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National Standards
Authority of Ireland
Glasnevin, Dublin 9
Ireland

Tel: +353 1 807 3800
Fax: +353 1 807 3838
http://www.nsai.ie

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MOUNTING AND FIXING IN REACTION TO FIRE TESTS UNDER THE CONSTRUCTION PRODUCTS DIRECTIVE

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English Version

Mounting and fixing in reaction to fire tests under the Construction Products Directive

Montage et fixation en réaction à des essais au feu dans le cadre de la DPC

Einbau und Besfestigung bei Prüfungen zum Brandverhalten von Bauprodukten, die unter die Bauproduktenrichtlinie fallen

This Technical Specification (CEN/TS) was approved by CEN on 20 May 2006 for provisional application.

The period of validity of this CEN/TS is limited initially to three years. After two years the members of CEN will be requested to submit their comments, particularly on the question whether the CEN/TS can be converted into a European Standard.

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EUROPEAN COMMITTEE FOR STANDARDIZATION
COMITÉ EUROPÉEN DE NORMALISATION
EUROPÄISCHES KOMITEE FÜR NORMUNG

Management Centre: rue de Stassart, 36 B-1050 Brussels

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Foreword

This Technical Specification (CEN/TS 15447:2006) has been prepared by Technical Committee CEN/TC 127 “Fire safety in buildings”, the secretariat of which is held by BSI.

This Technical Specification has been prepared by ad hoc working group 40 (“*Mounting and fixing in reaction to fire tests*”) of Technical Committee CEN/TC 127 (“*Fire safety in buildings*”).

This document has been prepared on request of the CEC as support for CEN Technical Committees involved in the production of technical specifications under the Construction Products Directive (CPD).

According to the CEN/CENELEC Internal Regulations, the national standards organizations of the following countries are bound to announce this CEN Technical Specification: Austria, Belgium, Cyprus, Czech Republic, Denmark, Estonia, Finland, France, Germany, Greece, Hungary, Iceland, Ireland, Italy, Latvia, Lithuania, Luxembourg, Malta, Netherlands, Norway, Poland, Portugal, Romania, Slovakia, Slovenia, Spain, Sweden, Switzerland and United Kingdom.

Introduction

The Essential Requirements of the CPD apply to the construction works. Interpretative documents have been produced to form a link between the Essential Requirements and the performance characteristics of construction products incorporated in a permanent manner in construction works, i.e. in end-use application[1]. The Essential Requirement concerned in this document is “Safety in case of fire”, and from that requirement the reaction to fire performance of construction products only is considered.

Technical specifications under the CPD, such as product standards, deal with construction products and their reaction to fire performance. For the assessment of reaction to fire performance the technical specifications use a set of supporting fire standards through reference to the classification standard EN 13501-1.

Five reaction to fire test methods have been developed for the purpose of testing construction products, including products incorporated within building elements. The procedure for classification is outlined in EN 13501-1 providing a choice of Euroclasses. Since EN ISO 1182 (“non-combustibility”) and EN ISO 1716 (“gross calorific potential”) deal with material characteristics and are thus independent of the end-use application of the product, the mounting and fixing[2] instructions presented apply to EN 13823, EN ISO 9239-1 and EN ISO 11925-2.

Technical specifications refer to EN 13501-1 for the assessment of reaction to fire performance. The EN 13501-1 refers to the five supporting test standards for determination of the relevant parameters. In principle a product standard should not refer directly to the test standards. However, where EN 13501-1 and the test standards do not fully define the mounting and fixing of a product in a test, the relevant product standard may add instructions to ensure that the test result is representative of the product behaviour in one or more end-use applications when exposed to a fire in the relevant fire scenario.

In the absence of standard mounting and fixing rules, a test result is only valid for the end-use application that is represented by the mounting and fixing (and other test configuration aspects) used in the test[3]. As a consequence all other end-use applications have to be tested. EN 13501-1, test standards and substrate standard EN 13238 contain some aspects of standardised mounting and fixing, to some degree limiting the number of tests to be performed to classify a product, which can lead to CE-marking. To limit the number of tests further, standardised mounting and fixing test arrangements may be introduced in the technical specifications. This may reduce the number of m&f test arrangements needed to cover all possible end-use applications to a few or even one.

A reaction to fire test method may in principle be used to assess the performance of (a) a material; (b) a product (a combination of one or more materials) without taking into account the incorporation of the product in the building; or (c) a product in its end-use application (i.e. taking into account the incorporation of the product in the building).

This frame work should be used by technical specification writers to develop further specific rules for product groups.

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[1] In some documents “end-use application” is used as a global indication of the use of the product (e.g. use as wall lining or ceiling lining). The more detailed description of the way the product is incorporated in the building in the (global) “end-use application” is then referred to as “end-use condition” (including e.g. jointing, fixing and position in relation to adjacent products).

In this document the two terms are both covered by “end-use application”, in line with the definition given in EN 13501-1.

[2] In this document “mounting and fixing” is often abbreviated as “m&f”.

[3] When direct field of application rules are defined it should read “only valid for the direct field of application of the test results”.