

BS EN 45545-2:2013+A1:2015

Incorporating corrigendum November 2015



BSI Standards Publication

Railway applications — Fire protection on railway vehicles

Part 2: Requirements for fire behaviour
of materials and components

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National foreword

This British Standard is the UK implementation of EN 45545-2:2013+A1:2015. It supersedes BS EN 45545-2:2013 which is withdrawn. Together with BS EN 45545-1:2013, BS EN 45545-3:2013, BS EN 45545-4:2013, BS EN 45545-5:2013+A1:2015, BS EN 45545-6:2013 and BS EN 45545-7:2013, it supersedes BS 6853:1999, which will be withdrawn on 31 March 2016.

The start and finish of text introduced or altered by amendment is indicated in the text by tags. Tags indicating changes to CEN text carry the number of the CEN amendment. For example, text altered by CEN amendment A1 is indicated by $\boxed{A1}$ $\boxed{A1}$.

BSI, as a member of CEN, is obliged to publish EN 45545-2 as a British Standard. However, attention is drawn to the fact that during the development of this European Standard, the UK committee voted against its approval as a European Standard.

The principal technical concern is that, in the opinion of the UK committee, the test method for complete passenger seats, set out in Annex B, does not provide a level of discrimination commonly employed in UK practice, in accordance with existing national standards. Seats which would fail the existing UK standard might pass the test and satisfy criteria in EN 45545-2.

The UK committee advises users to be aware of this concern when applying this standard.

The UK committee's full response can be obtained from BSI.

The UK participation in its preparation was entrusted to Technical Committee FSH/19, Fire Precautions in Railway Transport.

A list of organizations represented on this committee can be obtained on request to its secretary.

This publication does not purport to include all the necessary provisions of a contract. Users are responsible for its correct application.

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Compliance with a British Standard cannot confer immunity from legal obligations.

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English Version

Railway applications - Fire protection on railway vehicles - Part 2: Requirements for fire behaviour of materials and components

Applications ferroviaires - Protection contre les
incendies dans les véhicules ferroviaires - Partie 2:
Exigences du comportement au feu des matériaux et
des composants

Bahnanwendungen - Brandschutz in
Schienenfahrzeugen - Teil 2: Anforderungen an das
Brandverhalten von Materialien und Komponenten

This European Standard was approved by CEN on 7 December 2012 and includes Amendment 1 approved by CEN on 14 August 2015.

CEN members are bound to comply with the CEN/CENELEC Internal Regulations which stipulate the conditions for giving this European Standard the status of a national standard without any alteration. Up-to-date lists and bibliographical references concerning such national standards may be obtained on application to the CEN-CENELEC Management Centre or to any CEN member.

This European Standard exists in three official versions (English, French, German). A version in any other language made by translation under the responsibility of a CEN member into its own language and notified to the CEN-CENELEC Management Centre has the same status as the official versions.

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European foreword

This document (EN 45545-2:2013+A1:2015) has been prepared by Technical Committee CEN/TC 256 “Railway applications”, the secretariat of which is held by DIN.

This European Standard shall be given the status of a national standard, either by publication of an identical text or by endorsement, at the latest by April 2016, and conflicting national standards shall be withdrawn at the latest by April 2016.

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 includes Amendment 1 approved by CEN on 2015-08-14.

This document supersedes A1 EN 45545-2:2013 A1.

The start and finish of text introduced or altered by amendment is indicated in the text by tags A1 A1.

This document has been prepared under a mandate given to CEN by the European Commission and the European Free Trade Association, and supports essential requirements of EU Directive 2008/57/EC.

For relationship with EU Directive 2008/57/EC, see informative Annex ZA, which is an integral part of this document.

This series of European standards *Railway applications — Fire protection on railway vehicles* consists of:

- Part 1: General;
- Part 2: Requirements for fire behaviour of materials and components;
- Part 3: Fire resistance requirements for fire barriers;
- Part 4: Fire safety requirements for railway rolling stock design;
- Part 5: Fire safety requirements for electrical equipment including that of trolley buses, track guided buses and magnetic levitation vehicles;
- Part 6: Fire control and management systems;
- Part 7: Fire safety requirements for flammable liquid and flammable gas installations.

According to the CEN/CENELEC Internal Regulations, the national standards organizations of the following countries are bound to implement this European Standard: Austria, Belgium, Bulgaria, Croatia, Cyprus, Czech Republic, Denmark, Estonia, Finland, Former Yugoslav Republic of Macedonia, 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

EN 45545-2 has been developed from existing fire safety regulations for railway vehicles from the International Union of Railways (UIC) and different European countries.

In using the operation and design categories defined in EN 45545-1, the requirements laid down in this part take into account the current operating conditions for European public rail transport.

1 Scope

This part of EN 45545 specifies the reaction to fire performance requirements for materials and products used on railway vehicles as defined in EN 45545-1.

The operation and design categories defined in EN 45545-1 are used to establish hazard levels that are used as the basis of a classification system.

For each hazard level, this part specifies the test methods, test conditions and reaction to fire performance requirements.

It is not within the scope of this European Standard to describe measures that ensure the preservation of the vehicles in the event of a fire.

2 Normative references

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

EN 13238, *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 data from reaction to fire tests*

EN 45545-1:2013, *Railway applications — Fire protection on railway vehicles — Part 1: General*

EN 45545-3, *Railway applications — Fire protection on railway vehicles — Part 3: Fire resistance requirements for fire barriers*

EN 45545-5:2013+A1:2015, *Railway applications — Fire protection on railway vehicles — Part 5: Fire safety requirements for electrical equipment including that of trolley buses, track guided buses and magnetic levitation vehicles*

EN 50305:2002, *Railway applications — Railway rolling stock cables having special fire performance — Test methods*

EN 50306, *Railway applications — Railway rolling stock cables having special fire performance*

EN 50264, *Railway applications — Railway rolling stock power and control cables having special fire performance*

EN 50382, *Railway applications — Railway rolling stock high temperature power cables having special fire performance*

EN 60332-1-2, *Tests on electric and optical fibre cables under fire conditions — Part 1-2: Test for vertical flame propagation for a single insulated wire or cable — Procedure for 1 kW pre-mixed flame*

EN 60332-3-24, *Tests on electric and optical fibre cables under fire conditions — Part 3-24: Test for vertical flame spread of vertically-mounted bunched wires or cables — Category C*

EN 60584-1, *Thermocouples — Part 1: Reference tables*

EN 60695-2-11, *Fire hazard testing — Part 2-11: Glowing/hot-wire based test methods — Glow-wire flammability test method for end-products*