Policy Department
Economic and Scientific Policy

STUDY ON SAFETY AND LIABILITY ISSUES RELATING TO CONSTRUCTION PRODUCTS

(IP/A/ALL/FWC/2006-105/LOT3/C1/SC2)
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Executive Summary

The use of CE marking in construction products differs from the use of CE marking in many other products. Instead of indicating the essential requirements for the construction products, the essential requirements in the Construction Products Directive are directed at the construction works. Technical specifications (standards and European Technical Approvals) are thus mandatory in order for a construction product to be CE marked. Furthermore, this means that the CE marking of a construction product does not guarantee that a construction product is safe, but that construction works can be expected to fulfil the essential requirements of the CPD when CE marked construction products have been used in it. It is thus the construction works and not the construction products that have to fulfil the essential requirements for example for safety in use and safety in case of fire.

As regards the liability issues relating to construction products, the Construction Products Directive indicates that the manufacturer or his representative in the Member States is liable for two aspects: conformity assessment of a construction product, i.e. making sure that the product has all the characteristics mentioned in the technical specification for each product; and attaching a CE marking to the construction product, which can only be done when the product has the required attestation of conformity. The liability of the manufacturer for example in the case of a defective product is not regulated in the CPD, but in the national legislation of each Member State.

When interviewing different user groups (consumers and professionals) about the function of the CE marking in construction products, we found that the CE marking as such is known by the respondents, but that it is in most cases associated with electric appliances or toys, not construction products. Both consumers and professionals think of the CE marking as a safety mark or quality mark, and only a few respondents knew that the CE marking simply indicates that the product is in conformity with the standards set for the product family in question. The professionals were however of the opinion that the CE marking will in the future be one of the main parameters according to which products will be selected, even if it does not, as of yet, play any role when purchasing products for a construction work. Both consumers and professionals were of the opinion that the CE marking is good and important, when its meaning was explained to them.

The harmonised reaction to fire performance classification system is together with the resistance to fire classification system (Euroclasses) implemented in the legislation of most Member States. The legislation process is however still ongoing in some of the newer Member States. There are, in general, two ways in which the Euroclasses have been implemented into the national legislation of the Member States. A first group of countries has based the legislation on the existing national regulations and amended them in the cases where the Euroclasses have differed from the original version. A second group of countries has chosen to rewrite all the fire regulations in the country in order to implement the Euroclasses. This has in general taken more time than the first approach. A further harmonisation of the fire regulations in a similar way to the Euroclasses was welcomed by some respondents, whereas other Member States were against further harmonisation. No clear pattern could however be observed in the answers.

According to the statistical organisations, national working environment authorities and European interest organisations in the field of construction products interviewed for this
study, no statistics exist regarding accidents or injuries caused by construction products. Accidents at work are not yet categorised according to the material agent that caused the accident. This kind of categorisation is however on the way, as it belongs to the monitoring system for European statistics on accidents at work (ESAW) by the European Agency for Safety and Health at Work. However, no statistics are available as yet.

Regarding U.S. federal legislation in the field of construction products, we have found three main aspects that differentiate the U.S. legislation from the equivalent legislation in the European Union. Firstly, the standardisation bodies in the U.S. are not governed at the federal level, such as CEN in Europe. Instead, all the industrial sectors have their own standardisation bodies that have simply been accredited by a national organisation (the American National Standards Institute). Similarly, no federal conformity mark, such as the CE marking in Europe, exists. Rather, all the product families have their own national certification marks that indicate that the product is in conformity with the standards. Finally we can conclude that the U.S. federal legislation regulating the use of construction products concentrates on the safety and health issues of the products, instead of indicating essential requirements for the construction works, like the Construction Products Directive.

The most important problems related to construction products and the Community legislation in this field can be roughly divided into two different categories: problems related to standardisation and testing, on the one hand, and problems related to CE marking, on the other hand. When it comes to standardisation and testing, the biggest problem seems to be that the standardisation process is in many cases progressing too slowly in CEN. Furthermore, CEN was reported to not always follow the guidelines of the Commission and the Standing Committee on Construction, which has caused problems.

When it comes to the CE marking, the problems seem to be more significant, and in many cases related to the Member States not investing sufficient resources in fulfilling the requirements in the Construction Products Directive. Firstly, there is no requirement for market surveillance in the CPD, and thus proper market surveillance on CE marked construction products is lacking in most Member States. This leads to a lack of credibility of the CE marking resulting from low-quality products with CE marking entering the market. Furthermore, the Member States still accept voluntary national or local markings as a sign of conformity, and even require such marks of products manufactured in other Member States. These voluntary markings are an important hindrance to the free movement of construction products in the EEA.

The most crucial problem seems however to be the lack of knowledge about the CE marking of construction products, both among consumers and professional users. The users generally do not know to request products with CE marking and have not experienced any changes in the products due to CE marking. They know that CE marking exists, but it is usually associated with other products.
1. Introduction

Ramboll Management was commissioned to conduct a study on safety and liability issues relating to construction products. The questions that this study seeks to shed light on the six following topics:

1. An overview of current Community legislation relating to safety and liability issues with respect to construction products, addressing in particular Directive 89/106/EEC relating to construction products (as amended);

2. A discussion of the function of the CE mark with respect to construction products from a user point of view (consumer, designers, architects, engineers);

3. A discussion of the impact of the harmonised reaction to fire performance classification system under the Construction Products Directive and its impact on building requirements in the Member States;

4. A presentation of, and commentary on, statistics relating to accidents and injuries caused by construction products, their trends and likely main causes;

5. A brief comparative analysis of relevant federal legislation on construction products in the US; and

6. A summary highlighting any areas where clear problems or gaps have been identified in the Community legislation.

Within the scope of these questions, we have furthermore aimed to find out how the CE marking in construction products differs from the CE marking in other products, how the CE marking in construction products is perceived by consumers and professional users, and whether statistics on accidents and injuries caused by construction products can tell us anything about the safety of the construction products that have been CE marked.
2. Overview of current Community legislation relating to safety and liability issues with respect to construction products

2.1 The Construction Products Directive

The safety and liability issues of construction products are in the Community legislation mainly addressed by Council Directive 89/106/EEC of 21 December 1988, also known as the Construction Products Directive (CPD).¹ The Directive has as its main aim to eliminate technical barriers to trade² in construction products between Member States in the European Economic Area (EEA). In this chapter we will first present the main characteristics of the Construction Products Directive in order to give the reader an understanding of the scope of the Directive, and continue by discussing the questions of safety and liability in relation to construction products and the CPD.

2.1.1 The main characteristics of the Construction Product Directive

The Construction Products Directive is a Directive that follows for many parts the same principles as the New Approach Directives (NA), which aim at reducing technical barriers to free movement of goods through technical harmonisation of entire product sectors. One of the main principles of the NA is to guarantee a high level of protection of public interest objectives by establishing essential requirements for the products relating to health, safety, environmental protection, and consumer protection.³ The Construction Products Directive is nevertheless not a New Approach Directive, as it differs from them in four main characteristics:

- The essential requirements set out in the CPD are related to construction works, and not to products⁴;
- Technical specifications are thus mandatory in order to CE-mark the product in the case of CPD. In NA Directives the standards are voluntary, because the manufacturer can show directly that his product fulfils the essential requirements set out in the Directive in question;
- CPD has its own six Attestation of Conformity modules, and does not use the Global Approach modules;
- The tasks and duties of the notified bodies (testing laboratories, inspection and certification bodies) are different than in the NA Directives.⁵

² Technical barriers to trade are regulations relating to the technical specifications of goods or services, which may require testing or certification and which create costs or delays for importers which are not borne by national suppliers. See: Study to evaluate the internal market and competitiveness effects of Council Directive 89/106/EEC (Construction Products Directive, CPD). Final report, April 2007, p. 17.
⁴ See Table 1: Essential requirements for construction works.
Construction products are within the scope of the Directive described as “any product which is produced for incorporation in a permanent manner in construction works, including both buildings and civil engineering works”.\(^6\) Instead of defining and harmonising the requirements that construction products must fulfil in order to be considered suitable for the European market, the CPD concentrates on harmonising the characteristics of products, test methods, the methods of declaration of product performance values and the method of conformity assessment. Furthermore, unlike the traditional NA Directives, the CPD provides for essential requirements for the construction works in which the construction products are incorporated, instead of defining the essential requirements for construction products themselves.

Table 1: Essential requirements for construction works\(^7\)

<table>
<thead>
<tr>
<th>Requirement</th>
<th>Details</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>1. Mechanical resistance and stability</strong></td>
<td>The construction works must be designed and built in such a way that the loadings that are liable to act on it during its constructions and use will not lead to any of the following:</td>
</tr>
<tr>
<td>a) collapse of the whole or part of the work;</td>
<td>b) major deformations to an inadmissible degree</td>
</tr>
<tr>
<td>c) damage to other parts of the works or to fittings or installed equipment as a result of major deformation of the load-bearing construction;</td>
<td></td>
</tr>
<tr>
<td>d) damage by an event to an extent disproportionate to the original cause.</td>
<td></td>
</tr>
<tr>
<td><strong>2. Safety in case of fire</strong></td>
<td>The construction works must be designed and built in such a way that the load-bearing capacity of the construction can be assumed for a specific period of time,</td>
</tr>
<tr>
<td>• the generation and spread of fire and smoke within the works are limited,</td>
<td>• the spread of the fire to neighbouring construction works is limited,</td>
</tr>
<tr>
<td>• occupants can leave the works or be rescued by other means,</td>
<td>• the safety of rescue teams is taken into consideration.</td>
</tr>
<tr>
<td><strong>3. Hygiene, health and the environment</strong></td>
<td>The construction work must be designed and built in such a way that it will not be a threat to the hygiene or health of the occupants or neighbours, in particular as a result of any of the following:</td>
</tr>
<tr>
<td>• the giving-off of toxic gas,</td>
<td>• the presence of dangerous particles or gases in the air,</td>
</tr>
<tr>
<td>• the emission of dangerous radiation,</td>
<td>• pollution or poisoning of the water or soil,</td>
</tr>
<tr>
<td>• faulty elimination of waste water, solid or liquid wastes,</td>
<td>• the presence of damp in parts of the works or on surfaces within the works.</td>
</tr>
<tr>
<td><strong>4. Safety in use</strong></td>
<td>The construction work must be designed and built in such a way that it does not present unacceptable risks of accidents in service or in operation such as slipping, falling, collision, burns, electrocution, injury from explosion.</td>
</tr>
<tr>
<td><strong>5. Protection against noise</strong></td>
<td>The construction works must be designed and built in such a way that noise perceived by the occupants or people nearby is kept down to a level that will not threaten their health and will allow them to sleep, rest and work in satisfactory conditions.</td>
</tr>
<tr>
<td><strong>6. Energy economy and heat retention</strong></td>
<td>The construction works and its heating, cooling and ventilation installations must be designed and built in such a way that the amount of energy required in use shall be low, having regard to the climatic conditions of the location and the occupants.</td>
</tr>
</tbody>
</table>

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\(^{5}\) Interview with Matti J. Virtanen, 12.12.2007.

\(^{6}\) Art. 1(2).

\(^{7}\) Annex 1: Essential requirements.
The CPD presents five main elements that form the basis for harmonisation:

- A system for the harmonisation of technical specifications (harmonised standards and European Technical Approval)
- A system for attestation of conformity
- CE marking of products
- A framework of approved bodies (also called notified bodies)
- The Standing Committee on Construction (SCC)

**Technical specifications**

The purpose of the system for the harmonisation of technical specifications is to make sure that construction products entering the European market possess the characteristics that are needed in order for the construction works in which they are used to fulfil the essential requirements. Technical specifications are harmonised European product standards (hEN) produced by the European Committee for Standardization (CEN) or the European Committee for Electrotechnical Standardization (Cenelec), or European Technical Approvals (ETA) produced by the European Organisation for Technical Approvals (EOTA).8

The technical specifications are created on the basis of the Commission mandates, which include the requirements set for a product in each Member State9, and of the 12 Guidance Papers that the Commission has prepared in cooperation with the Standing Committee on Construction. The mandates are based on the essential requirements for construction works for which the product in question is used. These essential requirements constitute the general and specific criteria with which construction works must comply and they are given concrete form in the interpretative documents. The interpretative documents have as their objective to establish the link between the essential requirements and the mandates which the Commission gives to European standardisation bodies to establish harmonised standards and to EOTA to establish guidelines for European Technical Approvals.10

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9 Some of the requirements set in the technical specifications are not obligatory in all the Member States. An example of this is the requirement for durability against freeze-thaw that is applicable in for example Finland, but not required in Southern Europe. In this case, the manufacturer can add a CE marking to the product, but specify that product performance has not been determined (NPD). Virtanen, Matti J.: Rakennustuotteiden tuotehyväksyntä, Rakentajan kalenteri 2006, p. 534.

10 Preamble and art. 3; and Virtanen, Matti J.: Rakennustuotteiden tuotehyväksyntä, Rakentajan kalenteri 2006, p. 528.
European Technical Approvals are favourable technical assessments of the fitness of the use of a product. The approval may be granted for products for which there is neither a harmonised standard nor a recognised national standard (yet), or for products that differ significantly from harmonised or recognised national standards. ETAs are usually valid for five years.

Attestation of conformity

It is the responsibility of the manufacturer to show that the products are in conformity with the requirements of a technical specification.

This can be done by the attestation of conformity, which is dependent on the manufacturer having a factory production control system, and in the case of some products, the involvement of an approved certification body in the assessment and surveillance of the production control or the product itself. The attestation of conformity (AoC) gives the manufacturer the right to attach the CE marking to the product. The Attestation of Conformity decisions that define the AoC procedure for each product family (six different procedures in total) are drawn up by the Commission, based on article 13(4) of the CPD and on consultation with the Member States in the Standing Committee on Construction, and taking into account for example the implications that the product might have for health and safety. To date some 50 AoC decisions have been drawn up.

CE marking

CE marking can be considered as a “passport” enabling a product to be legally placed on the market in any Member State. In case of the Construction Products Directive, the CE marking indicates that

- the product complies with the relevant national standards transposing the harmonised standards, or
- a European technical approval, or
- one of the national technical specifications referred to in Art. 4 of CPD, AND
- that the system of attestation of conformity laid down in the Commission Decision relating to the product has been applied.

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11 The option to use a recognised national standard has however never been used. Interview with Matti J. Virtanen, 12.12.2007.
12 Art. 8.
14 Art. 13(4); interview with Antti Koponen, 16.11.2007; and http://ec.europa.eu/enterprise/newapproach/nando/index.cfm?fuseaction=directive.annex&dir_id=3&type_dir=CPD.
15 The option to use a recognised national standard has however never been used. Interview with Matti J. Virtanen, 12.12.2007.
The CE marking is neither a mark of origin, indicating “made in the EEA”, nor a quality mark. It must be affixed on the product itself, on a label attached to it, on its packaging, or on the accompanying commercial documents. The certification body or other approved body, if they are involved, must be identified in each case. Also the intended use of a construction product should be indicated in the information accompanying the CE marking, unless reference to the technical specification itself is sufficient. Furthermore, the technical information must be expressed in the form of declared values or the classes of performance.

A framework of approved bodies

Approved bodies are the certification and inspection bodies and testing laboratories assigned for the purposes of technical approval, certificates of conformity, inspections and tests in the Member States.

Such bodies are first approved by their respective Member States to carry out certain designated tasks, and then notified to the Commission and other Member States. In addition, there are organisations (approval bodies/EOTA-bodies) that have been deemed as competent to assess products in order to issue European Technical Approvals.

The Standing Committee on Construction

The Standing Committee on Construction, set up by the Construction Products Directive, has as its main role to help the Commission in the implementation and the practical application of the CPD. The Committee’s tasks include for example the establishing of classes of requirements and procedures for Attestation of Conformity. The Committee can examine any question posed by the implementation and practical application of the CPD. Consultations of the SCC are often used as a basis for drawing up guidance papers, decisions and other documents. The role of the SCC can be deemed as essential due to the fact that the Construction Products Directive has been drawn up on such a general level that its implementation without further guidelines and interpretations is not possible.

As the Directive does not directly set down the requirements for construction products, but for the construction works where the products are incorporated, interpretative documents and guidance papers are needed in order to make the link between the essential requirements and the mandates for harmonised standardisation from the Commission. This has led to an increased role for the SCC in discussing the proposals for decisions, guidance papers and other documents, and for the European Commission that draws up such documents on the basis of the consultation with the SCC.

20 Art. 19 & 20.
21 Interview with Antti Koponen, 16.11.2007.
2.1.2 Safety and liability issues relating to the Construction Products Directive

Safety

The CPD does not affect the Member States’ right to specify the requirements that are considered necessary to ensure the protection of workers when using construction products, and it is stressed that ensuring that building and civil engineering works are designed and executed in a way that does not endanger anyone’s safety belongs under the Member State competence. Other Directives do however regulate the questions of safety and health at work, for example by introducing “measures to encourage improvements in the safety and health of workers at work”.

The Directive specifies that the products can be considered “fit for use if they enable works in which they are employed […] to satisfy the essential requirements”. The essential requirements that the technical specifications of the construction products have to comply with are identified in Annex I to the Directive.

An interesting aspect is that the requirements that the technical specifications must comply with are, unlike in the traditional New Approach Directives, based on requirements set for construction works, which as such fall under Member State competence and which the Directive does not address. In other words, the Member States remain free to decide whether or not to regulate construction works. In the case where a Member State decides to regulate construction works according to the essential requirements and this has an impact on construction products, the Member State must comply with the provisions of the Directive. Consequently, the Member State can only permit the placing on the market of construction products intended by the manufacturer to be incorporated in the works if they are fit for use. In sum, it is the construction work, and not the construction products incorporated in it, that has to fulfil the above-mentioned essential requirements for safety in case of fire and safety in use, among others.

The question of safety is thus only indirectly related to the Construction Products Directive. Whereas in the case of traditional New Approach Directives (such as the Directive on the safety of toys), the CE marking normally refers to the attestation of conformity of a product with specified safety requirements, the CE marking under the Construction Products Directive does not relate to the safety of the construction products as such. The only requirements for safety set forth in the Directive concern the construction works in which the construction products are to be incorporated. Defining a construction product to be “fit for use” does not necessarily mean that the product as such is “safe”, but only that it is in conformity with the technical specifications.

22 Art. 2(4).
24 Art. 4(2). The essential requirements for construction works include mechanical resistance and stability; safety in case of fire; hygiene, health and the environment; safety in use; protection against noise; and energy economy and heat retention.
25 http://ec.europa.eu/enterprise/construction/internal/intdoc/common/enintro.htm. According to Antti Koponen, the Member States have included the essential requirements into their national legislation and thus the question of competence has not become an issue in this context.
Nevertheless, the procedures for attestation of conformity are decided upon based on the importance of the part played by the product with respect to fulfilling the essential requirements, in particular those relating to health and safety. This means that the considerations of health and safety are in fact a part of the AoC procedure. Moreover, the questions of health are indirectly related to the CPD, as several Directives regulating the use of dangerous substances in construction products have to be taken into account when producing construction material.

**Liability**

When it comes to liability with respect to construction products, the Construction Products Directive has an important role to play especially with regard to clarifying the liabilities of the manufacturer.

The Directive specifies that the manufacturer, or his agent established in the Community, is liable for declaring that the products meet the requirements set in the technical specifications, and for affixing the CE marking to the product. An active role on the manufacturer’s part is thus essential in creating the connection between the product and the CE marking. The liability of the manufacturer for the actual construction product depends however on the national legislation in each Member State. As mentioned above, the technical specifications are based on Commission mandates, which include the requirements set for a product in the national legislation of each Member State, and which have their foundation in the essential requirements for construction works. The legal foundation for the different characteristics required of a construction product can thus be found in the national legislation. Consequently, the specific liability of a construction product manufacturer in, for example, the case of a defective product, depends on the legislation in each Member State.

In the case where the conformity of a product has been attested according to the procedures laid down in Commission decisions, and the CE marking is attached to the product, the liability moves from the producer’s side towards the end user (designer, architect, contractor etc). It is the responsibility of the persons responsible for choosing the products for a construction work to select CE marked products in order to make sure that the construction work fulfils the essential requirements set out in the Directive, provided that the construction work is properly designed and built.

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28 Art. 13(4).
30 Art. 4(6) and 13(1).
Finally, it is the responsibility of the Member States to ensure that the CE marking is correctly used.\footnote{Art. 15(1).} For this, a system of market surveillance is needed in order to make sure that no products with false CE markings enter the market and that products that are not in conformity with the technical specifications do not appear on the market. We will return to the question of market surveillance later in this study (ch. 7).

\subsection*{2.1.3 Dangerous substances}

Dangerous substances, i.e. emissions from construction products into indoor air, or leakage from construction products into soil or ground water, have been left to national level so far. Standardisation work is however under progress in CEN Technical Committee 351. The target is to harmonise test methods and to determine which substances shall be tested at the European level, and to incorporate these into harmonised standards. This will improve health issues related to construction works.\footnote{Interview with Matti J. Virtanen, 12.12.2007.}

\subsection*{2.1.4 Construction products in contact with drinking water}

Four Member States (France, Germany, UK and the Netherlands) have their own systems to regulate and accept construction products which are in contact with drinking water. This area of legislation has so far been left to the national level. The goal is to create a harmonised European system based on the Construction Products Directive for this group of products as well. This work will nevertheless take some more years and several CEN TCs are involved in the work. Creating a harmonised system has however met some resistance, as for example the national approval bodies gain economically from the national approvals. Furthermore, the Drinking Water Directive\footnote{Council Directive 98/83/EC of 3 November 1998 on the quality of water intended for human consumption. Especially Art. 10 of the Directive is directly related to construction products: “Member States shall take all measures necessary to ensure that no substances or materials for new installations used in the preparation or distribution of water intended for human consumption or impurities associated with such substances or materials for new installations remain in water intended for human consumption in concentrations higher than is necessary for the purpose of their use and do not, either directly or indirectly, reduce the protection of human health provided for in this Directive; the interpretative document and technical specifications pursuant to Article 3 and Article 4 (1) of [the Construction Products Directive] and administrative provisions of the Member States relating to construction products shall respect the requirements of this Directive.”} includes a reference to the Construction Products Directive.

This future European system will likewise improve the quality of drinking water and increase the durability of products, if the relationship between the properties of drinking water and the properties of construction products are better known.\footnote{Interview with Matti J. Virtanen, 12.12.2007.}
2.1.5 Ongoing revision and stakeholder consultations

As a result of the Commission’s aim to simplify the regulatory framework, put forward in the Communication on a strategy for the simplification of the regulatory environment, the Construction Products Directive is currently under revision. The Communication set the initial focus of the simplification procedure on certain sectors, including construction. The revision includes an assessment of the impact of the current regulatory environment in cooperation with stakeholders in order to define the best possible regulatory approach for the industry in question. The Commission believes in fact that the CPD can only partially eliminate technical barriers to trade and that it does not establish optimal conditions for the circulation and use of construction products inside the Community. As a Directive gives the Member States a more flexible possibility to implement the contents of the Community legislation into the national legislation, it is proposed to put forth a regulation on construction products instead. A regulation would give an advantage to many manufacturers marketing their products in more than one Member State because they would not have to study the different implementations of the Member States anymore.

The Commission has furthermore adopted proposals for a regulation and a decision on the revision of the New Approach Directives. The regulation provides for a common framework for the accreditation of notified bodies and for market surveillance for the control of products and economic operators, whereas the Decision provides common principles and reference provisions for the revision of the Community legislation, including the New Approach Directives. These proposals are thus very relevant in relation to the revision of the Construction Products Directive, as they provide a framework of reference for how the Directive could be revised.

2.2 Other Community legislation relating to the safety and liability issues with respect to Construction Products

In addition to the Construction Products Directive, the safety and liability issues with respect to construction products are present in a number of other Directives. Some of these Directives impose on construction products requirements additional to those in the CPD, creating a more direct link between the construction product and its safety.

38 Interview with Matti J. Virtanen, 23.11.2007.
2.2.1 General Product Safety Directive

Certain construction products are also covered by the General Product Safety Directive (GPSD). Even if the Construction Products Directive is to a large part focussed on the professional construction sector, there are also a number of do-it-yourself- and other construction products on the general consumer market which are covered by GPSD.

The GPSD provides a uniform set of provisions to ensure consumer protection vis-à-vis consumer products. It stipulates that products which are intended for or to be used by consumers may only be placed on the Community market if they are “safe” and it prescribes rules and regulations to determine whether such a product is safe. It is applicable as far as safety aspects of products are not covered by other, more specific Community legislation. GPSD thus applies to construction products in areas where no specific provisions exist in the Construction Products Directive. For example the general obligation for manufacturers to place only safe products on the market applies (GPSD art. 3.1), as does Article 5.1 on manufacturers’ obligation to inform consumers on risks.

2.2.2 REACH

When it comes to the third essential requirement concerning hygiene, health and the environment, a clear connection can be made to the REACH regulation and directive in terms of release of dangerous substances. REACH imposes on the construction products certain requirements that are considered in the CPD as essential requirements to construction works. In this way, the safety issues can be directly related to the construction products.

2.2.3 Other directives

Another Directive that is directly related to the essential requirements of the Construction Products Directive is the Energy Performance in Buildings Directive (EPBD). The requirement for calculating energy efficiency (consumption) set out in the EPBD covers practically the same aspects as the sixth essential requirement of the CPD. Nevertheless, no research has been conducted on the relationship between these two directives in order to see how compatible the CPD harmonised standards are with the standards created under the EPBD, whether gaps exist in some standards, or whether some standards are missing altogether. It could be considered whether it would be wise to remove the methodology to calculate energy efficiency from the EPBD to the CPD, in order to coordinate the activities of these two Directives. CEN has developed over 40 design and calculation standards mainly for the methodology.

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44 Interview with Antti Koponen, 16.11.2007.
46 Interview with Matti J. Virtanen, 23.11.2007.
Some types of electrical equipment covered by the *Low Voltage Equipment Directive*\(^{47}\) are manufactured as a part of construction products with a view to be incorporated permanently in construction works, which means that such products must also meet the requirements set out in the Construction Products Directive. The “Low Voltage” Directive sets, however, a wide range of safety objectives that relate to electrical safety risks and do not overlap with the Essential Requirements of the CPD. In order to best ensure the objectives of both directives, existing harmonised standards are being examined in order to ensure that they are consistent with the relevant requirements of both Directives.\(^{48}\) Furthermore, for example the Machinery Directive\(^{49}\) and the Pressure Equipment Directive\(^{50}\) may apply to products that are also covered by the Construction Products Directive.\(^{51}\) It can nevertheless be concluded that in general relatively few direct conflicts have been identified between the CPD and the other directives.\(^{52}\)


\(^{51}\) Interview with Antti Koponen, 16.11.2007.

\(^{52}\) Interview with Pascal Bar, 21.11.2007.
3. The function of the CE mark with respect to construction products from a user point of view

When it comes to identifying the users of construction products, it is possible to distinguish between two overall categories of users that can give us very different views on the function of the CE marking: professionals and consumers. The professional users (architects, engineers, designers, contractors etc.), on the one hand, are in many cases in contact with building regulations and the essential requirements that the construction works have to fulfil, and thus with the characteristics of the construction products, which is why one can expect the professionals to have some knowledge of the CE marking, and hence of the Construction Products Directive. The general consumers, on the other hand, are likely to know that the CE marking exists, but whether they know that it applies to construction products or that it does not indicate that a product is safe (unlike in the case of toys, for example), is difficult to say. The main goal of this chapter is to find out to what extent the CE marking of construction products is known – and used - in Europe, and how the marking is perceived by consumers and professional users.

The rules concerning the use of CE marking in construction products differ from one product family to another (whether the product has a harmonised standard or a European Technical Approval, or does not require any at all) to such a great extent that even if it is possible for the manufacturer to find out the rules concerning his product, it will most likely be very difficult for a general user (both professionals and consumers) to know which products require CE marking. We may expect this to have an effect on the importance that they place upon the presence of CE marking in the construction products they acquire.

To shed light on the perception and knowledge of the CPD and the CE marking, a number of professional users and consumers were interviewed in five different Member States (Denmark, Finland, Germany, Romania, and the UK). Of these countries, the CE marking is not obligatory in Finland and the UK. The professionals were further divided into three different categories: engineers and architects; contractors; and hardware stores. The questions posed to them were related to their general knowledge (whether they know the Construction Products Directive, whether they know that the CE marking of construction products is a part of the CPD, whether they know which products belong to the scope of CE marking etc.) and to the function of the CE marking (does the CE marking affect their choice of products, has the CE marking made it easier to compare products originating from different countries to each other, has the CE marking improved the working environment etc.). The divergence between the answers of the different groups of professionals was however insignificant, which is why our results are presented collectively, taking account all the professionals interviewed. Below we present the conclusions drawn on the basis of these interviews.

53 The hardware/DIY stores were included since they are professional users who may be expected to have some knowledge of the CE marking, while at the same time being in close contact with consumers and thus able to provide some general indications of what consumers know and require when it comes to CE marking of the construction products that they buy. Representatives of hardware stores were only interviewed in Denmark.
3.1 Professionals

The results of our study, when it comes to professionals, are rather surprising. In general most people interviewed did not know the Construction Products Directive, and those who do, do not have precise knowledge about its content and consequences. The CE marking is, however, known among the professionals, but in many cases it is associated with other products requiring CE marking – such as construction machines. Practically none of the respondents knew that the CE marking of construction products is a consequence of the CPD. There were though some respondents who know that the CE marking aims at reducing technical barriers to trade and making it easier for products from one Member State to enter the market in another Member State.

The majority of the respondents found on the whole that the CE marking did not affect the work of either themselves or their colleagues and only two respondents considered the CE marking to have had an influence on the working environment or to have increased the safety of construction works. Some respondents had even experienced a decrease in the quality of products due to the CE marking.\(^{54}\)

When selecting products for construction works, the respondents reported that some other aspects than the CE marking, such as well-known national markings or standards, are taken into consideration, especially when requested by the customer/client. In only a few cases the CE marking had been requested by a customer and in only one instance had a product been rejected due to lacking CE marking. Furthermore, the respondents in Romania did not know that the CE marking legally substitutes the corresponding national certification marks.

The single respondents from Germany and Finland were aware of the existence of the CE marking, but said that the responsibility for controlling its presence in the construction products is someone else’s responsibility. In the case of Germany, national standards were put on the first place, whereas in the case of Finland, where CE marking is not obligatory according to the Finnish legislation, it is not given much thought.

Many respondents did however say that the CE marking is expected to be one of the parameters that will be controlled in the future when inspecting building sites and they expect it to be actively in use. Furthermore, all the respondents assessed the CE marking as being good and useful, when its function and purpose were explained to them.

3.2 Consumers

As expected, many consumers know that the CE marking exists, but it is mostly associated with electric appliances. When asked whether the consumers knew that the construction products they purchase from the hardware store should in many cases be CE marked, the answer was generally negative. In Romania, the CE marking was regarded as a quality label, origin label or EU standard label. It was however also associated with poor quality in the case of products originating from outside the EU. None of the interviewed consumers considered CE marking as something important when purchasing construction products.

\(^{54}\) An example was given by a Danish respondent, who mentioned that the CE marking in Denmark does not set requirements for durability against freeze-thaw, which has led to products of worse quality being used due to the introduction of CE marking.
In the UK, the consumers are aware of the existence of the CE marking, but the CE marking does not play any part in their selection of products. In Denmark, none of the consumers had any knowledge about neither the Construction Products Directive nor the CE marking of construction products.

As a conclusion we can say that the differences between the perceptions of the consumers and the professionals are surprisingly small. The respondents were in general aware of the existence of the CE marking, but its meaning and use in construction products is not generally known. In the case of the UK, it may be that the lack of awareness is a result of the CE marking not being part of the national legislation, but the issue is especially interesting in Denmark, where the Directive has been implemented into national legislation and all the products for which there is a common European standard or an ETA, should be CE marked. Romania, as a relatively new Member State, does not have a long history with the CE marking, but nevertheless the marking itself was recognised by all the respondents. It’s use in construction products was however not widely known.
4. The impact of the harmonised reaction to fire performance classification system

Articles 3(2) and (3) of the Construction Products Directive state that in order to take account of different levels of protection for the construction works that may prevail at national, regional or local levels, each Essential Requirement may give rise to the establishment of classes in the interpretative documents. Such a classification system can be found only for the Essential Requirement no. 2 concerning safety in case of fire.\textsuperscript{55} The Commission Decision drawing up the classification system for the reaction to fire performance of construction products (Euroclasses) states that a product shall be classified on the basis of its reaction to fire when “the end-use application of a construction product is such that it may contribute to the generation and spread of fire and smoke within the room (or area) of origin or beyond”.\textsuperscript{56} There exists also a resistance to fire classification system.

Most Member States have implemented the harmonised reaction to fire and resistance to fire performance classification systems into their national fire regulations\textsuperscript{57} which means that the basis of fire regulations in the Member States is basically harmonised, even if many differences (structure, requirements and requirement levels) still exist. The Member States have generally used two different ways of revising their legislation in order to adopt the Euroclasses. A first group of Member States (for example Finland and Denmark) has conducted the implementation by keeping the existing national legislation and adapting the parts where the Euroclasses include differences to the existing system. The existing systems are in many cases experience-based (based on fires) and the Member States have aimed at keeping the levels of protection as close to the original levels as possible. Another group of Member States (for example Belgium) has implemented the European classification system by rewriting the complete fire safety regulations. This has proved to be a more time-consuming model.\textsuperscript{58} For example in Latvia, the earlier system was based on former USSR GOST standards, which had a completely different approach to measuring fire performance. Instead of providing requirements for construction works, like the CPD does, the previous system was based on the fire performance of construction materials. This has lead to significant changes in the legislation.\textsuperscript{59}

Extending the harmonisation to other areas within the scope of the Construction Products Directive was welcomed by most respondents. The main arguments in favour of further harmonisation are for example the improvement of regulations, as constructors and designers need functional technical documents upon which they can base their work; advantages gained within product development and research when the results would be more easily applicable in the other Member States; advantages for the software designers; possibilities to raise the productivity levels in construction; securing a more efficient surveillance of quality in construction; and the possibility to counteract protectionist measures experienced on the part


\textsuperscript{56} Decision 2000/147/EC, Art.1.

\textsuperscript{57} Many of the newer Member States are still in the process of implementing the harmonised reaction to fire classification system into their national legislation. For example in Latvia the classification system has been included in the Draft Building code LBN 201-07 “Fire safety of construction works”, which is planned to come into force on 1.9.2008. Interview with Iveta Vorza 7.12.2007. In Malta a draft for National Building Regulations is currently being debated in the parliament and will likely take in consideration the fire performance of construction products. Interview with Franklin Balzan 10.12.2007.

\textsuperscript{58} Interview with Matti J. Virtanen, 4.12.2007.

\textsuperscript{59} Interview with Iveta Vorza, 7.12.2007.
of some Member States. The harmonisation is by some respondents seen as a means to achieve a high level of harmonisation for products without the obligation of harmonising national building codes or levels of protection and it would thus help to better introduce a “European language” as regards construction products. Harmonisation is also seen as a means to share information and research more easily among the Member States, which may have a positive impact on safety in the long term. There were nevertheless also comments against further harmonisation of fire regulations, as such a harmonisation is by some respondents considered to improve neither the fire safety nor the free trade within the Community.

In addition to the fire classifications, the national building regulations have furthermore been harmonised in relation to the Essential Requirement 1 on Mechanical resistance and stability. CEN has elaborated 58 Eurocode-standards for structural design, which also function as links between the Essential Requirement and the harmonised technical specifications. The Member States can determine the safety levels at their territory by determining Nationally Determined Parameters in the National Annexes of these Eurocodes-standards. The Member States have started to elaborate these National Annexes in 2007, and the Eurocode-standards will be the only official method for structural design from 2010. The Eurocode-standards can also be used in showing the fulfilment of resistance to fire requirements.

It was proposed by an interviewed expert that one way of harmonising this area in the Member States could be for CEN to collect the best and updated knowledge from the Member States in order to elaborate standards for products and regulations (design and execution standards). Especially smaller Member States do not have the required human and financial resources to conduct the same work and there is little sense in doing the same work in all the 30 EEA countries.

60 Interview with Matti J. Virtanen, 4.12.2007.
63 Interview with Iveta Vorza, 7.12.2007.
64 Interview with Matti J. Virtanen, 12.12.2007.
5. Statistics relating to accidents and injuries caused by construction products

In the search for statistics relating to accidents and injuries caused by construction products Eurostat, national statistics organisations, European interest organisations in the field of construction products and national working environment authorities were contacted. The answer from all these organisations has been the same: statistics relating to accidents and injuries caused by construction products are not being collected.

Accidents and injuries caused by construction products can in most cases be expected to be working accidents. The statistics concerning working accidents are however not categorised according to the product that caused the accident or injury, but instead according to the number of accidents, the types of injuries resulted from the accident (death, poisoning, amputation, fractures etc.), the industry,65, and age and sex of the injured.

Eurostat uses in its classification for example the following categories: age, sector of economic activity, size of the enterprise, experience, unusual working hours, dangerous substances and other risk factors. When it comes to the other risk factors, such as working at height, use of hand tools or use of sharp objects, very little statistical information exists on a European level.66

However, the European Agency for Safety and Health at Work has created a monitoring system for European statistics on accidents at work (ESAW), which has as its purpose to harmonise the criteria and methodologies to be applied when recording data on accidents at work. The data is categorised into three types of basic information: information to identify where the accident occurred, who was injured and when; information to show how the accident occurred, in what circumstances and how the injuries came about; and information on the nature and seriousness of the injuries and the consequences of the accident. The second category includes for example the variable “Material Agent of the Specific Physical Activity”, which describes the tool, object, or instrument being used by the victim when the accident happened.67 Statistics created according to this variable would thus provide us with information on accidents and injuries related to construction products. Such statistics have however proved to be difficult to find.68

In the case of availability of statistics categorised according to the material agent, a vast amount of work would be needed in order to sort out the statistics concerning only products that are covered by the Construction Products Directive. It is also possible that single producers of construction materials collect statistics on deficient products that have caused accidents or injuries, but it was the opinion of the European producer organisations contacted for this study that the companies often usually treat this kind of data as confidential and a wider collection of for example European wide statistics is thus impossible.

65 The industries are normally categorised according to NACE (Nomenclature générale des Activités économiques dans les Communautés européennes).
68 For example in Finland, Statistics Finland will publish statistics concerning accidents at work in 2005 according to the ESAW methodology in March 2008 and the data from 2006 in November 2008.
It is however known that the construction industry has the highest incidence of accidents resulting in more than three days absence, though decreasing since 1994: 6,900 per 100,000 workers in 2002 against 9,000 in 1994. Furthermore, 19% of construction workers consider that their work affects their health by posing a risk of injury (in comparison to 7% average among all the industries).69

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6. U.S. federal legislation

6.1 U.S. Standardisation System in general

The U.S. standardisation system is based on the principle of decentralisation which includes an open process that is dependent on data gathering, a dynamic discussion of all viewpoints, and agreement among the various stakeholders. This “open” process gives all the interested bodies the possibility to take part in a standard’s development. The decentralisation means that the standardisation activities are naturally partitioned into industrial sectors and supported by independent, private sector standards developing organisations (SDO) and conformity assessment bodies. Hence, no central government agency is responsible for oversight of the entire system. The basis of the U.S. standardisation system lies in the United States Standards Strategy, which reaffirms the basic structure and market-driven approach of the U.S. standardisation community.70

The authority responsible for supporting standardisation in the U.S. is the American National Standards Institute, ANSI. ANSI does not itself develop standards, but facilitates their development by accrediting the procedures of standards developing organisations. The standards developed by these accredited organisations are qualified as American National Standards (ANS). The standardisation procedures in the U.S. are overall relatively scattered, as there are estimated to be hundreds of standards developing organisations, which are furthermore divided into committees made up of experts addressing the technical requirements of standards within their specific area of expertise. At the end of 2006, about 200 of these standard developing organisations were accredited by ANSI.71

6.2 Conformity Assessment

As in the European Union, conformity assessment is considered also in the U.S. as a vital link between standards that define product characteristics or requirements and the product itself. Conformity assessment gives the consumers the guarantee that the product fulfils the specific requirements set in the standards of the product in question. Conformity assessment is constituted by sampling, testing, inspection, supplier’s declaration of conformity, certification and management system assessment and registration. ANSI is in addition to accreditation of standards developing organisations responsible for accrediting third-party product certification.72

Unlike in the European Union, the U.S. does not use a unified conformity assessment mark, such as the CE marking. Instead, each certification body has its own registered certification mark. A mark of conformity or certification mark is in the U.S. defined as "a sign or symbol owned or controlled by the certification body that is used exclusively by the third-party certification program to identify products or services as being certified and is registered as a certification mark [when used in the United States] with the U.S. Patent Office under the Trade Marks Act of 1946".73

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6.3 Federal legislation and standards concerning construction products

In the Code of U.S. Federal Regulations (CFR), Title 29, Part 1926 defines the safety and health regulations for construction.\textsuperscript{74} This part includes both general safety and health provisions and specific provisions concerning more precise areas of construction, such as concrete and masonry construction or steel erection. This regulation does not, however, specify any harmonisation requirements for the different construction products, but concentrates instead on their usage. This is an area that is not covered by the Construction Product Directive, as the Article 2 specifies that:

“This Directive shall not affect the right of Member States to specify – with due observance of the provisions of the Treaty – the requirements they deem necessary to ensure that workers are protected when using products, provided it does not mean the products are modified in a way unspecified in this Directive”.

Title 24 on Housing and Urban Development\textsuperscript{75}, for its part, gives exact specifications on the requirements that the construction products incorporated in manufactured homes have to fulfil. According to § 3280.1, the standard

“[…] covers all equipment and installations in the design, construction, transportation, fire safety, plumbing, heat-producing and electrical systems of manufactured homes which are designed to be used as dwelling units. This standard seeks to the maximum extent possible to establish performance requirements. In certain instances, however, the use of specific requirements is necessary.”

The specific standards that the construction products have to fulfil are listed in § 3280.304 (Materials). As mentioned above, no uniform marking exists to show that the products fulfil the standards required, and the standard developing organisations differ from one product to another ranging from smaller standards developers accredited by ANSI to international standard developing institutes, such as ASTM International, which is originally known as the American Society for Testing and Materials (ASTM).

In conclusion we can say that there are especially three aspects that differentiate the U.S. legislation in the field of construction products and standardisation from the European legislation:

- the standardisation activities are naturally partitioned into industrial sectors, and no centralised authority, such as CEN in Europe, exists for the creation of standards;

- there is no national certification mark, such as the CE marking, for construction products, but each industrial sector has its own marking;

- there is no federal legislation equivalent to the Construction Products Directive regulating the standardisation and essential requirements for construction products and construction works.


7. Summary of problems and gaps

On the basis of expert and user consultations, we have been able to identify a number of problems related to Community legislation in the field of Construction Products and especially to the Construction Products Directive. These problems can be divided roughly into two different categories: problems related to standardisation and testing, and problems related to CE marking. Our research did, however, not reveal any gaps in the legislation in the field of Construction Products. There are still areas of legislation that have not been harmonised, or product groups for which no standard has been written, but these cannot in our opinion be called gaps as such, as harmonisation and standardisation procedures are ongoing.

7.1 Standardisation and testing

The first problem mentioned by several experts is the existence of standards of low quality that do not guarantee an optimal quality of a construction product that nevertheless lives up to the requirements in the standards. This is an issue that, according to some respondents, contributes to the overall problems related to the Construction Products Directive, as it is assumed that a product fulfilling the requirements set out in a standard is fit for use in construction works.  

Differing opinions have however also been expressed. The possible deficiencies in the standards can according to some respondents be explained by the fact that not all circumstances and requirements of regulations in Europe have been taken into account. The reason mentioned for this is that all the Member States are not always present when drawing up the mandates and it is not possible for the experts from other Member States to take into account the circumstances in the other Member States. The main principle is, however, that the national standardisation bodies should be active enough in the standardisation process. According to the respondent, the deficiencies will however be corrected.

Secondly, it is also possible to identify problems related to CEN. It was reported that the standardisation and testing institutions have in some cases acquired a too powerful and independent role, and they do not always follow guidance given by the Commission and the SCC. Moreover the progress is too slow in some fields of standardisation.

Furthermore, some problems related to SMEs could be identified. Especially the smaller construction product manufacturers are experiencing difficulties in participating in meetings of technical and national committees, which leads to their specific concerns and issues being left out of the considerations. This can lead to the creation of testing requirements and standards that impose extra costs on SMEs where these could in fact have been avoided.

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76 Interviews with Antti Koponen, 16.11.2007 and Pascal Bar, 21.11.2007.
77 Interview with Matti J. Virtanen, 12.12.2007.
7.2 CE marking

Expressed in a simple manner, the CE marking in construction products should indicate the following:

- The product is being legitimately placed on the European market by the legal person identified on the label;

- The manufacturer or importer has declared performance characteristics, which are measured using relevant European test methods and using the level of AoC indicated in the technical specification for each product;

- The designer, contractor or client can select the product which meets the performance characteristics required by his design to meet the client’s requests, and in accordance with the national building regulations which he knows and understands best;

- The contractor, site engineer or building inspector can see that this product has the values specified by the designer and within the requirements of the national regulations or design guidance.\(^{80}\)

Nevertheless, there are many problems related to the CE marking in the case of construction products. The main problems identified in this study are connected to the credibility of the marking due to for example other competing voluntary markings, the differing role of the marking from one Member State to another, insufficient market surveillance, and lack of knowledge among users.

In several Member States the local and national authorities have developed other voluntary markings that are functioning in parallel to the CE marking, making it difficult for producers from other Member States to enter the market and thus hindering the mobility of construction products in the EU.\(^{81}\) In many cases these markings are created in order to protect the local market, which is an action that is contrary to the aims of the Directive (and to those of the Internal Market). This question is directly connected to the issue of the role of the notified bodies that remain under the control of the national authorities, who are thus able to support the importance of the voluntary markings instead of promoting the CE marking. This could be changed by bringing the notified bodies under European control and by subjecting them to a European accreditation system.\(^{82}\)

Furthermore, the national authorities have not mobilised sufficient resources for market surveillance in order to make sure that products without CE marking are prevented from entering the market, or that the products carrying the CE marking have in fact been assessed for conformity according to the requirements set down in the Directive.\(^{83}\) There are however no requirements in the CPD on how to organise market surveillance in the Member States. According to an interviewed expert, only a few Member States have a proper market


\(^{82}\) Interview with Pascal Bar, 21.11.2007.

surveillance system for construction products. This issue would however be corrected by the proposed regulation setting out requirements for accreditation and market surveillance related to the marketing of products.\(^4\)

The issues discussed above are in clear connection to each other, as the existence of voluntary markings can be caused by a lack of confidence towards the CE marking, directly connected to the fact that the lack of surveillance gives products with false CE marking the possibility to enter the market. Furthermore, the requirements set down in the national legislation of the Member States concerning the implementation of the directive differ from each other, which is illustrated by the fact that the CE marking is non-compulsory in Finland, Ireland, Sweden and the UK.

The main problem among the users (consumers and professionals) seems nevertheless to be the lack of knowledge about the function of the CE marking. When asked in general about the CE marking, most respondents do know of its existence, but it is usually associated with electric appliances and toys, for example, instead of construction products. The professional users know that the construction products have to pass certain tests and fulfil certain standards, but it is not generally known that the standards are created by European standardisation bodies or that the technical sheet describing the characteristics of a product follows a European model and includes the CE marking. Furthermore, the CE marking neither affects the product selection nor helps the users to compare products from different Member States to each other. Many consumers and even some professionals associate the CE marking with the safety and quality of a product, even if it is not the case in relation to construction products. Surprisingly, no great differences could be observed in the knowledge of the CE marking of the consumers on the one hand, and professionals on the other hand. In the case of the professionals, the knowledge was in most cases limited to the specific group of products related to their work, but in most cases the CE marking was reported to have no effect on the way the professionals conduct their work.

Another concern related to the CE marking is that it can impose significant costs for SMEs. According to some instances the obligation to CE marking poses cost problems to small manufacturers, whose products can thus become less competitive in comparison to bigger producers.\(^5\) Other experts claim however that the CE marking is in general very affordable, especially in the case of a well-organised company.\(^6\)

In many cases the problems are, however, not related to the CPD as such, but to the Member States implementing it. The Member States do not appear to have sufficient resources or knowledge to amend their regulations, which should be based on the harmonised product standards, but in many cases the implementation takes a very long time. In the worst cases the Member States have created technical barriers to trade for the design and execution side. This is why common European standards for design and execution of construction works are needed. Finally, the development of European tests and systems requires extensive financial resources, but is not always prioritised among the Member States.\(^7\)

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\(^6\) Interview with Pascal Bar, 21.11.2007.

\(^7\) For example interview with Matti J. Virtanen, 12.12.2007.
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### OVERVIEW OF INTERVIEWEES

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<td>22 Nov. 2007</td>
<td>BIMB – the European trade association of the precast concrete industry</td>
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<td>CEI-Bois – the European Confederation of woodworking industries</td>
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<td>22 Nov. 2007</td>
<td>CEMBUREAU – The European Cement Association</td>
<td>Candide Dufloucq</td>
<td>Statistics &amp; Industrial Data Assistant</td>
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<td>22 Nov. 2007</td>
<td>PlasticsEurope – Association of plastics manufacturers</td>
<td>Jan-Erik Johansson</td>
<td>Statistics Responsible</td>
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<td>EURIMA – European Insulation Manufacturers Association</td>
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<td>4 Dec. 2007</td>
<td>ARCHITECTS AND ENGINEERS</td>
<td>Juha-Pekka Niinimaa</td>
<td>Architect</td>
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<th>Company</th>
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<tbody>
<tr>
<td>Rambøll Danmark A/S</td>
<td>Gert Dahl</td>
<td>Engineer</td>
<td>11 Dec. 2007</td>
</tr>
<tr>
<td>Rambøll Danmark A/S</td>
<td>Poul Koldsøe</td>
<td>Inspector</td>
<td>12 Dec. 2007</td>
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<tr>
<td>N/A, Romania</td>
<td>Dorela Dumitrescu</td>
<td>Construction engineer</td>
<td>12 Dec. 2007</td>
</tr>
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<td>N/A, Romania</td>
<td>Oana Cherciu</td>
<td>Architect</td>
<td>12 Dec. 2007</td>
</tr>
<tr>
<td>N/A, Romania</td>
<td>Gheorghe Rosu</td>
<td>Construction engineer</td>
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<tr>
<td>N/A, Romania</td>
<td>Mihai Banu</td>
<td>Construction engineer</td>
<td>12 Dec. 2007</td>
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<tr>
<td>Ramboll Whitbybird, UK</td>
<td>Christopher Dunn</td>
<td>Senior Architect</td>
<td>13 Dec. 2007</td>
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<tr>
<td>Peter Brett Associates, UK</td>
<td>Fergal Kelly</td>
<td>Associate (structural engineer)</td>
<td>13 Dec. 2007</td>
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<td>Faber Maunsell, UK</td>
<td>Steve Corbett</td>
<td>Director (engineer)</td>
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<tr>
<td>Foremat Milton, UK</td>
<td>Neil Armitage</td>
<td>Director (architect)</td>
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<tr>
<td>Sheppard Robson, UK</td>
<td>Catherine Hennessy</td>
<td>Director (architect)</td>
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**CONTRACTORS**

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<tr>
<th>Company</th>
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<tr>
<td>Amann Gmbh, Germany</td>
<td>Bernhard Kuhn</td>
<td>Construction supervisor</td>
<td>9 Dec. 2007</td>
</tr>
<tr>
<td>Termavent A/S, Denmark</td>
<td>Hans Faber</td>
<td>Owner</td>
<td>11 Dec. 2007</td>
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<tr>
<td>Hoffmann A/S, Denmark</td>
<td>Aksel Frederiksen</td>
<td>Head of purchasing</td>
<td>13 Dec. 2007</td>
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<tr>
<td>Stent, UK</td>
<td>Tony Suckling</td>
<td>Director</td>
<td>13 Dec. 2007</td>
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<tr>
<td>Dean and Dyball, UK</td>
<td>Steve Robinson</td>
<td>Director</td>
<td>13 Dec. 2007</td>
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**HARDWARE/DIY STORES**
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<th>Country</th>
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<tr>
<td>Denmark</td>
<td>Charlotte Jensen</td>
<td>7 Dec. 2007</td>
</tr>
<tr>
<td>Denmark</td>
<td>Bjarne Steenstrup</td>
<td>7 Dec. 2007</td>
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<tr>
<td>Denmark</td>
<td>Eva H Dahl</td>
<td>11 Dec. 2007</td>
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<tr>
<td>Denmark</td>
<td>Ole Geertsen</td>
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<td>Denmark</td>
<td>Poul Keller Madsen</td>
<td>13 Dec. 2007</td>
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<tr>
<td>Romania</td>
<td>Nicolae Illiescu</td>
<td>12 Dec. 2007</td>
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<tr>
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<td>Daniela Cancescu</td>
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<td>Catalin Stanciu</td>
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<td>Romania</td>
<td>Emilia Cornea</td>
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<td>UK</td>
<td>Benjamin Green</td>
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</tr>
<tr>
<td>UK</td>
<td>Charlie Markham</td>
<td>13 Dec. 2007</td>
</tr>
<tr>
<td>UK</td>
<td>Richard Foulerton</td>
<td>13 Dec. 2007</td>
</tr>
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</table>
APPENDIX 1 – Questionnaire (authorities)

Ministries/authorities:

1. (Only for Finland): What is the legal situation of the Construction Products Directive in Finland at the moment?

2. (Only for Finland, Sweden, UK & Ireland): What is the legal role of the CE marking in your country?

3. Does there exist any other Community legislation such as directives, regulations or decisions that cover (partly) the same area as the Construction Products Directive?

   This could be for example Directives concerning construction works or some other aspects of construction products.

4. How are safety and liability issues connected to the Construction Products Directive?

5. What is the role of the Commission Decisions laying down the system of attestation of conformity?

6. Do you know how many such decisions exist?

7. What is the legal status of the interpretative documents?

8. Could you briefly discuss/explain the issue of the essential requirements that concern construction works instead of construction products?

   Are the Member States still free to regulate their use of construction works?

   How is this affecting the regulation of the construction products?

9. Do you know how the harmonised reaction to fire performance classification system has affected the legislation and building requirements in your country?

10. Do you have a conception about the practical role of the Standing Committee on Construction?

If yes,

11. To what extent are the Committee interpretations of the Directive used?

12. To what extent are the Committee interpretations of the Directive necessary in order to implement the Directive?

If not,
13. Can you identify any areas where there might be clear problems or gaps in the Community legislation concerning the safety and liability issues with respect to construction products?

14. Do you have any other general comments about the Construction Products Directive, especially in relation to safety and liability issues?
APPENDIX 2 – Questionnaire (interest organisations)

1. How would you describe the role of your organisation in questions concerning Construction Products Directive?

Construction Products Directive

2. What is your general idea about the Construction Products Directive and its usefulness?

3. Does there exist, according to your knowledge, any other Community legislation such as directives, regulations or decisions that cover (partly) the same area as the Construction Products Directive?

   This could be for example Directives concerning construction works or some other aspects of construction products.

4. Can you identify any areas where there might be clear problems or gaps in the Community legislation concerning the safety and liability issues with respect to construction products?

5. Do you have any other general comments about the Construction Products Directive, especially in relation to safety and liability issues?

CE marking

6. Do you have any general comments about the use of CE marking in construction products?

7. Does your organisation follow-up on the use of CE marking in construction products?

8. Do you get feedback from the users of the CE marking (construction material producers) concerning the marking?

9. If yes, how would you describe the feedback?

Standing Committee on Construction

7. Do you have a conception about the practical role of the Standing Committee on Construction?

If yes,

8. To what extent are the Committee interpretations of the Directive used?

9. To what extent are the Committee interpretations of the Directive necessary in order to implement the Directive?
Statistics and accidents

10. Does your organisation collect statistics in general?

11. If yes, who is responsible for it?

12. Does your organisation collect statistics related to construction products?

13. If yes, what kind of statistics do you collect?

14. Do these statistics include material about accidents and injuries caused by construction material in general or by certain products in particular?

15. If not, do you know if any other organisation (partner organisations or member organisations) collect such statistics?

General:

16. Has your organisation produced opinion papers etc. on the issue of Construction Products Directive or CE marking? Are these available?
APPENDIX 3 – Questionnaire (Engineers and architects)

1. Identification

- Who is the person in question and what is his/her role?

If the person in question is not concerned with purchase, selection, use or control of construction products, and has thus no direct relation to the Construction Products Directive, the interview can be finished.

The relevant persons at an engineering or architect company are for example those assigning specific materials for a construction work, those preparing tenders and detailed project proposals, or those conducting inspection.

2. Knowledge

- Do you know what the Construction Products Directive is?
- Explain with a few words what you know about the Construction Products Directive.
- Do you know that the CE marking is a part of the Construction Products Directive?
- Is it something that affects your work or that you use at your work?
- If you are not using the Construction Products Directive yourself, do you know if some of your partners/colleagues/suppliers know or use the Construction Products Directive?
- Do you know which products belong to the scope of CE marking?
- Do the users/end users know the CE marking – is it something they ask about?

3. Construction Products Directive

- Which criteria do you use when choosing construction products for a construction work? For example voluntary national markings?
- Does the CE marking affect your choice of products in any way?
- Have you encountered projects that have been affected by the Construction Products Directive?
- Have you experienced projects where the supplier has commented the Construction Products Directive in some way?
- In your opinion, has the Construction Products Directive influenced the choice of products, or have some products been rejected because of the Construction Products Directive, for example because of a missing CE marking?
• Has the Construction Products Directive made it easier to compare different products with each other?

• Has the Construction Products Directive made it easier/more difficult to choose foreign products/products from other countries?

• When conducting control/inspection – do you control that the construction products are CE marked?

• Have you experienced situations where the CE marking and thus the Construction Products Directive has improved the working environment?

• Has the use of CE marking in your opinion increased the safety of the construction works?

If you are concerned with fire safety questions – has the harmonised European fire safety classification affected your choice of products?
APPENDIX 4 – Questionnaire (Contractors)

1. Identification

- Who is the person in question and what is his/her role?

If the person in question is not concerned with purchase, selection, use or control of construction products, and has thus no direct relation to the Construction Products Directive, the interview can be finished.

The relevant persons among the contractors are the ones using construction products and/or the ones responsible for purchasing construction products.

2. Knowledge

- Do you know what the Construction Products Directive is?
- Explain with a few words what you know about the Construction Products Directive.
- Do you know that the CE marking is a part of the Construction Products Directive?
- Is it something that affects your work or that you use at your work?
- If you are not using the Construction Products Directive yourself, do you know if some of your partners/colleagues/suppliers know or use the Construction Products Directive?
- Do you know which products belong to the scope of CE marking?

3. Construction Products Directive

- Which criteria do you use when choosing construction products for a construction work? For example voluntary national markings?
- Does the CE marking affect your choice of products in any way?
- Have you encountered projects that have been affected by the Construction Products Directive?
- Have you experienced projects where the supplier has commented the Construction Products Directive in some way?
- In your opinion, has the Construction Products Directive influenced the choice of products, or have some products been rejected because of the Construction Products Directive, for example because of a missing CE marking?
- Has the Construction Products Directive made it easier to compare different products with each other?
• Has the Construction Products Directive made it easier/more difficult to choose foreign products/products from other countries?

• When checking the offers and other project material, do you control that the assigned products live up to the requirements in the Construction Products Directive?

• When conducting internal inspections, do you control that the construction products are CE marked?

• Have you experienced situations where the CE marking and thus the Construction Products Directive has improved the working environment?

• Has the use of CE marking in your opinion increased the safety of the construction works?

If you are concerned with fire safety questions – has the harmonised European fire safety classification affected your choice of products?
APPENDIX 5 – Questionnaire (Hardware and DIY-stores)

1. Identification

- Who is the person in question and what is his/her role?

If the person in question is not concerned with purchase, selection, use or control of construction products, and has thus no direct relation to the Construction Products Directive, the interview can be finished.

The relevant persons at a hardware store are the people responsible for the purchase and sales of construction products.

2. Knowledge

- Do you know what the Construction Products Directive is?

- Explain with a few words what you know about the Construction Products Directive.

- Do you know that the CE marking is a part of the Construction Products Directive?

- Is it something that affects your work or that you use at your work?

- If you are not using the Construction Products Directive yourself, do you know if some of your partners/colleagues/suppliers know or use the Construction Products Directive?

- Do you know which products belong to the scope of CE marking?

3. Construction Products Directive

- Which criteria do you use when purchasing construction products?

- Does the CE marking affect your choice of products that are purchased?

- Have you experienced situations where suppliers have commented the CE marking?

- Have you encountered customers who have expressed demands or wished concerning the CE marking or who have mentioned the Construction Products Directive or the use of CE marking in construction products in general? If yes, what have they asked or said?

- Has the CE marking made it easier to compare products with each other when choosing the products for purchasing?

- Has the Construction Products Directive and the CE marking made it easier/more difficult to choose foreign products/products from another country?
• When controlling the deliveries, do you check that the construction products are CE marked?
APPENDIX 6 – Questionnaire (consumers)

- Do you know the CE mark? Have you seen/noticed it on any products that you have bought – if yes: Which types of products?

- Do you know what the CE mark means?

- Are you aware that construction products – including those used by private persons – should be CE-marked?

- Do you check if the construction products that you purchase are CE marked?

- Have you rejected products because of a lacking CE marking?

- Have you especially chosen a product because it has been CE marked?

- Have you been informed about the meaning of the CE marking by the vendor/salesperson?
Appendix 7 – Questionnaire concerning the implementation of the harmonised reaction to fire performance classification system

1. Has your country implemented the harmonised reaction to fire performance classification system into the national legislation? If yes, when was this done?

2. How would you describe the impact that the reaction to fire performance classification system has had on the national legislation in your country?

3. Has the classification system had an impact on the building regulations in your country?

4. Would you assess this impact to be rather positive, negative or neutral, and why? I would especially like to know, whether the implementation of the European fire classification system has resulted in stricter rules or increased bureaucracy.
## List of abbreviations

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<tr>
<th>Abbreviation</th>
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<tr>
<td>ANS</td>
<td>American National Standards</td>
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<td>ANSI</td>
<td>American National Standards Institute</td>
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<td>AoC</td>
<td>Attestation of Conformity</td>
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<td>ASTM</td>
<td>American Society for Testing and Materials</td>
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<td>CEN</td>
<td>European Committee for Standardization</td>
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<tr>
<td>Cenelec</td>
<td>European Committee for Electrotechnical Standardization</td>
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<td>CEN/TC</td>
<td>CEN Technical Committee</td>
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<td>CFR</td>
<td>Code of U.S. Federal Regulations</td>
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<td>CPD</td>
<td>Construction Products Directive</td>
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<td>EEA</td>
<td>European Economic Area</td>
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<td>EOTA</td>
<td>European Organisation for Technical Approvals</td>
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<td>Energy Performance in Buildings Directive</td>
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<td>ESAW</td>
<td>European Statistics on Accidents at Work</td>
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<td>NA</td>
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<td>REACH</td>
<td>Registration, Evaluation and Authorisation of Chemicals Directive</td>
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<td>SCC</td>
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<td>SDO</td>
<td>Standards Developing Organization (in the U.S.)</td>
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<td>SME</td>
<td>Small and Medium-sized Enterprises</td>
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