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

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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.

CEN and CENELEC members are required to announce the existence of this CLC/TS in the same way as for an EN and to make the CLC/TS available promptly at national level in an appropriate form. It is permissible to keep conflicting national standards in force.

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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*