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Standards

Standard Recommendation  
S.R. CLC/TS 45545-5:2009

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

S.R. CLC/TS 45545-5:2009

*Incorporating amendments/corrigenda issued since publication:*

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<b>NSAI</b> 1 Swift Square, Northwood, Santry Dublin 9	T +353 1 807 3800 F +353 1 807 3838 E standards@nsai.ie W NSAI.ie	<b>Sales:</b> T +353 1 857 6730 F +353 1 857 6729 W standards.ie	<b>Price Code:</b> F
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English version

**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**

Applications ferroviaires -  
Protection contre les incendies  
dans les véhicule ferroviaires -  
Partie 5: Exigences de sécurité incendie  
pour l'équipement électrique, y compris  
celui des trolleybus, des autobus guidés  
et des véhicules à sustentation  
magnétique

Bahnanwendungen -  
Brandschutz in Schienenfahrzeugen -  
Teil 5: Brandschutzanforderungen  
an die elektrische Ausrüstung einschließlich  
der von Oberleitungsbussen, spurgeführten  
Bussen und Magnetschwebefahrzeugen

This Technical Specification was approved by CENELEC on 2008-06-13.

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**CEN Management Centre:**  
avenue Marnix 17 – B-1000 Brussels

**CENELEC Central Secretariat:**  
avenue Marnix 17 – B-1000 Brussels

**S.R. CLC/TS 45545-5:2009**

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**Foreword**

This Technical Specification CLC/TS 45545-5, prepared by the Joint Working Group "Fire Safety in Railways" of CEN/TC 256 "Railway Applications" in cooperation with CENELEC/TC 9X "Electrical and electronic application for railways" was circulated for voting in accordance with the Internal Regulations, Part 2, Subclause 11.3.3.3 and was approved by CENELEC as CLC/TS 45545-5 on 2008-06-13.

This Technical Specification supersedes CLC/TS 45545-5:2004.

The following date was fixed:

- latest date by which the existence of the CLC/TS  
has to be announced at national level (doa) 2009-04-30

This series of Technical Specifications *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
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## **Introduction**

This Technical Specification is based on 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 CEN/TS 45545-1, the requirements laid down in the different parts of the CEN/TS 45545 will take into account the current operating conditions for European public rail transport.

## **1 Scope**

This Part 5 specifies the fire safety requirements for electrical equipment on railway vehicles, including that of trolley buses, track guided buses and magnetic levitation vehicles.

The measures and requirements, specified in this Technical Specification meet the objective of protecting passengers and staff in railway vehicles in the event of a fire on board by:

- minimizing the risk of starting a fire both during operation and as a result of technical defect and/or malfunction of the electrical equipment;
- ensuring that electrical emergency equipment continues to be available until evacuation is complete.

It is not within the scope of this Technical Specification to describe measures which ensure the preservation of the electrical equipment in the event of a fire on board.

## **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 50124-1, *Railway applications – Insulation coordination – Part 1: Basic requirements – Clearances and creepage distances for all electrical and electronic equipment*

EN 50125-1, *Railway applications – Environmental conditions for equipment – Part 1: Equipment on board rolling stock*

EN 50153, *Railway applications – Rolling stock – Protective provisions relating to electrical hazards*

EN 60352-1, *Solderless connections – Part 1: Wrapped connections – General requirements, test methods and practical guidance* (IEC 60352-1)

EN 60695-1-1, *Fire hazard testing – Part 1-1: Guidance for assessing the fire hazard of electrotechnical products – General guidelines* (IEC 60695-1-1)

EN 60695-4, *Fire hazard testing – Part 4: Terminology concerning fire tests for electrotechnical products* (IEC 60695-4)

EN 61140, *Protection against electric shock – Common aspects for installation and equipment* (IEC 61140)

EN 61210, *Connecting devices – Flat quick-connect terminations for electrical copper conductors – Safety requirements* (IEC 61210, modified)

EN ISO 13943, *Fire safety – Vocabulary* (ISO 13943)

IEC 60050-811, *International Electrotechnical Vocabulary – Chapter 811: Electric traction*

ISO 3261, *Fire tests – Vocabulary*

ISO 8421-1, *Fire protection – Vocabulary – Part 1: General terms and phenomena of fire*

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