



EUROPEAN FIRE
SPRINKLER NETWORK

An Overview of CE-Marking

November 2022

Introduction

CE-marking enables products, such as sprinklers, to be legally placed on the European Union (EU) market. This paper is written to help answer questions raised by those with an interest in sprinklers. Several members of the European Fire Sprinkler Network have contributed to it and while we cannot accept responsibility for its contents, to the best of our knowledge it is an accurate summary.

Legal Basis

The letters CE stand for Communauté Européenne, which is French for European Community. This is the name given to a political-economic union of 27 Member States across Europe which began life in 1958 with the Treaty of Rome. English is now the dominant language within the European Commission and other institutions that make up the union. In 2003 the Maastricht Treaty changed the name to the European Union (EU).

When a product bears the CE logo it means that the manufacturer or importer declares that it complies with all relevant European legislation. The EU legislation covers EU Regulations and Directives. Member states implement EU legislation. Depending on the product, the following legislation could be relevant:

- Construction Products Regulation: <http://ec.europa.eu/growth/sectors/construction/product-regulation/>
- Electro-Magnetic Compatibility Directive: <http://eur-lex.europa.eu/legal-content/EN/TXT/?uri=CELEX:32014L0030>
- Low Voltage Directive: <http://eur-lex.europa.eu/legal-content/EN/TXT/?uri=CELEX:32014L0035>
- Machinery Directive: <http://ec.europa.eu/growth/single-market/european-standards/harmonised-standards/machinery/>
- Pressure Equipment Directive: http://eur-lex.europa.eu/legal-content/EN/TXT/?uri=uriserv:OJ.L_.2014.189.01.0164.01.ENG
- Restriction of the use of certain hazardous substances in electrical and electronic equipment RoHS: <http://eur-lex.europa.eu/legal-content/EN/TXT/?uri=CELEX:32011L0065>

While one might think that the Construction Products Regulation (CPR) is relevant to every component used in a sprinkler system, it is only possible to declare compliance with the CPR if an appropriate assessment and test protocol exists. The assessment and test protocols can be one of two types.

Harmonised European Standards (hEN)

If the scope of a harmonised European standard (hEN) is relevant then the manufacturer shall agree with a Notified Product Certification Body to which of the tests in the hEN standard the product must be subjected. Upon being issued with a Certificate of Consistency of Performance, the manufacturer or importer must then produce a Declaration of Performance (DoP) which states the performance achieved for at least one of the tests conducted but may

choose to state “No Performance Declared” (NPD) for any of the other essential characteristics. For many construction products this performance is intended to be used by those who design buildings. For sprinkler systems it is the sprinkler system design standard, EN 12845, not the performance achieved in testing under a hEN, which determines how a CE-marked sprinkler product should be used. **It is a weakness of the CE-marking system that in principal only ONE so-called essential characteristic must be declared (CPR article 6(3c)).** Nonetheless Member States may have laws that require more than one essential characteristic to be declared. Private 3rd party product approval bodies will consider applying EVERY test requirement listed in their protocol. In practice a Notified Product Certification Body may expect every applicable test in a hEN to be performed before it will issue a Certificate of Consistency of Performance.

It is only under the CPR that hENs have been written which are relevant to the fire protection performance of sprinkler system components. However, other European legislation may still be relevant, such as the Machinery Equipment Directive (MED) for pumps. A pump manufacturer must declare compliance with the MED by placing the CE mark on the pump. In this case that will mean that the pump does not present a danger to those who come near it.

Products must comply with the relevant requirements of all directives and regulations for their intended applications. The manufacturer declares the intended use of the product. If this use is not included in the scope of a hEN then the product does not need to affix the CE Mark even though it may meet the requirements of the hEN. For example some products, such as pipe, are used for more than one application. If one application has a hEN, the product must undergo at least one of the relevant tests and be CE-marked if it is sold for that application. If it is sold for another application for which a hEN does not exist it does not have to be CE-marked.

European Technical Assessments (ETA)

If no hEN with a relevant scope for the product concerned exists then CE Marking under the CPR is not required. However, manufacturers who wish voluntarily to apply the CE Mark to their products may apply to an EOTA (European Organisation for Technical Assessments) Technical Assessment Body (TAB) for a European Technical Assessment (ETA).

ETAs are based upon compliance with the requirements of a European Assessment Document (EAD). If no EAD for the product already exists then a TAB can request permission to develop one. The process for doing this is set out in Annex II of the CPR. EOTA has to inform the European Commission if a TAB receives a request to develop an EAD. Once the EAD is finalised and the European Commission (EC) has verified it complies with the CPR the EC cites it in the Official Journal of the European Union (OJEU).

If one manufacturer develops an EAD and applies the CE mark to its product based on a successful ETA there is no obligation for other manufacturers to do so. If another manufacturer decides to apply for an ETA it must be on the basis of the EAD developed by the TAB and the first manufacturer.

Is CE marking required in all European countries?

Almost. It is required in all members of the European Economic Area, which includes the 27 countries of the European Union plus Iceland, Liechtenstein, Montenegro, North Macedonia, Norway and Serbia, where a relevant hEN exists. Switzerland and Turkey also require CE marking. The UK accepts the UKCA mark as an alternative to CE-marking and from 2025 will require the UKCA mark for products within the scope of a hEN.

Who is responsible for the CE-mark?

Responsibility for CE-marking lies with whoever places the product on the market in the countries where CE-marking is required, i.e. the manufacturer or importer. This company must produce a Declaration of Performance as required by the leading legislation for the product (CPR for sprinklers) and carry out an assessment and verification of consistency of performance in accordance with the relevant hEN or EAD/ETA. This documentation has to be made available to the authorities on request.

Non-Harmonised Standards

CEN, a European Standardization Organization, has drafted a number of non-harmonised product standards. One example is EN 12259 Part 14 for residential sprinklers. Products tested to non-harmonised standards cannot be CE-marked. However, these standards can serve as a reference for fire safety regulators and that is why they were drafted.

Who can assess and certify a construction product?

Each country which requires CE-marking has a national authority which designates which certification bodies and laboratories in that country are competent to assess the performance of construction products and certify the consistency of performance of construction products made to a hEN or EAD/ETA. These certification bodies and laboratories are called notified bodies. Naturally there is concern that a national authority will approve a body even when others would argue it does not have the necessary expertise. To ensure this does not happen the national accreditation authorities who assess each body are peer-reviewed by national accreditation authorities from other countries (Regulation EC 765/2008). For sprinklers a full list of notified bodies that have been designated by their national authorities is listed on the NANDO Internet site <http://ec.europa.eu/enterprise/newapproach/nando>.

Who decides if a hEN is relevant?

The scope of a hEN determines to which products the standard applies. Many types of sprinkler are not within the scope of EN 12259 Part 1. This does not mean that they cannot be sold in the EU but it does mean that, unless they are covered by an EAD, they cannot be CE-marked under the CPR.

Which sprinkler components must be CE-marked?

The following sprinkler components must be CE-marked (hEN):

- K57, K80 and K115 conventional, spray, flat spray, flush, recessed, sidewall and dry sprinklers
- Wet alarm valve assemblies
- Dry alarm valve assemblies

- Water motor alarms (gongs)
- Water flow switches

In addition to the performance test in the hEN, the manufacturer must ensure that the level of performance of its output is maintained under System 1, as stated in Annex V of the CPR. This requires the Notified Product Certification Body to assess the factory production control and to select and test factory samples.

In addition to the sprinkler head types listed above, EADs have been prepared by a TAB and cited by the EC in the OJEU for ESFR sprinklers and for flexible sprinkler hoses. An EAD for earthquake bracing components is expected to be cited early in 2023. Some products have already been assessed against the requirements for these two EADs and have been issued with an ETA by an EOTA TAB. They can therefore be CE-marked but this is voluntary. More EADs for sprinkler components are expected in the future.

Can a sprinkler system be CE-marked?

No. Assemblies of some fire protection measures, such as doors and their frames, can be CE-marked because the various parts constitute a kit. This concept was proposed for sprinkler systems but rejected by the European Commission.

What about the Pressure Equipment Directive?

The Pressure Equipment Directive (PED) is intended to make sure that pressure vessels are safe and cannot rupture to cause injury. Its first edition had an accompanying lengthy list of guidelines, one of which stated that sprinkler systems were in its scope. The PED was revised in 2014 and it is now clear that sprinkler systems are excluded. See Article 4.1(c), which sets out which Tables apply to non-hazardous (Group 2) fluids. Dry pipe and wet pipe systems fall under Tables 7 and 9 respectively. These Tables have been revised so that sprinkler systems fall in areas subject to Article 4, paragraph 3, “Pressure equipment or assemblies below or equal to the limits set out in points (a), (b) and (c) or paragraph 1 and in paragraph 2 respectively shall be designed and manufactured in accordance with the sound engineering practice of a Member State in order to ensure safe use. Pressure equipment and assemblies shall be accompanied by adequate instructions for use. Without prejudice to other applicable Union harmonisation legislation providing for its affixing, such equipment or assemblies shall not bear the CE marking referred to in Article 18.” Sound engineering practice in this context is adherence to EN 12845, including pressure testing of the system during commissioning.

What is the status of CE-marks obtained under the CPD?

The existing hENs for sprinkler components were all written for the Construction Products Directive (CPD). The CPD has been superseded by the CPR and all the hENs written under the CPD must be updated to comply with the CPR. As yet CEN Working Group 5 of CEN Technical Committee 191, which would draft the revised hENs, has not begun to do so because the European Commission has not started to work on a Standardisation Request (SR) for fire protection system products. The SR will specify in some detail what should be in the hEN and the EC will not consider any document for citation (harmonisation) unless it has issued a SR for it, so without the SR members of the CEN Working Group do not wish to spend time drafting a document whose required contents are unclear and which would not be

accepted by the EC. Meanwhile CE-marks obtained under the CPD remain valid until the product changes and need only be renewed if the hEN changes to include revised or additional essential characteristics for which the manufacturer intends to declare the performance. In these cases the manufacturer or agent providing the DoP should consult the Notified Product Certification Body issuing the Certificate of Consistency of Performance or the TAB issuing the ETA.

How can I tell if a CE-marked product is appropriate for sprinkler systems?

A pump can be CE marked to show that it complies with the MED. In the future we expect there to be a non-harmonised standard, EN 12259-12, for pumps and another, EN 17451, for pump sets. Neither will therefore be usable for CE-marking under the CPR. To be certain that a product has the relevant CE-marking a purchaser may request and verify the Certificate of Consistency of Performance issued by the Notified Product Certification Body or the ETA, in addition to the manufacturer's DoP.

Where can I check a CE-mark?

If a product shows a CE mark but the purchaser doubts its validity, the purchaser should ask the supplier for a certificate showing what is covered by the CE mark. Under the CPR the CE mark must show the number for the Notified Product Certification Body which certified the product. If there is still some doubt, the purchaser should contact that Notified Product Certification Body and send samples for confirmation that they are the same as those tested by the laboratory. ETAs may be verified by checking the EOTA website www.eota.eu.

If I am not the purchaser, can I report a false CE-mark?

Under Regulation EC 765/2008

<http://eur-lex.europa.eu/legal-content/EN/TXT/?uri=CELEX:32008R0765> , governments in the countries that require CE-marking are responsible for ensuring that it is correctly applied. Governments are encouraged, "to establish cooperation with the stakeholders concerned, including sectoral professional organisations and consumer organisations". The European Commission provides a list of National CPR Product Contact Points

<http://ec.europa.eu/growth/sectors/construction/product-regulation/> who can report a potentially false CE-Mark to the relevant market surveillance authority of the member state. Enforcement varies from one country to another. If a company believes a competitor is selling a product which is falsely labelled with the CE-mark, the company should raise it with the Notified Product Certification Body, or the TAB, stated as issuing the document concerned.