Irish Standard Recommendation
S.R. CEN/TR 17532:2020

Railway applications - Fire protection on railway vehicles - Assessment of fire containment and control systems for railway vehicles

S.R. CEN/TR 17532:2020

Incorporating amendments/corrigenda/National Annexes issued since publication:

The National Standards Authority of Ireland (NSAI) produces the following categories of formal documents:

I.S. xxx: Irish Standard — national specification based on the consensus of an expert panel and subject to public consultation.

S.R. xxx: Standard Recommendation — recommendation based on the consensus of an expert panel and subject to public consultation.

SWiFT xxx: A rapidly developed recommendatory document based on the consensus of the participants of an NSAI workshop.

This document replaces/revises/consolidates the NSAI adoption of the document(s) indicated on the CEN/CENELEC cover/Foreword and the following National document(s):

NOTE: The date of any NSAI previous adoption may not match the date of its original CEN/CENELEC document.

This document is based on:	*Published:*
CEN/TR 17532:2020	2020-08-12

This document was published under the authority of the NSAI and comes into effect on:	ICS number:
2020-08-30	13.220.20 45.060.01
	NOTE: If blank see CEN/CENELEC cover page

NSAI	T +353 1 807 3800	Sales:
1 Swift Square,	F +353 1 807 3838	T +353 1 857 6730
Northwood, Santry	E standards@nsai.ie	F +353 1 857 6729
Dublin 9	W NSAI.ie	W standards.ie

Údarás um Chaighdeáin Náisiúnta na hÉireann

National Foreword

S.R. CEN/TR 17532:2020 is the adopted Irish version of the European Document CEN/TR 17532:2020, Railway applications - Fire protection on railway vehicles - Assessment of fire containment and control systems for railway vehicles

This document does not purport to include all the necessary provisions of a contract. Users are responsible for its correct application.

For relationships with other publications refer to the NSAI web store.

Compliance with this document does not of itself confer immunity from legal obligations.

In line with international standards practice the decimal point is shown as a comma (,) throughout this document.

This page is intentionally left blank

TECHNICAL REPORT

RAPPORT TECHNIQUE

TECHNISCHER BERICHT

CEN/TR 17532

August 2020

ICS 13.220.20; 45.060.01

English Version

Railway applications - Fire protection on railway vehicles - Assessment of fire containment and control systems for railway vehicles

Applications ferroviaires - Protection contre les incendies dans les véhicules ferroviaires - Evaluation des systèmes de lutte et de contrôle des incendies pour les véhicules ferroviaires

Bahnanwendungen - Brandschutz in Schienenfahrzeugen - Bewertung von Systemen zur Eindämmung und Bekämpfung von Bränden für Eisenbahnfahrzeuge

This Technical Report was approved by CEN on 3 August 2020. It has been drawn up by the Technical Committee CEN/TC 256.

CEN members are the national standards bodies of 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, Turkey and United Kingdom.

EUROPEAN COMMITTEE FOR STANDARDIZATION
COMITÉ EUROPÉEN DE NORMALISATION
EUROPÄISCHES KOMITEE FÜR NORMUNG

CEN-CENELEC Management Centre: Rue de la Science 23, B-1040 Brussels

Ref. No. CEN/TR 17532:2020 E

Contents

Page

European foreword

This document (CEN/TR 17532:2020) 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 shall not be held responsible for identifying any or all such patent rights.

This document has been developed in addition to EN 45545 series and EN 50553 to define an assessment method for Fire Containment and Control Systems (FCCS) that may be installed in rolling stock as an alternative to full cross-section partitions. The EN 45545-3 requirements are that full cross-section partitions are required at a maximum separation of 30 metres within a train and each barrier is required to achieve 15 minutes minimum Fire Resistance – Integrity and Insulation performance. This document describes an alternative protection system - FCCS - that also protects passengers and staff from the effects of fire until the train has been evacuated.

It is expected that the FCCS will be activated shortly after a fire that has ignited in a train has been detected. At the same time, passengers and staff in the affected area may move to a non-affected area of the train.

This document also defines requirements for the fire detection systems that activate FCCS systems on board trains.

This document gives the last version of WI947 and comments of NSBs where the compromise is not finalised.

This document provides information to ERA to close the open point.

This document contains information on research to be done to improve the state of the art. The cost of the research should be also evaluated.

This document proposes the next steps with the goal of creating a standard that resolves the issues at hand. This document does not give a cost-benefit-analysis, because such an analysis is not the task of CEN/TC 256/WG 01 experts.

1 Scope

This document specifies the assessment of Fire Containment and Control Systems (FCCS) and associated fire detection systems for railway vehicles as an alternative to the fire barriers specified in EN 45545-3.

This document describes:

— assessment of the installation and capability of fire detection systems;

— assessment of the interaction between fire detection systems and FCCS;

— application and limitations of the assessment process (mock-up or real scale test).

This document considers any additional assessment requirements when vehicle designs that have already been assessed as acceptable to this document are modified, or when new design variants, which have an impact on FCCS, are made which are based on an existing design.

This document is applicable to any railway vehicle where fire detection systems and/or Fire Control and Containment Systems are used.

This document defines performance requirements and verification and validation requirements for systems whose objective is to detect and control or contain the effect of fire in order to create a protected area within the railway vehicle until the railway vehicle can be cleared of passengers and staff by way of evacuation. It is additionally assumed that the new railway vehicles comply with EN 45545-2 (material properties) and EN 45545-4 (design rules) in order to achieve the safety requirements defined in the EN 45545 series.

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

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

EN 45545-3, *Railway applications - Fire protection on railway vehicles - Part 3: Fire resistance requirements for fire barriers*

EN 45545-4, *Railway applications - Fire protection on railway vehicles - Part 4: Fire safety requirements for rolling stock design*

EN 45545-6, *Railway applications - Fire protection on railway vehicles - Part 6: Fire control and management systems*

EN 50155, *Railway applications – Rolling stock – Electronic equipment*

EN 50553, *Railway applications - Requirements for running capability in case of fire on board of rolling stock*

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

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