

## Construction Products Regulation

# NEW HARMONY FOR EUROPEAN MARKETS

*The Construction Products Regulation aims at promoting free trade and at harmonising the Single European Market. The Construction Products Regulation is not only a new regulation, it also introduces new words and abbreviations. No need to worry, though. This article tells you what is special about the new regulation, and it uses examples to explain the most important facts and names.*



**Fig. 1: Abbreviations related to the CPR**

|     |   |
|-----|---|
| CPR | Construction Products Regulation  |
| CPD | Construction Products Directive   |
| CE  | Communauté Européenne, European Community                                 |
| DoP | Declaration of Performance  |
| ETA | European Technical Assessment   |
| ETA | previously European Technical Approval, now European Technical Assessment |
| npd | no performance determined   |
| hEN | *harmonised European standard   |

\* Harmonised European standards (hEN) are drawn up based on a mandate by the European Commission. A standard is considered harmonised when it is published in the Official Journal of the European Union. Not every EN standard is a harmonised standard.

CE marking according to uniform conditions. This also applies to fire dampers (EN 15650) and smoke exhaust fans (EN 12101-3). CE marking requires manufacturers to provide a Declaration of Performance, or DoP. The Declaration of Performance, which also lists the essential characteristics and approved applications, is an integral part of the manufacturer's documentation. Apart from the Declaration of Performance, other technical documents such as an operating and installation manual have to be provided.

In other words: no Declaration of Performance, no CE marking. And no Declaration of Performance without the required operating and installation manual. With the CPR becoming effective, the importance of the CE marking has also changed. In the past, the CE marking was proof that a product met the requirements of a harmonised technical specification. What is new is that by assigning the CE marking to a construction product, manufacturers indicate that they take responsibility for that product's conformity with its declared performance, and this is really the decisive point.

### Goals of the CPR

The European Commission hopes to achieve a number of superior, general goals for construction products ...

- Creating harmonised technical specifications that become product and test standards across the EU
- Introducing a common technical language ... and the following specific goals:
  - Construction products with CE marking
  - Free trade while eliminating or minimising technical obstacles

In connection with the Construction Products Regulation, many new terms and abbreviations are used. CPR, for example. CPR is simply the abbreviation of Construction Products Regulation. The CPR replaces the CPD, or Construction Products Directive. To help you find your way around and know what it is all about, we have listed the most important abbreviations together with their meanings (fig. 1). Another helpful source is the website of the European Commission ([www.ec.europa.eu](http://www.ec.europa.eu)), where you find not only the most frequently asked questions (FAQ) but also the answers.

### Effective date 1 July 2013: Binding for fire dampers and smoke exhaust fans

On 1 July 2013, the European Construction Products Directive was replaced by the Construction Products Regulation. It is usually referred to as CPR. As a European regulation, it became immediately effective in all member states of the European Union; transposition into national law is, hence, not required. Some sources claim, falsely, that the regulation is still 'pending' because of allegedly unclear circumstances; this is not true. Fire dampers or smoke exhaust fans are covered by harmonised technical specifications, in this case harmonised European standards (hEN). The circumstances are clear: Starting 1 July 2013, these products must comply with the CPR.

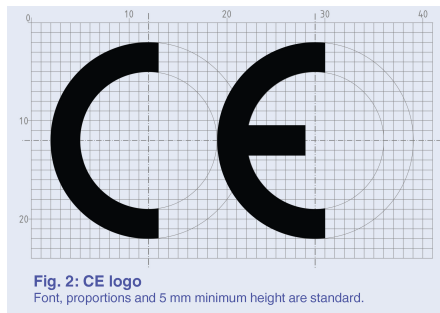
### What do manufacturers have to do?

The CPR requires that all products that are covered by a harmonised European standard and are placed on a market within the EU need a

### So what does CE mean?

CE has become something of a buzzword over the past few decades. What does it actually stand for? CE originally stood for 'Communauté Européenne', or European Community. Nowadays the CE symbol has no longer a literal meaning. It simply indicates that a product can be placed on the market anywhere in the EU. The CE marking is no seal of approval either but a mere administrative symbol (fig. 2).

The CE marking may be affixed to a product once the Declaration of Performance for that product has been created and provided. The Declaration of Performance lists the performance criteria



**Fig. 2: CE logo**  
Font, proportions and 5 mm minimum height are standard.

for the construction product and its essential characteristics. The essential characteristics of a construction product are, in turn, derived from the harmonised technical specifications. They refer to the basic requirements for buildings (fig. 4). One of the basic requirements is safety in case of a fire. The CE marking alone is no indication of a product's performance or the passing of tests (fire protection). This information will only be given on the data plate of the CE marked product (fig. 3).

### What requirements does a Declaration of Performance have to meet?

The Declaration of Performance documents the performance of a construction product with regard to its essential characteristics. They are described in the harmonised technical specifications, e.g. in product standards such as the EN 15650 for fire dampers. The Declaration of Performance (fig. 6) is based on the technical documentation to be provided by the manufacturer. The Declaration of Performance must be drawn up by the manufacturer according to the samples given in Annex III of the CPR. It can be made available both as a hardcopy and as an electronic file. Only if the purchaser explicitly requests a hardcopy must the manufacturer actually provide it. A new Declaration of Performance is only required if there are essential changes to the existing Declaration of Performance, e.g. a change of the notifying body, a new product name, a change in the essential characteristics or the performance criteria of the product. The new Declaration of Performance is given a new number, and the new number requires a new CE data plate.

Using the Declaration of Performance for a TROX fire damper, we will explain the various parts of a DoP. More examples can be found at [www.troxtechnik.com](http://www.troxtechnik.com), or at [www.trox-tlt.de](http://www.trox-tlt.de) for smoke exhaust fans.

**Fig. 3: Requirements for CE marking**  
for a fire damper data plate (example)



- 1 CE logo
- 2 Identification number of the certifying body
- 3 Manufacturer's name and address
- 4 The last two digits of the year in which the CE marking was affixed
- 5 No. of the Declaration of Performance
- 6 No. of harmonised standard (hEN) and year it was issued
- 7 Product description
- 8 Type of product
- 9 Explanation of the classification

**EI** Étanchéité Isolation - fire resistance class  
**TT:** Fire resistance in minutes, e.g. 90; see Declaration of Performance  
**ve:** vertical installation (wall)  
**ho:** horizontal installation (floor/ceiling)  
**i <-> o:** inside/outside  
**S:** Smoke leakage  
**300 Pa:** Measurement conditions (differential pressure in Pa)

The essential characteristics of a fire damper include:

- Size
- Supporting construction, e.g. wall
- Type of the supporting construction, e.g. lightweight partition wall
- Type of installation, e.g. mortar-based installation, installation kit or fire batt
- Class of performance, e.g. fire resistance

Other characteristics according to EN 15650:

- Nominal activation conditions/sensitivity according to ISO 10294-4 (fusible link test)
- Response delay (closing time) according to EN 1366-2 (timely closure of the fire damper)
- Operational reliability (opening, closing) according to EN 1366-2 (50 cycles before the fire test)



- Durability of response delay according to ISO 10294-4 (test of the electrical release of the spring return actuator)
- Durability of operational reliability according to EN 15650 (300 or 10000 opening and closing cycles with spring return actuator)

Furthermore:

- Corrosion protection (EN 15650 and EN 60068-2-52)
- Closed blade leakage (EN 1751)
- Casing air leakage (EN 1751)

Information on the supporting structure and on the installation of the damper are important for customers as they indicate the suitable installation situations for a product.

Customers should know, however, that in a document such as an operating and installation manual manufacturers must only provide information about the performance of a product

**Fig. 4**  
Principal requirements for the construction of buildings

1. Mechanical resistance and stability
2. Safety in case of fire
3. Hygiene, health and environment  
*New: A building's total life cycle needs to be taken into consideration. The emission of hazardous substances into the drinking water and the emission of climate-relevant substances such as greenhouse gases must now also be considered.*
4. Safety and accessibility in use  
*New: Accessibility*
5. Protection against noise
6. Energy economy and heat retention
7. Sustainable use of natural resources  
*New: This new principal requirement aims at designing and erecting a building in such a way that the natural resources used for the building can be re-used or recycled once the building is torn down again.*

in relation to the essential characteristics included and specified in the Declaration of Performance (CPR, Article 4, 2). This helps to simplify, clarify, and strengthen credibility. In Germany, construction products that are covered by a harmonised European standard (hEN) are listed in Construction Products List B, Part 1 (Bauregelliste). The corresponding rules for application are given in Part II of the Technical Construction Regulations. The EU considers the additional national approvals required by the Construction Products List a violation since they wrongfully hinder access to the market. What are the practical consequences of this complaint by the European Commission against the Federal Republic of Germany? At this time it does not affect the market since a final judgement has not been delivered yet.

If, however, new stipulations will be required one day, the rules must be adapted.

**Increased requirements for market supervision**

The CPR contains the general conditions for an effective supervision of the markets within the European Union and for controlling the import of products from third countries. One of the goals of market supervision is to ensure that construction products that are freely traded within the European Union meet the relevant (safety) requirements. This includes a legitimate and correct CE marking. In case of a violation, any wrongfully marked construction product will no longer be allowed to be placed on the market, and free trade of it will be stopped; the CE marking of that product will become invalid.

In Germany, market supervision is carried out by the states, usually by the ministry for building or by the building control authority in cooperation with the central cooperation authority (DIBt). The EU member states are obliged to carry out examinations.

**Fig. 5: Systems of assessment and verification of constancy of performance according to the CPR**

| Tasks         | System  | 1+ | 1 | 2+ | 3 | 4 |
|---------------|---|----|---|----|---|---|
| Manufacturer  | Type testing for the product                  |    |   |    |   |   |
|               | Factory production control                    |    |   |    |   |   |
|               | Further testing according to test plan        |    |   |    |   |   |
| Notified body | Type testing for the product                  |    |   |    |   |   |
|               | Initial inspection at the manufacturing plant |    |   |    |   |   |
|               | Continuous surveillance                       |    |   |    |   |   |
|               | Audit testing of samples                      |    |   |    |   |   |
|               | Certification                                 |    |   |    |   |   |

According to EN 15650 system 1 must be used for fire dampers.

**Fig. 6: Excerpt from a Declaration of Performance**

**Declaration of Performance**

0 DoP / FK-EU / DE / 2013 / 001

3 Shut-off device to prevent the spread of fire in ventilation ducts, fire damper

1 **FK-EU**

4 **TROX GmbH**  
Heinrich-Trox-Platz  
47504 Neukirchen-Vluyn, Germany

7 The notified bodies 0749 - BCCA and 1322 - IBS have carried out the initial inspection of the manufacturing plant and of the factory production control as well as the continuous surveillance, assessment and evaluation of factory production control according System 1 of the Construction Products Regulation and issued the Certificate of Conformity 0749 - CPD - BC1 - 606 - 4645 - 15650.11 - 4651 und 1322 - CPD - 74135/01.

2

9 **Declared performance**

| Essential characteristics    |                         |  |  | Class of performance EN 15658-2#10 (EI TT) |
|------------------------------|-------------------------|--|--|--|
| Size                         | Supporting construction | Construction details   | Installation type                                    |  |
| 200 x 200 to 1500 x 800 [mm] | Solid ceiling slab      | d ≥ 125 mm, p <sub>2</sub> 600 kg/m <sup>2</sup> , Distance between dampers ≥ 100 mm, minimum distance to load bearing structural elements ≥ 40 mm | Mortar-based installation into ceiling               | EI 90 (ho +no) S -300 Pa)                  |
|                              |                         | d ≥ 150 mm, p <sub>2</sub> ≥ 600 kg/m <sup>2</sup>   | Dry mortarless installation into ceiling (fire batt) | EI 120 (ho +no) S -300 Pa)                 |

Note: In no case can the classification of the fire damper be higher than the classification of the wall/ceiling it is installed in. In this case the class of performance of the wall or ceiling slab applies also to the fire damper.

9

| Essential characteristics   | Performance           |
|---|-----------------------|
| <b>Nominal activation conditions/sensitivity according to ISO 18294-4:</b><br>- Sensing element load bearing capacity<br>- Sensing element response temperature | Passed                |
| <b>Response delay (dosing time) according to EN 1366-2:</b>   | Passed                |
| <b>Operational reliability (opening, closing) according to EN 1366-2:</b>   | Passed                |
| <b>Durability of response delay according to ISO 18294-4:</b><br>- Sensing element response to temperature and load bearing capacity                            | Passed                |
| <b>Durability of operational reliability (opening and closing cycle) according to EN 15658:</b>   |                       |
| B(L)-F-T-(S)-TR:  | -10,000 cycles Passed |
| SFR T (SLC):  | -10,000 cycles Passed |
| Ex Max 15-BF-TR:  | -10,000 cycles Passed |
| Pneumatic actuator  | -10,000 cycles Passed |
| <b>Protection against corrosion according to EN 60868-2-62:</b>   | NPD                   |
| <b>Closed blade leakage to EN 1751:</b>   | Class 2 min.          |
| <b>Casing air leakage according to EN 1751:</b>   | Class B min.          |

10 The performance of product FK-EU conforms to the declared performance. This Declaration of Performance is issued under the sole responsibility of the manufacturer.

Signed on behalf of the manufacturer by:

*J. Heymann*

5 Dipl.-Ing. Jan Heymann  
CE Chief Officer  
Manager Quality Management  
Neukirchen-Vluyn, 8 April 2013

Declaration of Performance FK-EU

Declaration of Performance FK-EU

0. No. of the Declaration of Performance  
1. Product type code  
2. Identification of the construction product  
3. Purpose  
4. Name and address of manufacturer  
5. Responsible person

6. Performance evaluation system  
7. Notified body  
8. /J. Required only for ETA; here, hEN applies  
9. Declared performance  
10. Declaration of conformity of performance

They take random samples from specialist dealers or samples for which special distribution channels are used; this is called active supervision. By contrast, so-called reactive examinations of construction products are the result of individual events, e.g. complaints or charges brought forward, or reports by customs authorities in case they suspect irregularities.

**Conclusion**

With the Construction Products Regulation the European Commission aims at creating a favourable economic climate for enterprises in Europe and at ensuring free trade. The recipients of construction products gain more safety and clarity.

Safety is achieved by the manufacturer's Declaration of Performance which, if detailed and complete, provides an immediate overview of the performance of a product. Clarity and transparency are achieved in that the Declaration of Performance and the required flow of information allow for comparing the market participants. Empty promises mixed with advertising messages are not allowed. Only data that is given in the Declaration of Performance must be described as an essential characteristic of a construction product in the product brochure or manual.

**Customers should make sure that the following criteria apply:**

- 1) The Declaration of Performance provides specific and extensive information. This ensures that the product can actually meet the required performance.

- 2) The product carries the CE marking, and then the correct CE marking.

*Rüdiger Gurny,*  
Manager of Product Management,  
Fire and Smoke Protection,  
TROX GmbH, Neukirchen-Vluyn, Germany

TROX GmbH  
Heinrich-Trox-Platz  
47504 Neukirchen-Vluyn  
Phone: +49 (0) 28452020  
Fax: +49 (0) 2845202265  
E-mail: trox@trox.de