

# Guidance note for CE marking of thermal insulation products

## Introduction

The specification for factory made thermal insulation is given in the European product standards prEN 13162 through prEN 13171. The evaluation of conformity is given in the European standard prEN 13172.

The manufacturer or his authorised representative is responsible for the conformity of the product with the requirements in the two standards.

## Evaluation of conformity

The system of attestation of conformity for CE marking of a product is chosen in accordance with annex ZA of the relevant product standard. Most thermal insulation products will fall under attestation of conformity (AoC) system 1+3 (for reaction to fire declarations A1, A2, B and C). The other possible AoC systems are:

1. products where it can be demonstrated (to a notified certification body) that no stage in the production process will result in an improvement of the declared reaction to fire classification.
2. products which fall in Euroclass D or E
3. products not subjected to regulations on reaction to fire
4. products that do not require to be tested for reaction to fire

Which attestation of conformity systems to be used for thermal insulation products are summarised as follows:

<b>Product type:</b>	<b>AoC system:</b>
Thermal insulation product subjected to reaction to fire regulations falling in Euroclass A1 – C	1 + 3
Thermal insulation products where it can be demonstrated that no stage in the production process will result in an improvement of reaction to fire classification (for Euroclasses A1 – C)	3
Thermal insulation products subjected to reaction to fire regulations falling in Euroclass D – E	3
Thermal insulation products not subjected to reaction to fire regulations	3
Thermal insulation products that do not require to be tested for reaction to fire (Euroclasses A1 through E without testing and Euroclass F)	4 + 3

The different procedures of the attestation of conformity systems are outlined in the following pages.

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## **Attestation of Conformity System 1 + 3**

This system is based on obtaining a certificate of conformity for the product. The following notified (external) bodies are involved in the evaluation of conformity of products:

- Certification body
- Inspection body
- Testing laboratories

The functions of the bodies can be carried out by the certification body alone (if it is notified to do inspection and testing) or by several different bodies. If more than one body is involved they all carry out their functions on behalf of the certification body.

All bodies involved shall be notified by the EU Member States and EFTA and mentioned in the Official Journal of the European Communities. A list of notified bodies will be available on the internet. (Subcontracting to non-Notified bodies is possible following the conditions described in Guidance paper K clause 5.1)

### **Procedure**

The manufacturer identifies which product or which group of products for which he wants to apply for CE marking. Remember that it is necessary to apply for the CE mark for each production line.

The manufacturer then contacts a certification body. The certification body appoints an inspection body and one or more notified laboratories. This can either be separate bodies or it can be from the same organisation as the certification body. If the manufacturer has a specific wish for which inspection body and/or testing laboratories he wants to involve he will have to make an agreement with the certification body to appoint the other bodies.

### ***Initial inspection***

The inspection body performs the initial inspection. This includes inspection of factory production control, quality systems and sampling of products for initial type testing. The products to be sampled shall be finished products conforming to the product standard. The results and recommendations of the inspection body is reported to the certification body in an assessment document.

### ***Initial type testing***

The products to be sampled by the certification body for initial type testing shall unless otherwise specified be taken from four different production dates and shall cover the range of thickness declared by the manufacturer. The sampled products shall be used for initial type testing at both the notified laboratories and at the manufacturer.

Initial type testing shall be performed by notified testing laboratories for the following parameters:

- Reaction to fire
- Thermal conductivity ( $\lambda_{10}$ ) and thickness (thermal resistance)
- Water absorption
- Compressive strength (only for load-bearing applications)
- Release of dangerous substances (only if required by national regulations)
- Release of corrosive substances (only for prEN 13168)

It can be necessary to use different laboratories for each of the parameters. The only requirement is that all the laboratories shall be notified.

Initial type testing shall be performed by or on behalf of the manufacturer on the rest of the parameters from table ZA.1 of the product standard to be declared for the product.

For all parameters declared, except for reaction to fire, one test result shall be determined from each of the four production dates for each of the required characteristics on test specimens, as specified in table *Test methods, test specimens and conditions* of the product standard. For reaction to fire tests the test specimens needed to create one test result shall be taken from a combination of the four production dates.

### ***Certificate of conformity***

The assessment report from the initial inspection, test reports (and a classification report for reaction to fire) from the notified laboratories and test reports from the manufacturer (covering all declared characteristics from table ZA.1) shall be sent to the certification body. The certification body shall confirm that tests were conducted according to the criteria given in the product standard, including evaluation of test results, that the samples tested are coming from the product for which a certificate of conformity is applied for and that the FPC fulfils the criteria given in the product standard.

### ***Declaration of conformity by the manufacturer***

Based on the certificate of conformity for the product from the certification body the manufacturer issues a declaration of conformity for the product. The product can now be marked with the CE mark. An example of a CE declaration is given in the annex.

## **Attestation of Conformity System 3**

This system is based on declaration of conformity by the manufacturer. The following notified (external) bodies are involved in the evaluation of conformity of products:

- Testing laboratories

All bodies involved shall be notified by the EU Member States and EFTA and mentioned in the Official Journal of the European Communities.

### **Procedure**

The manufacturer identifies which product or which group of products for which he wants to apply for CE marking. Remember that it is necessary to apply for the CE mark for each production line.

### ***Sampling of products for initial type testing***

The sampling shall be carried out by the manufacturer. The products to be sampled shall be finished products conforming to the product standard. The sample shall be taken at random.

The products to be sampled for initial type testing shall unless otherwise specified be taken from four different production dates and shall cover the range of thickness declared by the manufacturer. The sampled products shall be used for initial type testing at both the notified laboratories and at the manufacturer.

### ***Initial type testing***

Initial type testing shall be performed by notified testing laboratories for the following parameters:

- Reaction to fire (only if it is subjected to reaction to fire regulations)
- Thermal conductivity ( $\lambda_{10}$ ) and thickness (thermal resistance)
- Water absorption
- Compressive strength (only for load-bearing applications)
- Release of dangerous substances (only if required by national regulations)
- Release of corrosive substances (only for prEN 13168)

It can be necessary to use different laboratories for each of the parameters. The only requirement is that all the laboratories shall be notified.

Initial type testing shall be performed by or on behalf of the manufacturer on the rest of the parameters from table ZA.1 of the product standard to be declared for the product.

For all parameters declared, except for reaction to fire, one test result shall be determined from each of the four production dates for each of the required

characteristics on test specimens. For reaction to fire tests the test specimens needed to create one test result shall be taken from a combination of the four production dates.

***Declaration of conformity by the manufacturer***

The test reports (and a classification report for reaction to fire) from the notified laboratories are sent to the manufacturer. The manufacturer will also produce test reports on initial type tests performed in his own laboratory. If the product has passed all the initial type tests the manufacturer issues a declaration of conformity for the product. The product can now be marked with the CE mark. An example of a CE declaration is given in the annex.

**Attestation of Conformity System 4 + 3**

This system is the same as system 3 except that the initial type test for the reaction to fire parameters shall be performed by the manufacturer.

The following clauses applies for all AoC systems.

### **Running FPC**

The manufacturer are obliged to have a running factory production control (FPC) no matter which AoC system applies for the product.

The FPC shall be operated according to a documented system that shall be given in a quality manual. The system shall be maintained according to the specifications given in prEN 13172.

Tests shall be performed on all parameters declared for the product including those parameters for which ITT were performed by a notified laboratory. Tests shall be performed according to the test methods referred to in the product standard and at the minimum testing frequencies given in table B.1 and B.2 in prEN 13162 through 13171 (no further testing in case of tables B.1 and B.2 only require ITT).

### **Audit testing**

No specific audit testing is performed. No external laboratories are involved in audit testing for any of the AoC systems.

### **Certified surveillance of FPC and the product**

For products falling under AoC system 1 + 3 an inspection of the quality system and FPC shall be performed twice every year. All parameters for which FPC are performed are of interest to the inspection body however, reaction to fire characteristics are of particular interest.

The inspection of FPC checks that the tests are performed according to the specified test methods and at the required frequencies.

The inspection body sends reports of the inspection visits to the certification body. The certification body certifies that the FPC fulfils the requirements given in prEN 13172 and that the manufacturers test results are in conformity with the declared values (only for characteristics listed in table Z A.1). If all requirements are fulfilled then the validity of the certificate of conformity for the product is confirmed/renewed. The validity of the certificate shall be confirmed once a year.

### **Renewal of declaration of Conformity**

Based on the confirmed/renewed certificate of conformity from the certification body the manufacturer verifies the validity of the declaration of conformity once a year.

**Example:**

**EC declaration of conformity (system 1 + 3)**

**Manufacturer:** Company name and  
Address

**Certification body:** Name and  
Address

**Product identification:** Description of product  
(identification, type, use,  
.....)  
Particular conditions applicable to the  
use of the product

**Encl.:** declared values as presented on the label

**Product standard,** to which the product conforms:  
Annex ZA of EN 131XX (13162 through 13171)

**Certificate number:** XXXXX (number of the  
accompanying certificate of  
conformity)

**Encl.:** Certificate of conformity

**Period of validity:** This declaration is valid for 02.2002 to  
01.2003 (one year)

**Signature**

\_\_\_\_\_  
xxxxxxxxxxxxx (name and  
yyyyyyyyyyyyy position of the empowered person)

**Example:**

**EC certificate of conformity (system 1 + 3)**

**Certification body:** Name and  
Address  
**Identification number:** ZZZ

**Manufacturer:** Name and  
Address

**Place of Production:** ZZXXCC

**Product identification:** Description of product  
(identification, type, use,  
.....)  
Particular conditions applicable to the  
use of the product

**Product standard, to which the product conforms:**  
Annex ZA of EN 131XX (13162 through 13171)

**Certificate number:** XXXXX (number of this certificate of  
conformity)

**Period of validity:** This certificate is valid for 02.2002 to  
01.2003 (one year)

**Signature**

\_\_\_\_\_  
xxxxxxxxxx (name and  
yyyyyyyyyy (position of the empowered person)

**Example:**

**EC declaration of conformity (system 3 and 4+3)**

**Manufacturer:** Name and  
Address

**Place of Production:** ZZXXCC

**Product identification:** Description of product  
(identification, type, use,  
.....)  
Particular conditions applicable  
to the use of the product

**Encl.:** declared values as presented on the label

**Product standard,** to which the product conforms:  
Annex ZA of EN 131 XX (13162 through 13171)

**Notified laboratory:** Name and  
Address

(more name and addresses if different tests are made by  
different notified laboratories)

**Period of validity:** This declaration is valid for  
02.2002 to 01.2003 (one year)

**Signature**

\_\_\_\_\_ (name and  
yyyyyyyyyyyyyy position of the empowered person)