These are listed in Annex IV of the Machinery Directive (Annex D of the Supply of Machinery (Safety) Regulations) In general, such special procedures only apply to lifting equipment if it is to be used for lifting persons.*

An employer has a duty under Regulation 10 of PUWER98 to ensure that any new equipment has been designed and constructed in compliance with the essential requirements contained in SOMSR. The EC Declaration of Conformity and the CE marking are evidence that it complies.

An employer has a duty under Regulation 9 of LOLER to have lifting equipment thoroughly examined (which includes any appropriate supplementary testing) before first use. There is an exemption for new equipment if it has not been used and the employer has received an EC Declaration of Conformity made not more than 12 months before the equipment has been put into use. However if safety depends on the installation conditions, a thorough examination is required to ensure that it has been installed correctly and is safe to operate. Following any thorough examination, the person making the examination has a duty under Regulation 10 of LOLER to make a report of the examination. The information to be contained in that report is listed in LOLER Schedule 1 and LEEA have produced example templates, refer to LEEA 030.1a

### **The simplest solution**

In most cases, the simplest way to comply with the legal requirements is for the manufacturer to issue the EC Declaration of Conformity, affix the CE marking and provide instructions. If the equipment is not supplied direct to the end user, those in the supply chain should pass on the original documents and not alter any markings. The end user should obtain and keep the original documents. If the exemption applies, the equipment can be put into use. If, at the point of being put into use, the exemption does not apply or if safety depends on the installation conditions, the employer should have it thoroughly examined by a competent person and obtain and keep the report of that examination. Provided the report states that it is safe to operate, the equipment can be put into use.

### **Problems and alternative solutions**

#### **(1) Your supplier has not provided the DOC**

The equipment should be rejected until it is provided.

#### **(2) The DOC covers a bulk supply which you will sell in smaller quantities**

Provide a copy to your customer. However it is likely that the exemption under LOLER will not apply so thoroughly examine the equipment and issue a LOLER report. Alternatively combine the two with a statement on the LOLER report to the effect that the Responsible Person issued a DOC for the item. Keep the DOC and let your customer see it if requested.



(3) Your supplier will sell direct to your customer so you do not wish to reveal your source

The marking requirements of SOMSR for lifting machines include the name and address of the manufacturer. For lifting accessories it includes identification of the manufacturer. You cannot therefore legally hide this information. If your supplier is not the manufacturer but has passed on the original documents, the simplest solution applies. If your supplier is the manufacturer then either use the alternative in (2) above or 'own brand' it as in (4) below.

(4) Equipment made by others but sold in your name

This is known as 'own branding'. **The Commission guidance is that if you appear to be the manufacturer you must accept all the obligations of a manufacturer including assembly of the technical file, declaration of conformity, marking and compliance with the essential safety requirements.** If you are not in possession of the technical file you should have a written mandate from the manufacturer that authorises you as their legal representative and details explicitly which obligations set out in article 5 are entrusted to you. As a minimum you must be made responsible for compiling the technical file and making it available to the authorities if requested during market surveillance.

*Note: The technical file needn't be paper based, electronic records are acceptable and only a Member State can expect to have sight of it following a substantiated request.*

(5) Equipment assembled from several items or modified

The person assembling equipment is regarded as the manufacturer of the assembly. If items within the assembly have a DOC, that forms part of the technical file for the assembly. Similarly anyone modifying equipment and/or changing its intended use is regarded as the real manufacturer. In both cases the obligations include assembly of the technical file, issuing of the DOC, marking and compliance with the essential requirements including provision of instructions.

(6) Equipment made by others which you are asked to test and certify

Be cautious about what you are being asked to do. Traditionally a certificate of test and examination was all that was required to take the equipment into service. Now it is only one ingredient of the technical file. If you are testing it on behalf of the manufacturer as part of his verification process, then he should provide a test specification for you to work to after which you should simply report the results. However

some internet sources do not provide any documentation and customers will send such equipment or home made equipment expecting you to test it and certify it as safe to use. In general, equipment which should be CE marked and have a DOC but hasn't, should be referred back to the manufacturer. If you go beyond simply testing, examining and reporting the results, you may be taking a risk.

If it is a test and examination of a new installation and safety depends upon the installation conditions, then Regulation 9 of LOLER applies. Check also that your customer has the DOC(s) from the manufacturer(s) and that the equipment has been installed in accordance with their instructions. If it is an assembly of items or includes a modified item, check who is responsible for the assembly or modification. See (5) above.

(7) Equipment supplied without instructions

There is a requirement under SOMSR that the equipment is accompanied by instructions for use. Therefore, as a general rule, the equipment should be rejected until such instructions are supplied. If it is general purpose equipment, without any characteristics particular to the design, then generic instructions are an acceptable alternative, eg the LEEA safety information leaflets.

(8) Equipment supplied without CE marking

In general, all complete items of lifting equipment should have the CE marking. Sub assemblies and components are not usually marked. Some items, such as shackles, may be made for non-lifting applications. If the item is supplied complete, intended for lifting applications and not marked, reject it.

(9) Equipment with a Declaration of Incorporation

An EC Declaration of Incorporation (DOI) is a device to legally market machinery which can function but is not complete and may not be safe. It is a statement that the machinery is not to be used until incorporated into an assembly for which a DOC is issued. If you buy and incorporate such machinery, you have the obligations of the manufacturer of the finished assembly.

## **IN-SERVICE EQUIPMENT**

An employer has a duty under Regulation 9 of LOLER to have his lifting equipment thoroughly examined at specified maximum periods or in accordance with an examination scheme and after any exceptional circumstances which are liable to jeopardise the safety of the equipment. Following any thorough examination, the person making the examination has a duty under Regulation 10 of LOLER to make a report of the examination irrespective of whether or not the equipment is found safe to use.

The report must be made to the employer and any person from whom the equipment has been hired or leased. If the person making the examination is of the opinion that there is a defect involving an immediate or imminent risk of serious personal injury, he has a duty to send a copy of his report to the relevant enforcing authority. (Generally the HSE) The information to be contained in that report is listed in LOLER Schedule 1 and LEEA have produced example templates, refer to LEEA 030.1a.