

STN	Železnice. Aerodynamika. Časť 4: Požiadavky a skúšobné postupy na aerodynamiku na otvorenej trati.	STN EN 14067-4 28 0340
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Railway applications - Aerodynamics - Part 4: Requirements and test procedures for aerodynamics on open track

Táto norma obsahuje anglickú verziu európskej normy.
This standard includes the English version of the European Standard.

Obsahuje: EN 14067-4:2013

Oznámením tejto normy sa ruší
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rozmnožovať a rozširovať iba so súhlasom Úradu pre normalizáciu, metrológiu a skúšobníctvo SR.

English Version

Railway applications - Aerodynamics - Part 4: Requirements and test procedures for aerodynamics on open track

Applications ferroviaires - Aérodynamique - Partie 4:
Exigences et procédures d'essai pour l'aérodynamique à
l'air libre

Bahnanwendungen - Aerodynamik - Teil 4: Anforderungen
und Prüfverfahren für Aerodynamik auf offener Strecke

This European Standard was approved by CEN on 21 September 2013.

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EUROPEAN COMMITTEE FOR STANDARDIZATION
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Foreword

This document (EN 14067-4:2013) has been prepared by Technical Committee CEN/TC 256 "Railway Applications", the secretariat of which is held by DIN.

This European Standard shall be given the status of a national standard, either by publication of an identical text or by endorsement, at the latest by April 2014, and conflicting national standards shall be withdrawn at the latest by April 2014.

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 supersedes EN 14067-4:2005+A1:2009 and EN 14067-2:2003. The results of the EU-funded research project "AeroTRAIN" (Grant Agreement No. 233985) have been used.

This document has been prepared under a mandate given to CEN by the European Commission and the European Free Trade Association.

EN 14067-2 has been integrated in this document, and EN 14067-4 has been re-structured and extended to support the Technical Specifications for the Interoperability of the Trans-European rail system and requirements on conformity assessment for rolling stock were added.

EN 14067, *Railway applications — Aerodynamics* consists of the following parts:

- *Part 1: Symbols and units*
- *Part 2: Aerodynamics on open track (to be withdrawn)*
- *Part 3: Aerodynamics in tunnels*
- *Part 4: Requirements and test procedures for aerodynamics on open track*
- *Part 5: Requirements and test procedures for aerodynamics in tunnels*
- *Part 6: Requirements and test procedures for cross wind assessment*

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Introduction

Trains running on open track generate aerodynamic loads on objects and persons they pass. If trains are being passed by other trains, trains are also subject to aerodynamic loading themselves. The aerodynamic loading caused by a train passing an object or a person near the track, or when two trains pass each other, is an important interface parameter between the subsystems of rolling stock, infrastructure and operation and, thus, is subject to regulation when specifying the trans-European railway system.

Trains running on open track have to overcome a resistance to motion which has a strong effect on the required engine power, achievable speed, travel time and energy consumption. Thus, resistance to motion is often subject to contractual agreements and requires standardized test and assessment methods.

1 Scope

This European Standard deals with requirements, test procedures and conformity assessment for aerodynamics on open track. Addressed within this standard are the topics of aerodynamic loadings and resistance to motion, while the topic of cross wind assessment is addressed by EN 14067-6.

This European Standard refers to rolling stock and infrastructure issues. This standard does not apply to freight wagons. It applies to railway operation on gauges GA, GB and GC according to EN 15273. The methodological approach of the presented test procedures may be adapted to different gauges.

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 1991-2, *Eurocode 1: Actions on structures — Part 2: Traffic loads on bridges*

EN 15273 (all parts), *Railway applications — Gauges*

EN 15663, *Railway applications — Definition of vehicle reference masses*

ISO 8756, *Air quality — Handling of temperature, pressure and humidity data*

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