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Irish Standard  
I.S. EN 12299:2009

# Railway applications - Ride comfort for passengers - Measurement and evaluation

## I.S. EN 12299:2009

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## **Railway applications - Ride comfort for passengers - Measurement and evaluation**

Applications ferroviaires - Confort de marche des  
voyageurs - Mesurage et évaluation

Bahnanwendungen - Fahrkomfort für Fahrgäste - Messung  
und Auswertung

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## **Foreword**

This document (EN 12299:2009) 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of an identical text or by endorsement, at the latest by October 2009, and conflicting national standards shall be withdrawn at the latest by October 2009.

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.

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## 1 Scope

This standard specifies methods for quantifying the effects of vehicle body motions on ride comfort for passengers and vehicle assessment with respect to ride comfort. The effect considered is:

— discomfort, associated with relatively low levels of acceleration and roll velocity.

Other effects, not included in the standard, are associated with higher acceleration levels:

— health risk effect: physical damage and psychological deterioration.

The standard applies to passengers travelling in railway vehicles on railway lines, including main, secondary and suburban lines. This standard could be used as a guide for other railway vehicles, for example locomotives, metros, trams, etc.

The standard applies to passengers in good health.

This standard applies to measurements of motions. It also applies to simulated motions.

## 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 14363, *Railway applications — Testing for the acceptance of running characteristics of railway vehicles — Testing of running behaviour and stationary tests*

EN ISO 5353, *Earth-moving machinery, and tractors and machinery for agriculture and forestry - Seat index point (ISO 5353:1995)*

EN ISO 8041, *Human response to vibration - Measuring instrumentation (ISO 8041:2005)*

ISO 2631-1, *Mechanical vibration and shock — Evaluation of human exposure to whole-body vibration — Part 1: General requirements*

ISO 5348, *Mechanical vibration and shock — Mechanical mounting of accelerometers*

## 3 Terms and definitions

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

### 3.1

#### **passengers**

people travelling in a railway vehicle, without specific activities related to the transport

### 3.2

#### **ride comfort**

complex sensation produced during the application of oscillations and/or inertia forces, via whole-body transmission caused by the railway vehicle body motions

### 3.3

#### **interfaces**

contact parts between the vehicle body or seat and the passenger with the function of sustaining and guiding the passenger and of transmitting the weight of the same to the vehicle body itself, e.g. floor-feet

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