



**NSAI**  
Standards

Standard Recommendation  
S.R. CEN/TS 45545-7:2009

# Railway applications - Fire protection on railway vehicles -- Part 7: Fire safety requirements for flammable liquid and flammable gas installations

S.R. CEN/TS 45545-7:2009

*Incorporating amendments/corrigenda issued since publication:*

<i>This document replaces:</i>	<i>This document is based on:</i> CEN/TS 45545-7:2009	<i>Published:</i> 28 January, 2009	
This document was published under the authority of the NSAI and comes into effect on: 22 April, 2009		ICS number: 45.060.01	
<b>NSAI</b> 1 Swift Square, Northwood, Santry Dublin 9	<b>T</b> +353 1 807 3800 <b>F</b> +353 1 807 3838 <b>E</b> standards@nsai.ie <b>W</b> NSAI.ie	<b>Sales:</b> <b>T</b> +353 1 857 6730 <b>F</b> +353 1 857 6729 <b>W</b> standards.ie	<b>Price Code:</b> <b>F</b>
Údarás um Chaighdeáin Náisiúnta na hÉireann			

---

ICS 45.060.01

English version

## Railway applications - Fire protection on railway vehicles - Part 7: Fire safety requirements for flammable liquid and flammable gas installations

Applications ferroviaires - Protection contre les incendies dans les véhicules ferroviaires - Partie 7: Exigences de sécurité incendie relatives aux installations de liquides inflammables et de gaz inflammables

Bahnanwendungen - Brandschutz in Schienenfahrzeugen - Teil 7: Brandschutzanforderungen an Anlagen für brennbare Flüssigkeiten und Gase

This Technical Specification (CEN/TS) was approved by CEN on 8 June 2008 for provisional application.

The period of validity of this CEN/TS is limited initially to three years. After two years the members of CEN/CENELEC will be requested to submit their comments, particularly on the question whether the CEN/TS can be converted into a European Standard.

CEN and CENELEC members are required to announce the existence of this CEN/TS in the same way as for an EN and to make the CEN/TS available promptly at national level in an appropriate form. It is permissible to keep conflicting national standards in force (in parallel to the CEN/TS) until the final decision about the possible conversion of the CEN/TS into an EN is reached.

CEN and CENELEC members are the national standards bodies and national electrotechnical committees, respectively, of Austria, Belgium, Bulgaria, 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 and United Kingdom.



**CEN Management Centre:**  
Avenue Marnix 17, B-1000 Brussels

**CENELEC Central Secretariat:**  
Avenue Marnix 17, B-1000 Brussels

## Contents

Page

Foreword.....	3
Introduction .....	4
1 Scope .....	4
2 Normative references .....	4
3 Terms and definitions .....	5
4 Terminology .....	5
5 General system requirements .....	6
6 Flammable liquids and gas tanks .....	7
6.1 General.....	7
6.2 Tanks for flammable liquids .....	7
6.3 Portable liquefied petroleum gas installation for catering purposes.....	8
7 Pipe work and associated fittings.....	8
7.1 Requirements for flammable liquids.....	8
7.2 Flexible connections .....	9
7.3 Gas distribution system requirements.....	9
7.4 Ventilation devices for tanks for flammable liquids.....	10
8 Combustion engines, heaters and auxiliary equipment.....	10
8.1 General.....	10
8.2 Engines located in the inside of vehicles .....	10
8.3 Heating equipment.....	10
8.4 Exhaust devices.....	10
9 Liquefied petroleum gas installations .....	11
9.1 General.....	11
9.2 Installation .....	11
9.3 Operation instructions .....	11
10 Evaluation of conformity.....	11
Annex A (normative) Signs .....	12
Annex ZA (informative) Relationship between this Technical Specification and the Essential Requirements of EU Directive 96/48/EC, as amended by 2004/50/EC .....	14
Bibliography.....	15

## **Foreword**

This document (CEN/TS 45545-7:2009) has been prepared by Technical Committee CEN/TC 256 “Railway applications”, the secretariat of which is held by DIN.

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 has been prepared under a mandate given to CEN by the European Commission and the European Free Trade Association, and supports essential requirements of EC Directive(s).

For relationship with EC Directive(s), see informative Annex ZA, which is an integral part of this document.

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.

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, 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 and the United Kingdom.

## **Introduction**

This part 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 this part take into account the current operating conditions for European public rail transport.

## **1 Scope**

This part specifies requirements for flammable liquids and liquefied petroleum gas installations, e.g. for traction, auxiliary power units, heating or cooking, to cover the objectives defined in CEN/TS 45545-1. This part is not applicable to technical liquids themselves, e.g. hydraulic liquid, transformer oil, except where guidance is given as to dealing with spillages, leakage and spray generation.

The measures and requirements specified in this Technical Specification aim to protect passengers and staff in railway vehicles by preventing a fire from occurring and spreading by leakage of flammable liquids or gases.

It is not within the scope of this Technical Specification to describe measures for flammable gases, other than liquefied petroleum gases.

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

## **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 10204, *Metallic products — Types of inspection documents*

CEN/TS 45545-1:2009, *Railway applications — Fire protection of railway vehicles — Part 1: General*

CEN/TS 45545-3, *Railway applications — Fire protection of railway vehicles — Part 3: Fire resistance requirements for fire barriers*

CEN/TS 45545-6, *Railway applications — Fire protection of railway vehicles — Part 6: Fire control and management systems*

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

EN ISO 13943, *Fire safety — Vocabulary (ISO 13943:2000)*

ISO 11014-1, *Safety data sheet for chemical products — Part 1: Content and order of sections*

This is a free preview. Purchase the entire publication at the link below:

[Product Page](#)

- 
- [Looking for additional Standards? Visit Intertek Inform Infostore](#)
  - [Learn about LexConnect, All Jurisdictions, Standards referenced in Australian legislation](#)
-