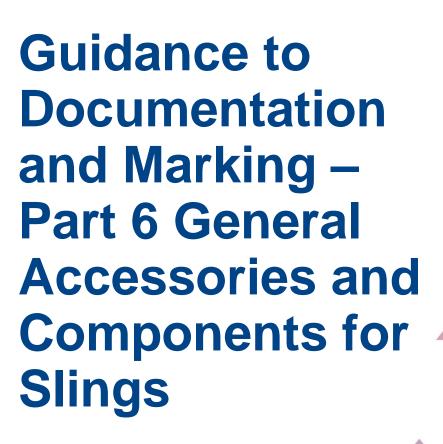
Lifting Standards Worldwide[™]





Document Reference: LEEA-059-6



Guide to Documentation and Marking – Part 6 General Accessories and Components for Slings Document reference LEEA 059-6 Version 3 Dated June 2021

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1.0 Introduction

This guide is aimed at LEEA Members, and manufacturers. 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 national legislative requirements, standards and best practice guidance.

LEEA 059-6 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.

2.0 Item, standard and required information.

The following table identifies each common generic form of non-fixed load lifting attachments along with the applicable primary standards. The table also identifies the minimum documentation to be supplied with the equipment and the minimum information to be marked on it. To ensure that the correct equipment is supplied fit for purpose, it also identifies the information that should be exchanged between the supplier or designer and the end user.

Item & Standard	Required Information
Short Link Chain Only short link chain allowed for lifting purposes. Fine tolerance for use in lifting machines, medium tolerance used generally in the manufacture of lifting slings.	Documents to be supplied in accordance with the relevant legislation & relevant standards: - Manufacturers Certificate (Guidance - LEEA-030.2e1 - 3 as applicable) - Manufacturer's instructions for use. (Guidance LEEA 062) - Other conformity declarations as required by legislation. Note: For the UK and EU markets a declaration of conformity is required by the legislation, please refer to LEEA 030.1e1 - 9 as applicable
	The certificate of test & examination shall give at least the following information: The name & address of the manufacturer or his authorized representative, including date of issue of the certificate & authentication; Number & Part(s) of the nationally recognized standard that is worked to Quantity & description of the chain of which the test sample is representative; Identification of the chain of which the test sample is representative; Nominal size of chain, in millimetres; Manufacturing proof force, in kilo-Newtons; Breaking force, in kilo-Newtons (i.e. confirmation that the specified minimum breaking force was met or exceeded); Total ultimate elongation at fracture, as a percentage (i.e. confirmation that the specified minimum total ultimate elongation has been met or exceeded).
Nationally recognized Standards	Manufacturer's instructions for use The instructions for chain should contain the following general information:

- The intended use
- The limits of use.
- Instructions for handling, storing, cutting, assembly, use and maintenance

Marking requirements.

- Grade mark stamped or embossed on every 20th link, or links at intervals of 1m whichever is the lesser distance.
- Manufacturers trade mark or symbol in the same manner and intervals as the grade.
- Any lot or other marking in the same manner as the grade.

Additional marking that can be affixed to the drum of the bulk supply or by means of a tag:

- Conformity mark if applicable, i.e. UKCA or CE marking for UK and EU markets
- Business name and address of the manufacturer
- Reference to the manufacturers certificate
- Year of manufacture

Steel Wire Rope for general lifting



Wire

Strand



Core



Rope

Nationally recognized Standards

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

- Manufacturers Certificate (Guidance LEEA-030.2e1 3 as applicable)
- Manufacturer's instructions for use. (Guidance LEEA 062)
- Other conformity declarations as required by legislation.

Note: For the UK and EU markets a declaration of conformity is required by the legislation, please refer to LEEA 030.1e1 - 9 as applicable

Manufacturers Certificate

A certificate shall confirm conformance to the appropriate nationally recognized standard

The certificate shall give at least the following information:

- certificate number:
- name & address of the manufacturer or his authorized representative;
- quantity & nominal length of rope;
- standard to which the rope conforms,
- rope designation in accordance with the nationally recognized standard it is made to.
- minimum breaking force or minimum aggregate breaking force
- date of issue of the certificate & authentication;
- an example of the maximum working load to which the rope shall be subjected in service at a given factor of safety or working load limit when the intended use is known.

The certificate number shall enable traceability of the rope.

Test results

When test results are given the certificate shall additionally give either or both of the following:

- a) Measured dimension(s) of rope measured diameter of rope (mm); or measured width & thickness (mm x mm).
- b) Measured breaking force of rope measured breaking force of rope Fm (kN); or measured aggregate breaking force of rope Fe.m (kN); or calculated measured (post-spin) breaking force of rope Fm.c (kN).

Note for other applications such as for Stranded hauling & carrying-hauling ropes for cableway installations designed to carry persons or for locked coil carrying ropes for cable way installations for carrying persons, additional information will be required & reference to the specific part of the Nationally recognized standard used should be made.

Manufacturer's instructions for use

The instructions for rope should contain the following general information:

- The intended use
- The limits of use.
- Instructions for handling, cutting, storing, assembly, use and maintenance

Marking requirements.

Note: Marking can be affixed to the reel of the bulk supply or by means of a tag:

- Conformity mark if applicable, i.e. UKCA or CE marking for UK and EU markets Business name and address of the manufacturer
- Reference to the manufacturers certificate
- Batch number
- Year of manufacture

Wire Rope with Single Formed Eye





A wire rope with a single eye for lifting purposes is supplied for fitting to a lifting machine or winch when new or as an aftermarket part.

Nationally recognized Standards

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

- Manufacturers Certificate (Guidance LEEA-030.2e1 3 as applicable)
- Manufacturer's instructions for use. (Guidance LEEA 062)

Manufacturers Certificate

The certificate shall give at least the following information:

- certificate number;
- serial number
- name & address of the manufacturer or his authorized representative;
- length of rope supplied;
- Nationally recognized standard to which the rope and components (Ferrule, Thimble) conforms
- rope designation;
- minimum breaking force or minimum aggregate breaking force from the original supply certificate for the rope.
- date of issue of the certificate & authentication;
- an example of the maximum working load to which the rope shall be subjected in service at a given factor of safety or working load limit when the intended use is known.

The certificate number shall enable traceability of the rope.

Fibre rope for general lifting.

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

Manufacturers Certificate (Guidance - LEEA-030.2e1 - 3 as applicable) Manufacturer's instructions for use. (Guidance LEEA 062) Other conformity declarations as required by legislation.

Note: For the UK and EU markets a declaration of conformity is required by the legislation, please refer to LEEA 030.1e1 - 9 as applicable

Manufacturers Certificate

A certificate shall confirm conformance to the appropriate part of the Nationally Recognized Standard that covers the fibre rope material type, for example:

- Polyamide
- Polyester
- Manila and sisal
- Polypropylene
- Hemp

Note: other materials such as Dyneema and HMPE may not have a Nationally Recognized Standard attributed to them, in which case the certificate should contain the following information.

The certificate shall give at least the following information, plus any additional information required by the applicable standard:

- certificate number:
- name & address of the manufacturer or his authorized representative;
- quantity & nominal length of rope;
- standard to which the rope conforms;
- minimum breaking force; i.e. 7:1
- date of issue of the certificate & authentication;
- an example of the maximum working load to which the rope shall be subjected in service at a given factor of safety or working load limit when the intended use is known.

The certificate number shall enable traceability of the rope.



Nationally recognized Standards

Test results

When test results are given the certificate shall additionally give either or both of the following:

- a) Measured dimension(s) of rope measured diameter of rope (mm); or measured width & thickness (mm x mm).
- b) Measured breaking force of rope measured breaking force of rope Fm (kN); or measured aggregate breaking force of rope Fe.m (kN); or calculated measured (post-spin) breaking force of rope Fm.c (kN).

Manufacturer's instructions for use

The instructions for rope should contain the following general information:

- The intended use
- The limits of use.
- Instructions for handling, cutting, storing, assembly, use and maintenance

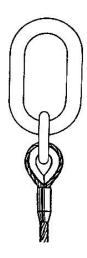
Marking requirements.

Note: Marking can be affixed to the reel of the bulk supply or by means of a tag:

- Conformity mark if applicable, i.e. UKCA or CE marking for UK and EU markets
- Business name and address of the manufacturer
- Reference to the manufacturers certificate
- Batch number
- Year of manufacture

Sling Components

Designed to be incorporated as a terminal fitting as part of a sling for attaching a load to a lifting machine.



Master link and intermediate link.



Hook with safety catch

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

Manufacturer's Certificate (Guidance - LEEA-030.2e1 - 3 as applicable)
Manufacturer's instructions for use. (Guidance LEEA 062)

Manufacturers Certificate

The certificate shall include at least the following information.

- Business name & address of the manufacturer or authorised representative, including the date of issue of the certificate & authentication.
- The number and relevant part of the nationally recognized standard
- Code number
- The quantity & description of the component.
- The grade number
- The working load limit in tonnes
- The manufacturing proof force in accordance with the relevant part of the European standard in kilo Newtons.
- Confirmation that the minimum proof force was met or exceeded.
- An identification of the quality system your company works to when in place & operating.

Manufacturer's instructions for use

The instructions for sling components should contain the following general information:

- The intended use
- The limits of use.
- Instructions for handling, storing, assembly, use and maintenance

Additional information for self-locking hooks:

- How to close the latch manually by the operator
- How to use the locking mechanism

Marking requirements:

- Code number that identifies the WLL
- The grade number
- Manufacturers, name, symbol or mark
- Traceability code



'C' Hook

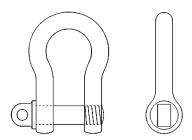
Note: chain slings will have the same end fittings, but more commonly than a welded connector link and mechanically assembled connector will be used instead.

Nationally recognized Standards

Additional markings for load bearing pins:

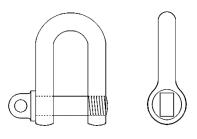
Each removable load bearing pin of 13mm diameter and above must be legibly and indelibly marked with the relevant grade number and manufacturers symbol.

SHACKLES



Bow Shackle

Designed for use with more than one attachment to the body to allow freedom of movement. Two main types – screw pin, & bolt, nut & split pin.



Dee Shackle

Designed to enable connection of 2 pieces of equipment in a straight line.

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

Manufacturers Certificate (Guidance - LEEA-030.2e1 - 3 as applicable) Manufacturer's instructions for use. (Guidance LEEA 062) Other conformity declarations as required by legislation.

Note: For the UK and EU markets a declaration of conformity is required by the legislation, please refer to LEEA 030.1e1 - 9 as applicable

Manufacturer's certificate.

The certificate shall include at least the following information:

- Name and address of the manufacturer.
- The number of the nationally recognized standard to which it was made
- Traceability code
- Quantity and description
- The grade number
- The working load limit in tonnes (t)
- Confirmation that the minimum breaking load was met or exceeded.
- Identification of the quality system to ISO 9001 when in place an operating

Marking requirements

- Conformity mark if applicable, i.e. UKCA or CE marking for UK and EU markets
- Working load limit in tonnes
- Grade number
- Manufacturers name, symbol or code
- Traceability code.

Additional marking for Shackle pins.

All shackle pins, 13mm diameter and above, must be marked with the relevant grade number, traceability code and manufacturers symbol. Pins below 13mm must be marked with at least the grade number or traceability code.

Nationally recognized Standards

LEEA COPSULE Section 19

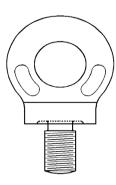
Information Which Should Be Exchanged Between the User & the Designer or Supplier

As shackles are frequently used for multi-purpose applications, precise details of the load to be lifted are not always available. In these circumstances, only a general specification can be given but should, as far as possible, include the following information:

- 1. Type of shackle.
- 2. Type of pin and locking requirements if any.
- 3. Safe working load required.
- 4. Any exceptionally hazardous conditions of use.
- 5. Any limiting dimensions, such as pin size, opening in jaw, diameter of eye.
- 6. If required to be to British or other standard dimensions, give standard and table number or other relevant reference.
- 7. Any special marking requirements.

Eyebolts:

Designed for lifting or suspending a load. 3 Types:-



Collar eyebolts



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

Manufacturers Certificate (Guidance - LEEA-030.2e1 - 3 as applicable) Manufacturer's instructions for use. (Guidance LEEA 062) Other conformity declarations as required by legislation.

Note: For the UK and EU markets a declaration of conformity is required by the legislation, please refer to LEEA 030.1e1 - 9 as applicable

Manufacturers certificate

The manufacturer shall provide a declaration with each consignment of eyebolts giving the following information for the consignment:

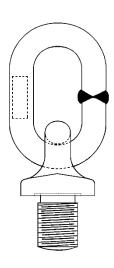
- the business name & the full address of the manufacturer &, where applicable his authorized representative;
- the number of the nationally recognized standard followed
- the quantity & description of the eyebolt;
- the traceability code to enable any particular eyebolt or batch of eyebolts to be identified
- the working load limit, expressed in tonnes;
- the proof force applied, expressed in kilonewtons;

The manufacturers certificate shall state that each eyebolt complies with the standard worked to & is within the manufacturer's specification of the type tested eyebolt(s). It shall also state the name & address of the testing establishment if different from the manufacturer.

Additional information may be required such as;

- the distinguishing mark or symbol (as marked on the eyebolt)
- the form & size of the screw thread
- proof load applied
- the safe working load.

The certificate shall declare that each eye bolt was proof load tested & was subsequently examined by a competent person & that it complies with the standard worked to. It shall state the name & address of the testing establishment & the status of the signatory.



Eyebolt with link.

Nationally recognized Standards

LEEA COPSULE Section 20

Marking requirements

- Conformity mark if applicable, i.e. UKCA or CE marking for UK and EU markets
- Manufacturer's identification mark or symbol
- Nominal size and diameter of thread
- Axial working load limit
- Traceability code.

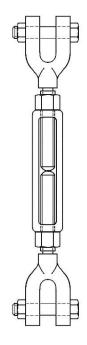
Information Which Should Be Exchanged Between the User & the Designer or Supplier

As eyebolts are frequently used of multi-purpose applications, precise details of the load to be lifted are not always available. In these circumstances, only a general specification can be given but should, as far as possible, include the following information:

- 1. Reference to the standard manufactured to.
- 2. Maximum load to be lifted.
- 3. Type required.
- 4. Number required.
- 5. If non axial loading is involved give details.
- 6. Thread form and diameter.
- 7. Any exceptionally hazardous conditions of use.
- 8. Special identification marks if required.

Rigging Screws & Turnbuckles

Generally used to facilitate tensioning and fine adjustment of length in lifting assemblies where chain, wire rope or textile elements form the main component of the assembly. Also used for cargo restraint and suspension etc.



Nationally recognized Standards

LEEA COPSULE Section 23

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

Manufacturers Certificate (Guidance - LEEA-030.2e1 - 3 as applicable) Manufacturer's instructions for use. (Guidance LEEA 062) Other conformity declarations as required by legislation.

Note: For the UK and EU markets a declaration of conformity is required by the legislation, please refer to LEEA 030.1e1 - 9 as applicable

Manufacturer's certificate.

the manufacturer shall provide a certificate with each consignment giving at least the following information for each:

- The number & date of the nationally recognized standard worked to
- A distinguishing mark to enable the particular rigging screw or turnbuckle to be identified with the test certificate;
- The proof load applied
- The safe working load (SWL);
- The date of test;
- The quantity tested & covered by one certificate.

The certificate shall state that each rigging screw or turnbuckle was proof loaded in accordance with the standard worked to & was subsequently examined by a competent person & that it complies with the requirements of that standard.

The certificate shall state the name & address of the testing establishment, & the status of the signatory.

The certificate may be an appropriate statutory form, provided the required information is given.

Marking requirements

- Conformity mark if applicable, i.e. UKCA or CE marking for UK and EU markets
- Working load limit in tonnes (t)
- Business name and address of the manufacturer
- Identification mark
- Traceability code on all load bearing components, i.e. body, eyes, hooks, forks, etc.

Information Which Should Be Exchanged Between the User & the Designer or Supplier

The purchaser should ensure that any order includes the following information:

- 1. Type of component required, i.e. rigging screw or turnbuckle.
- 2. Finish required, i.e. self-colour or hot dip galvanized.
- 3. Type of terminal fittings required.
- 4. Whether locknuts are required.
- 5. Thread diameter and/or WLL required.
- 6. Maximum and minimum length required, or range of adjustment required.
- 7. Applicable manufacturing standard.
- 8. State that the item is to be used for a lifting application and should be verified and certified accordingly.
- 9. Details of the application if known.

APPENDIX 1

The following appendix has been developed as a guide to support the requirements of LEEA 059 (1-6)

Further information can be found within your national supply legislation.

Examples of this are:

- EU Machinery Directive 2006/42/EC (and national regulations that implement it)
- UK Supply of Machinery (Safety) Regulations 2008 (SOM(S)R 2008)
- UAE Regulation IO 11.0 Lifting Equipment Protocol
- Nigeria Factories Act 1987
- (Japan) Ordinance of the Ministry of Health, Labour and Welfare
- Canada Occupational Health and Safety Regulations SOR/86-304 (in English and French)
- US Department of Labor Occupational Safety and Health Administration (OHSA)
- Safe Work Australia Act 2008

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 and marking is that they 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 unacceptable.

NEW EQUIPMENT

Manufacturers of lifting equipment, or other responsible persons with the duty of a manufacturer, must comply with applicable national supply legislation. The mandatory information to be contained in the documentation, instructions for use and the marking requirements are defined within the guidance for each product type.

Note: Some machinery and safety components are subject to special attestation procedures carried out by government recognised bodies. In general, such special procedures only apply to lifting equipment if it is to be used for lifting persons or for use in hazardous areas.

In many countries, employers, those responsible for the control of work equipment and self-employed persons, have duties under use of work equipment legislation. Fundamentally this means that employers are assumed to be responsible for ensuring that work equipment complies with any requirements relating to its design or construction, that it is regularly inspected, maintained, thoroughly examined and is selected and used correctly for the required task.

Following any inspection/examination, the competent person carrying out the task has a duty to make a legible, written report. A report of a thorough examination (also known as a report of thorough inspection or report of periodic inspection) is a report issued by the Competent Person giving the results of the thorough examination, which will detail the defects found or include a statement that the item is fit for continued use. Where the Competent Person has carried out a test as part of the inspection/examination, the report will also contain details of the test.

The information to be contained in this report can be found in the LEEA Report of Thorough Examination templates.

Note:

- (1) The report of thorough examination must be retained as part of the lifting equipment records.
- (2) In some cases, a reference to the test report appears as an appendix to the thorough examination.

The simplest solution

In most cases, the simplest way to comply with the legal requirements is for the manufacturer to issue the relevant Manufacturers Certificate or Statement of Conformity documentation where applicable and provide instructions for use. 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 or copies of the original documents.

If an exemption applies, the equipment can be put into use. If, at the point of being put into use, the exemption no longer applies 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 Manufacturers Certificate or Statement of Conformity
- The equipment should be rejected until it is provided.
- (2) The supplied documentation covers a bulk supply which you will sell on in smaller quantities

Provide a copy of the required documentation to your customer regardless of how small a quantity is supplied

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

The marking requirements of modern legislation for lifting appliances, 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, 'own brand' it as in (4) below.

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

This is known as 'own branding'. Legislation 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, a statement of conformity, marking and compliance with the essential safety requirements. If you are not in possession of the technical file you must have a written mandate from the manufacturer that authorises you as their legal representative and details explicitly which legal obligations 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 need not be paper based, electronic records are acceptable and only an Enforcing Authority 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 statement of conformity or similar, 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 statement of conformity or similar, 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. **Test reports are not legal documents** that allow the equipment to be used. 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, new and second-hand lifting equipment may have been purchased without any documentation, and customers will send such equipment or even homemade equipment, expecting you to test and certify it as safe to use. In general, equipment which may need to be conformity marked and have a statement of conformity or similar but has not, should be referred back to the manufacturer. If you go beyond simply testing, examining and reporting the results, you will be taking a risk.

If it is a test and examination of a new installation and safety depends upon the installation conditions, a Report of Thorough Examination or inspection report is also required. Check also that your customer has the relevant documentation 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

Lifting equipment is to be 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.

(8) Equipment supplied without Conformity marking

National Legislation of certain countries require that complete items of lifting equipment are to be conformity marked. They must also have the minimum marking required by the nationally approved standard that the equipment has been made to. Sub-assemblies and components are not usually marked as such. Also, some items, such as shackles, may be made for non-lifting applications. If the item is supplied complete and is intended for lifting applications yet not marked, reject it.

(9) Equipment with a statement of incorporation

National Legislation of certain countries require a statement of incorporation or similar. This is a device to legally market machinery which can function but is not complete and may not be safe until assembly. It is a statement that the machinery is not to be used until incorporated into an assembly for which a statement of conformity is issued. If you buy and incorporate such machinery, you have the obligations of the manufacturer of the finished assembly.

IN-SERVICE EQUIPMENT

Generally, an employer has a legal duty to have any lifting equipment in their custody thoroughly examined or inspected. This may be at specified maximum periods, or in accordance with an examination scheme, or after any exceptional circumstances which are liable to jeopardise the safety of the equipment. Following any thorough examination/inspection, the person carrying this out, has a duty to make a report of the examination/inspection irrespective of whether or not the equipment is found to be 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. LEEA have produced example templates for this. Please contact LEEA for copies.

If you have any queries, please contact LEEA through technicaladvice@leeaint.com