

The Low Voltage Directive

Purpose

The Low Voltage Directive 73/23/EEC is one a series of measures introduced under article 100a of the Treaty of Rome. Article 100a directives all have the primary objective of creating a single European market in goods and services with the objective of providing producers and consumers with the benefits of economies of scale that this offers. The directive was originally enacted in 1973 but was modified in 1993 by directive [93/68/EEC](#) to include a requirement for CE marking and the creation of a technical file.

The effect of the directive has been to introduce identical requirements for the safety of electrical products in every country within the [European Economic Area](#) (EEA).

Scope

The Directive applies to all apparatus operating on any AC supply between 50 and 1000 volts or DC supply between 75 and 1000 volts. Recent guidance from the European Commission has made it clear that the voltage limits referred to are the supply voltage or any voltage generated which appears at an output terminal, and not voltages generated within and confined internally to the equipment. However, even in the case of equipment which falls outside this scope, there are [good reasons](#) to take a similar approach to that required under the Directive when designing and manufacturing electrical apparatus.

A small number of items are [excluded](#) from the scope of the directive. In the main these are items which are covered under other more specific directives or which are subject to international legislation outside of the jurisdiction of the EU.

Requirements

As with the other New Approach directives, the Low Voltage Directive has both Administrative and Protection requirements. The protection requirements have been in place since the early seventies, and have been embodied in the legislation of all EU member states since that time. In the the UK the implementing legislation is the Low Voltage Electrical Equipment (Safety) Regulations.

Any competent manufacturer of electrical equipment can meet these requirements and often already does so without knowing it explicitly. While requirements are given in [annex 1](#) of the Directive, these do not specify much that cannot be simply summarised as 'the equipment must be safe' and the specifics of what is safe or not are left to various [standards](#). These can be used by manufacturers, purchasers, trading standards officers and even courts as a bench mark to consider what, in fact, constitutes 'safe'.

The administration requirements are that the product be marked with the [CE logo](#), that the manufacturer (or their [authorised representative](#)) complete a specified form of [Declaration of Conformity](#) listing the Directives to which they claim compliance and the documents (standards) used to justify that claim and that the manufacturer compile (or be able to compile) a [Technical File](#) containing design details of the product.

Independent product assessment

There is no requirement under the Directive for manufacturers to have their products examined and certified by a third party before they can be CE marked. Manufacturers who feel unsure about the requirements of the standards can involve a consultant or [Notified Body](#) if they wish, but this is not mandatory.

The Technical File

There is no exact list of the requirements of the Technical File. Obvious candidates for inclusion are a circuit/wiring diagram and PCB layout, details of any calculations made in the design of the appliance, copies of any relevant test certificates and component data sheets, operating instructions, circuit descriptions, etc. etc.

The LVD's Technical File is not the same as the Technical Construction File (TCF) which offers one of the routes to complying with the [EMC Directive](#). The purpose of the TCF is to allow a competent body to assess the reasons that the manufacturer has used to justify their claim of compliance with the EMC Directive and the only information which is needed is therefore that which is necessary for an EMC assessment. A product which uses a different route to compliance with the EMC directive does not require a TCF, but if the product falls within the requirements of the LVD, it still needs a Technical File.

The LVD's Technical File is more comprehensive and must demonstrate that the product has been specified correctly and designed according to that specification.

It is important to understand that the Technical File is not for general publication - the only people with a right to demand to see it are the enforcement authorities (the [Trading Standards Services](#) in the UK) so compiling this information is not tantamount to producing a blueprint for competitors.

Clearly, in the interests of minimising the administration concerned, it is in manufacturers best interests to make as much information common between the two files as possible, but it should be remembered that the LVD Technical File does not require independent assessment whereas the TCF does. Manufacturers with particular proprietary information which they wish to keep secret should try to avoid being forced to include this information in a TCF unless absolutely necessary since clearly they will have less control over where such a file is circulated.

Useful links

The European Commission have a [special section on electrical equipment](#) with a great deal of useful information on their [EUROPA](#) server. This includes the full text of the directive, lists of the current [harmonised standards](#) as well as guidance and interpretative documents and a list of the national [implementing measures](#) in each of the member states of the EU.

For details of draft standards, the [New Approach](#) web site is a good EU-funded resource.

The UK government's Department of Trade and Industry (DTI) publish a useful guide on the Directive and this is available for [download](#).

Links to some bodies notified under the directive can be found on our [Notified Bodies](#) page.

The best starting point to look for other LVD links is [The Safety Link](#).

Further advice

As with all CE marking directives, the actual requirements for any piece of equipment under the directive and harmonised standards are complex and dependent on not only the design but also the type of user, the intended use and sometimes even what is claimed in the instructions or sales literature.

For further advice specific to your products, please [contact us at Conformance](#) and we will be pleased to discuss your needs. If you'd like us to prepare a no-obligation quote for assisting you with CE marking your products, please take a look at our page which gives details of the [information required](#) in order to be able to give you an accurate idea of the costs and procedures involved.

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