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Standards

Standard Recommendation
S.R. CEN/TS 1187:2012

Test methods for external fire exposure to roofs

S.R. CEN/TS 1187:2012

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Údarás um Chaighdeáin Náisiúnta na hÉireann

English Version

Test methods for external fire exposure to roofs

Méthodes d'essai pour l'exposition des toitures à un feu
extérieur

Prüfverfahren zur Beanspruchung von Bedachungen durch
Feuer von außen

This Technical Specification (CEN/TS) was approved by CEN on 23 August 2011 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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Foreword

This document (CEN/TS 1187:2012) has been prepared by Technical Committee CEN/TC 127 “Fire safety in buildings”, the secretariat of which is held by BSI.

Attention is drawn to the possibility that some of the elements of this document may be the subject of patent rights. CEN [and/or CENELEC] shall not be held responsible for identifying any or all such patent rights.

This document supersedes ENV 1187:2002.

This document has been prepared under a mandate given to CEN by the European Commission and the European Free Trade Association.

According to the CEN/CENELEC Internal Regulations, the national standards organizations of the following countries are bound to announce this Technical Specification: Austria, Belgium, Bulgaria, Croatia, 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, Turkey and the United Kingdom.

Introduction

The first mandate given to CEN/TC 127 on fire resistance testing (Mandate No. 117) in support of the Construction Products Directive required two test methods for external fire exposure to roofs. One test method was to include the effect of a burning brand, the other was to include the effect of a burning brand together with wind and supplementary radiant heat. These two draft methods were circulated for the CEN 6-month enquiry, but many countries did not support the two and several countries requested that only one method should be prepared by CEN.

The topic was referred to the EC Fire Regulators' Group. Discussions took place in both the Fire Regulators' Group and the Standing Committee on Construction, and in April 1997 CEN/TC 127 was requested to produce a standard incorporating the two existing draft methods and the Nordtest method.

The Standing Committee accepted this as a short-term solution and strongly expressed the view that a truly harmonised test procedure should be developed in the long term, i.e. a single test procedure for this characteristic.

Realizing that the three test method document (ENV 1187:2002 dated May 2002) and the Amendment A1 (ENV 1187:2002/A1 dated August 2005) did not have the same time scale, it was decided to consider all four methods under the same procedure.

This Technical Specification will be followed by a single test procedure required by the European Commission.

CAUTION — The attention of all persons concerned with managing and carrying out these tests is drawn to the fact that fire testing can be hazardous and that there is a possibility that toxic and/or harmful smoke and gases can be evolved during the test.

An assessment of all potential hazards and risks to health should be made and safety precautions should be identified and provided. Written safety instructions should be issued. Appropriate training should be given to all relevant personnel. Laboratory personnel should ensure that they follow written safety instructions at all times.

1 Scope

This Technical Specification specifies four methods for determining the performance of roofs to external fire exposure. The four methods assess the performance of roofs under the following conditions:

- a) test 1 – with burning brands;
- b) test 2 – with burning brands and wind;
- c) test 3 – with burning brands, wind and supplementary radiant heat;
- d) test 4 – with two stages incorporating burning brands, wind and supplementary radiant heat.

The tests assess the fire spread across the external surface of the roof, the fire spread within the roof (tests 1, 2 and 3), the fire penetration (tests 1, 3 and 4) and the production of flaming droplets or debris falling from the underside of the roof or from the exposed surface (tests 1, 3 and 4).

Tests 2 and 3 are not applicable to geometrically irregular roofs or roof mounted appliances, e.g. ventilators and roof lights.

NOTE The four tests listed above do not imply any ranking order. Each test stands on its own without the possibility to substitute or exchange one for another.

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 13238:2010, *Reaction to fire tests for building products — Conditioning procedures and general rules for selection of substrates*

EN 13501-1:2007+A1:2009, *Fire classification of construction products and building elements — Part 1: Classification using data from reaction to fire tests*

EN 13501-5:2005+A1:2009, *Fire classification of construction products and building elements — Part 5: Classification using data from external fire exposure to roofs tests*

EN ISO 13943:2010, *Fire safety — Vocabulary (ISO 13943:2008)*

3 Terms and definitions

For the purposes of this document, the terms and definitions given in EN ISO 13943:2000 and the following apply.

3.1 roof

covering and sealing system including any insulating layers or vapour barriers normally provided together with their supporting elements including attachment (glued, mechanically fastened, etc.), and roof lights or other closures for roof apertures that are intended to provide a weatherproof surface

3.2 material

basic single substance or uniformly dispersed mixture of substances (e.g. metal, stone, wood, bitumen, concrete, mineral wool)

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