

ICS 13.220.50

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 Befestigung 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.

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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 application¹. 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 fixing² 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 test³. 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.

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”.

1 Scope

This guidance document is intended to provide basic rules, which are generally valid for the mounting & fixing of construction products in the reaction to fire test standards EN 13823, EN ISO 9239-1 and EN ISO 11925-2 which are referred to in the classification standard EN 13501-1. The mounting & fixing rules are intended to ensure that the reaction to fire test results in these tests are representative of the product behaviour in one or more end-use applications when exposed to a fire in the relevant fire scenario.

This document contains for each of the test methods the compulsory rules (given in EN 13501-1, EN 13238 and the relevant test standard) and recommendations for groups or (sub)families of products.

2 Normative references

The following referenced documents are indispensable for the application of this document. For dated references, only the edition cited applies. For undated references, the latest edition of the referenced document (including any amendments) applies.

EN 13238:2001, *Reaction to fire tests for building products — Conditioning procedures and general rules for selection of substrates*

EN 13501-1, *Fire classification of construction products and building elements — Part 1: Classification using test data from reaction to fire tests*

EN 13823, *Reaction to fire tests for building products — Building products excluding floorings exposed to the thermal attack by a single burning item*

EN ISO 9239-1:2002, *Reaction to fire tests for floorings — Part 1: Determination of the burning behaviour using a radiant heat source (ISO 9239-1:2002)*

EN ISO 11925-2:2002, *Reaction to fire tests — Ignitability of building products subjected to direct impingement of flame — Part 2: Single-flame source test (ISO 11925-2:2002)*

3 Terms and definitions or descriptions

For the purposes of this Technical Specification, the following terms and definitions apply.

NOTE Definitions and descriptions copied from other documents are marked as such with the reference between brackets.

In this document, terms may not always be used consistent with all quoted documents since the quoted documents are not always consistent between themselves. Where different wordings are used it is tried to follow the document(s) highest in hierarchy.

3.1

backing board

calcium silicate panel used to back the specimen that can be placed directly against a free-standing test specimen or at a distance from it. [EN 13823]

3.2

classification

the process defined in EN 13501, whereby the fire performance parameters obtained from the results of one test, or a set of tests, or from a process of extended application, are compared with limiting values for those parameters that are set as criteria for achieving a certain classification. The relevant classes and related criteria for fire resistance, for reaction to fire and for external fire exposure to roofs,