PD CEN/TR 16251:2016

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Railway applications — Environmental conditions — Design guidance for rolling stock

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National foreword

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The UK participation in its preparation was entrusted by Technical Committee RAE/4, Railway Applications - Rolling stock systems, to Panel RAE/4/-/5, Railway applications - Environmental conditions.

A list of organizations represented on this panel can be obtained on request to its secretary.

When speeds in km/h require unit conversion for use in the UK, users are advised to use equivalent values rounded to the nearest whole number. The use of absolute values for converted units should be avoided in these cases. Please refer to the table below for agreed conversion figures:

INS, RST and ENE speed conversions	
km/h	**mph**
2	1
3	1
5	3
10	5
15	10
20	10
30	20
40	25
50	30
60	40
80	50
100	60
120	75
140	90
150	95
160	100
170	105
180	110
190	120
200	125
220	135
225	140
230	145
250	155
280	175
300	190
320	200
350	220
360	225

Published by BSI Standards Limited 2016

ISBN 978 0 580 74087 9
ICS 45.060.01

Compliance with a British Standard cannot confer immunity from legal obligations.

This Published Document was published under the authority of the Standards Policy and Strategy Committee on 31 March 2016.

Amendments/corrigenda issued since publication

Date	Text affected

TECHNICAL REPORT

RAPPORT TECHNIQUE

TECHNISCHER BERICHT

CEN/TR 16251

February 2016

ICS 45.060.01

English Version

Railway applications - Environmental conditions - Design guidance for rolling stock

Applications ferroviaires - Conditions d'environnement - Lignes directrices pour la conception du matériel roulant

Bahnanwendungen - Umweltbedingungen - Konstruktionsempfehlungen für Schienenfahrzeuge

This Technical Report was approved by CEN on 15 January 2015. It has been drawn up by the Technical Committee CEN/TC 256.

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Ref. No. CEN/TR 16251:2016 E

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European foreword

This document (CEN/TR 16251:2016) has been prepared by Technical Committee CEN/TC 256 “Railway applications”, the secretariat of which is held by DIN.

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Introduction

In this Technical Report, environmental conditions are related to climate and big animals. Separately and in combination environmental conditions can represent considerable challenges to the railway sector as availability, economy, reputation and safety can be severely affected. Both severe summer and winter conditions occur, and more intense weather is predicted for the future.

The intention of this Technical Report is to help reduce technical risks related to environmental conditions.

All tests of the different clauses in this Technical Report can be performed either in a climate chamber or on track, if the corresponding test conditions are given.

1 Scope

This Technical Report gives guidance for designing rolling stock for its specified ranges of environmental conditions according to EN 50125-1. This guidance covers environmental conditions in Europe.

The relevant clauses for the particular vehicle should be chosen and described in the vehicle specification. Depending on the ranges selected, design and/or testing provisions described in this Technical Report should be taken into account. This Technical Report is a collection of existing test descriptions and design guidance based on long lasting experience of operators, test centres and industry.

2 Normative references

The following documents, in whole or in part, are normatively referenced in this document and are indispensable for its application. For dated references, only the edition cited applies. For undated references, the latest edition of the referenced document (including any amendments) applies.

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

3 Terms and definitions

For the purposes of this document, the following terms and definitions apply.

3.1
environmental conditions
physical, chemical or biological conditions external to a product to which it is subject at a certain time

[SOURCE: EN 50125-1]

3.2
winter conditions
conditions with temperatures below freezing point of water, where snow and ice can accumulate on the vehicle

3.3
summer conditions
conditions with temperatures above 35 °C in addition to intensive solar radiation and hot ballast effect