# TECHNICAL SPECIFICATION SPÉCIFICATION TECHNIQUE TECHNISCHE SPEZIFIKATION

# **CEN/TS 45545-6**

January 2009

ICS 13.220.20; 45.060.01

#### **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 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

Cont		age
Forewo	ord	3
	iction	
1	Scope	2
2	Normative references	4
3	Terms and definitions	5
4	General requirements	6
5.1 5.2 5.3 5.3.1 5.3.2 5.3.3 5.4 5.4.1 5.4.2 5.4.3 5.4.4 5.4.5	Requirements for systems used in automatically initiated processes  General  Fire detection  Response to automatic detection  General  Local alarm  Remote alarm  Response to automatic alarm  General  Selective shut down of energy  Automatic public address  Held open fire doors  Fixed fire fighting equipment	6 7 8 8 8
6 6.1 6.2 6.2.1 6.2.2 6.2.3 6.3.1 6.3.2 6.3.3 6.3.4	Requirements for systems used in manually initiated processes  Passenger activated emergency alert systems  Response to passenger activated alert  Braking system  Staff alarm  Voice contact  Fire fighting – mobile or portable equipment  General  Fire extinguishing media  Placement of extinguishers  Specific locations of extinguishers	11 11 11 12 12 12
7	Function of systems under fire conditions	13
8 8.1 8.2	Additional requirements Emergency signs Emergency lighting.	13
9	Evaluation of conformity	13
	ZA (informative) Relationship between this Technical Specification and the Essential Requirements of EU Directive 96/48/EC, as amended by 2004/50/EC	
Bibliog	raphy	15

## **Foreword**

This document (CEN/TS 45545-6:2009) 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 fire detection, alarm systems, equipment shutdown, information and communication systems, emergency lighting, emergency brake systems and fire fighting systems to cover the objectives defined in CEN/TS 45545-1.

The measures and requirements specified in this Technical Specification 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 Technical Specification to describe measures that ensure the preservation of the vehicles in the event of a fire.

This part is valid for railway vehicles defined in CEN/TS 45545-1.

#### 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 2, Classification of fires

EN 3-7, Portable fire extinguishers — Part 7: Characteristics, performance requirements and test methods

EN 1869, Fire blankets

EN 13272, Railway applications — Electrical lighting for rolling stock in public transport systems

EN 61310-1, Safety of machinery — Indication, marking and actuation — Part 1: Requirements for visual, auditory and tactile signals (IEC 61310-1:1995)

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

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