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Position Paper

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Sprinkler Section + Fixed Extinguishing Installations

Position Paper Conformity of Fire Extinguishing Systems

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Manufacturers of fire extinguishing systems are repeatedly requested to provide an EU declaration of conformity for their systems or the components used in them. The purpose of this position paper is to define where an EU declaration of conformity is necessary and if so, which preconditions must be fulfilled for this.

Fire extinguishing systems

In the context of this position paper „extinguishing systems" are the following facilities including but not limited to:
- water extinguishing systems (e.g. sprinkler systems or water mist extinguishing systems)
- gas extinguishing systems
- powder extinguishing systems
- oxygen reduction systems

1. Legal obligations (Europe)

By affixing the CE marking, the manufacturer, distributor or EU representative indicates according to the EU regulation no. 765/2008 „that the product is in conformity with the applicable requirements set out in Community harmonisation legislation providing for its affixing." The CE marking obligation applies for products for which harmonised standards or European Technical Assessments (ETA) exist.

A „product" may be either the component of an extinguishing system or the extinguishing system itself.

2. Process of conformity assessment

2.1. Standards and regulations to comply with

The following European regulations and related harmonised standards are usually relevant (if applicable):
- Regulation (EU) No 305/2011 laying down harmonised conditions for the marketing of construction products
- EN 12094 – on "Stationary Fire Extinguishing Equipment – Components for Fire Extinguishing Equipment with gaseous Extinguishing Agents"
- EN 12259 – on "Stationary Fire Extinguishing Equipment – Components for Sprinkler and Water Spray Fire Extinguishing Systems"
- EN 54 – on "Fire Detection Systems"
- Directive 2010/35/EU on transportable pressure equipment
- Directive 2014/68/EU on the harmonisation of laws of the Member States relating to the making available on the market of pressure equipment
- Directive 2014/35/EU on the harmonisation of the laws of the Member States relating to the making available on the market of electrical equipment designed for use within certain voltage limits
- Directive 2014/30/EU on the laws of the Member States relating to electromagnetic compatibility
- Directive 2006/42/EC on machinery

A differentiation must be made between requirements in terms of an individual component and requirements applicable to the whole system.

2.2. Assessment of conformity

2.2.1. Individual components

2.2.1.1. Regulation (EU) No 305/2011 laying down harmonised conditions for the marketing of construction products

- Harmonised component standards include the processes and criteria for assessment of the performance of building products in terms of their essential characteristics (Article 19 of Regulation (EU) No. 305/2011). For this, the manufacturer must state the performance characteristics of the component.
- For the applicable fire fighting components the stated performance characteristics are inspected by a notified body.
- After the review was passed, the manufacturer makes a declaration of performance for the component and affixes the CE marking.

The declaration of performance must include at least one of the essential characteristics according to the harmonised standard but should, to ensure a reliable performance, include all essential characteristics. In case of a VdS component approval, it is guaranteed that all performance characteristics were verified.

2.2.1.2. Directive 2010/35/EU on transportable pressure equipment

The fulfilment of the Directive on transportable pressure equipment (e.g. CO2 cylinders as extinguishing containers) is confirmed by a Pi marking (π). The manufacturer affixes the Pi marking after the respective approval process was passed.

2.2.1.3. Directive 2014/68 EU on the harmonisation of laws of the Member States relating to the making available on the market of pressure equipment

For fixed pressure retaining components (e.g. pressure tanks, CO2 low pressure containers) and pipes, the risk depends on the operating pressure, volume, dimension and fluid. For equipment of higher categories, unit verifications, type-examination or a quality management system may be conditionally for affixing of the CE marking. For equipment of lower risk, a CE marking is not allowed although the requirements of the Directive are fulfilled.

2.2.1.4. Directive 2014/35/EU on the harmonisation of the laws of the Member States relating to the making available on the market of electrical equipment designed for use within certain voltage limits / Directive 2014/30/EU on the laws of the Member States relating to electromagnetic compatibility

Directive 2014/35/EU has the purpose to provide a high level of protection for electrical devices in terms of health or safety of persons or domestic animals, or to property. Conformity is given when the products are according with good engineering practice in safety matters in force in the Union. The Directive 2014/30/EU on the laws of the Member States relating to electromagnetic compatibility determines how electromagnetic compatibility in electrically operated apparatus is defined. During the conformity assessment process, the devices are tested in a laboratory. The manufacturer afterwards draws up an EU declaration of conformity and affixes the CE marking to the apparatus.

2.2.1.5. Directive 2006/42/EC on machinery

This Directive serves two purposes. Firstly, the requirements for machinery in terms of safety and health protection shall be harmonised in order to achieve a high level of safety and health protection. Secondly, the free movement of such machinery in the European single market shall be guaranteed. During the conformity assessment process, the manufacturer verifies and documents compliance with the requirements, draws up an EU declaration of conformity and affixes the CE marking to the machinery.

3. Application to different types of extinguishing systems

Major components of an extinguishing system must fulfil the requirements of one or more of the above-mentioned European Directives. Prove of conformity for the respective components must be provided by the manufacturer.

It is a typical feature of fire extinguishing systems that they are assembled from many single components on site, many of which have to bear the CE marking, e.g. according to the Regula-tion (EU) No 305/2011. Regardless of this, the pressurization is often the most important potential hazard in all kinds of extinguishing systems. That is why the requirements of the Directive 2014/68/EU must be fulfilled in most case. The methods of fulfilment, however, are quite diverse depending on the respective type of extinguishing system. In most cases, no declaration of conformity according to Directive 2014/68/EU is required for sprinkler systems and small extinguishing systems. In contrast, for gas extinguishing systems of higher categories according to Directive 2014/68/EU, CE marking and the respective declaration of conformity are generally required for the pipelines and all connected pressure containing components.

4. Special systems

During their risk assessment, manufacturers of machines may come to the conclusion that a socalled safety component in the form of a fire extinguishing system is necessary in order to guarantee the safety of the operating personnel. Extinguishing systems that are graded maximum as Category I according to Directive 2014/68/EU and installed in machines as a safety component, are exempt from the scope of the pressure equipment directive. For this equipment, Directive 2006/42/EC is fully applicable, e.g. for fire extinguishing systems in the field of safety device for machinery (small extinguishing systems).