

BSI Standards Publication

Railway applications — Fire protection on railway vehicles

Part 6: Fire control and management systems



This is a preview of BS EN 45545-6:2024+A1:2026. [Click here to purchase the full version from the ANSI store.](#)

National foreword

This British Standard is the UK implementation of EN 45545-6:2024+A1:2026. It supersedes BS EN 45545-6:2024, which is withdrawn.

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 **A1** **A1**.

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

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

BSI, as a member of CEN, is obliged to publish EN 45545-6:2024 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.

This standard normatively references EN 54-3:2014+A1:2019 and EN 54-23:2010 with regard to sounders and visual alarm devices respectively installed in sleeper compartments (see subclause 5.3.2). Subclause 5.2 on detectors does not include any likewise normative reference to the EN 54 series of standards but presents a list of five points which the standard requires be taken into consideration for the verification of fire detection device functionality. The UK committee advises users of this standard to also consider the significance of the location of the detector and the risk of interference and/or vandalism. Moreover, when considering point 4) – “the nature of any detectors” – the UK committee suggests that users of this standard consider using detectors which comply with the relevant parts of the BS EN 54 series of standards. Additionally, the UK committee suggests that users consider UK guidance RIS-2730-RST, published by the Rail Safety and Standards Board (RSSB), which recommends that detection systems are maintained in accordance with BS 5839-1.

Subclause 5.3.1 specifies that when a fire alarm is activated it shall raise alarms in accordance with 5.3.2 and 5.3.3. However, to minimize disruption from unwanted alarms, many detectors have the capability to provide a pre-alarm or alert signal to deliver an early indication that normal conditions are no longer present, thus allowing for pre-emptive intervention before a fire alarm is triggered. Such early warning signals might trigger a remote warning to facilitate early investigation by staff (see 5.3.3) without sounding local alarms in the passenger areas (see 5.3.2). Other practices to minimize unwanted alarms include the technique of coincidence (whereby two detectors are activated before an alarm is sounded).

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English Version

Railway applications - Fire protection on railway vehicles - Part 6: Fire control and management systems

Applications ferroviaires - Protection contre les
incendies dans les véhicules ferroviaires - Partie 6 :
Systèmes de gestion et de contrôle des incendies

Bahnanwendungen - Brandschutz in
Schienenfahrzeugen - Teil 6: Brandmelde- und
Brandbekämpfungseinrichtungen und begleitende
Brandschutzmaßnahmen

This European Standard was approved by CEN on 26 August 2024 and includes Amendment 1 approved by CEN on 25 March 2026.

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 COMMITTEE FOR STANDARDIZATION
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European foreword

This document (EN 45545-6:2024+A1:2026) 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 January 2027, and conflicting national standards shall be withdrawn at the latest by January 2027.

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

This document includes Amendment 1 approved by CEN on 25 March 2026.

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

This document supersedes A1 EN 45545-6:2024 A1.

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.

This document has been prepared under a standardization request addressed to CEN by the European Commission. The Standing Committee of the EFTA States subsequently approves these requests for its Member States.

For the relationship with EU Legislation, see informative Annex ZA, which is an integral part of this document.

Any feedback and questions on this document should be directed to the users’ national standards body. A complete listing of these bodies can be found on the CEN website.

According to the CEN-CENELEC Internal Regulations, the national standards organisations of the following countries are bound to implement this European Standard: 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, Republic of North Macedonia, Romania, Serbia, Slovakia, Slovenia, Spain, Sweden, Switzerland, Türkiye and the United Kingdom.

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Introduction

EN 45545-6 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 specified in EN 45545-1:2013, the requirements laid down in this part take into account the current operating conditions for European public rail transport.

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1 Scope

This document specifies requirements for fire detection, alarm systems, equipment shutdown, information and communication systems, emergency brake systems and fire fighting systems to cover the objectives specified in EN 45545-1:2013.

The measures and requirements specified in this document aim to protect passengers and staff in railway vehicles in the event of a fire on board by alerting staff and passengers to a fire, delaying the fire development and controlling the movement of smoke.

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

This document is applicable to railway vehicles specified in EN 45545-1:2013.

2 Normative references

The following documents are referred to in the text in such a way that some or all of their content constitutes requirements 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 2:1992,¹ *Classification of fires*

EN 3-7:2004+A1:2007, *Portable fire extinguishers - Part 7: Characteristics, performance requirements and test methods*

EN 3-8:2021, *Portable fire extinguishers - Part 8: Requirements for the construction, pressure resistance and mechanical tests for extinguishers with a maximum allowable pressure equal to or lower than 30 bar, which comply with the requirements of EN 3-7*

EN 3-9:2006,² *Portable fire extinguishers — Part 9: Additional requirements to EN 3-7 for pressure resistance of CO₂ extinguishers*

EN 3-10:2009, *Portable fire extinguishers - Part 10: Provisions for evaluating the conformity of a portable fire extinguisher to EN 3-7*

EN 54-3:2014+A1:2019, *Fire detection and fire alarm systems - Part 3: Fire alarm devices - Sounders*

EN 54-23:2010, *Fire detection and fire alarm systems - Part 23: Fire alarm devices - Visual alarm devices*

EN 1869:2019, *Fire blankets*

EN 16334-1:2014+A1:2022, *Railway applications - Passenger Alarm System - Part 1: System requirements for mainline rail*

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

EN 45545-2:2020+A1:2023, *Railway applications - Fire protection on railway vehicles - Part 2: Requirements for fire behaviour of materials and components*

¹ As impacted by EN 2:1992/A1:2004.

² As impacted by EN 3-9:2006/AC:2007.