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Irish Standard
I.S. EN 50467:2011

Railway applications - Rolling stock - Electrical connectors, requirements and test methods

I.S. EN 50467:2011

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English version

**Railway applications -
Rolling stock -
Electrical connectors, requirements and test methods**

Applications ferroviaires -
Matériel roulant -
Connecteurs électriques, exigences et
méthodes d'essai

Bahnanwendungen -
Fahrzeuge -
Elektrische Steckverbinder,
Bestimmungen und Prüfverfahren

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CENELEC

European Committee for Electrotechnical Standardization
Comité Européen de Normalisation Electrotechnique
Europäisches Komitee für Elektrotechnische Normung

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Foreword

This document (EN 50467:2011) has been prepared by SC 9XB, "Electromechanical material on board rolling stock", of Technical Committee CENELEC TC 9X, "Electrical and electronic applications for railways".

The following dates are fixed:

- latest date by which this document has to be implemented at national level by publication of an identical national standard or by endorsement (dop) 2012-10-10
- latest date by which the national standards conflicting with this document have to be withdrawn (dow) 2014-10-10

This document supersedes CLC/TS 50467:2008.

This European Standard has been prepared under Mandate M/334 given to CENELEC by the European Commission and the European Free Trade Association.

Attention is drawn to the possibility that some of the elements of this document may be the subject of patent rights. CENELEC [and/or CEN] shall not be held responsible for identifying any or all such patent rights.

Introduction

This European Standard provides performance requirements and tests for low-voltage electrical connectors deemed to be installed on board railway rolling stock, either indoors or outdoors. Safety requirements and tests for electrical connectors are already covered in general by EN 61984:2001. The additional requirements and testing of specific characteristics demanded by rolling stock applications are set out in this European Standard. One goal of this European Standard is to avoid retesting of electrical connectors already in compliance with EN 61984:2001 for those characteristics that have been assessed suitable also for use on board rolling stock.

Among the additional requirements for use on board rolling stock, those that can be verified by documentation of tests on the raw materials are distinguished from those to be assessed by tests on the component.

Due to the wide spectrum of existing and future specific rolling stock applications of electrical connectors, this European Standard does not select any particular geometric configuration of connectors, nor establish any particular values for electrical ratings such as voltage and current, or for any other characteristic. All such details should be selected and agreed between the parties involved (e.g. manufacturer and user) depending on the electrical, mechanical and environmental conditions expected in the intended use. Annexes A and C of this European Standard provide guidance.

Upon agreement between the parties involved, this European Standard may be used in conjunction with existing connector detail specifications for interchangeability purposes.

Other standards may be developed in future under the umbrella format of this European Standard, for particular connector designs for applications on board rolling stock, to fix dimensions for interchangeability and to set the additional requirements for specific applications that, due to complexity and variety, are left here to agreement between parties involved.

This European Standard does not cover:

- *connectors with breaking capacity (CBCs)* as defined in EN 61984:2001, 3.2, because on board rolling stock connectors are not deemed to be operated (i.e. connected or disconnected) under load or when live, either by means of procedures or by the presence of interlocks, as required by EN 50153,

NOTE For the purpose of this European Standard connectors on board rolling stock are therefore considered as being always without breaking capacity, therefore where needed for safety reasons, adequate procedures or interlocks (i.e. locking devices that cannot be opened without the aid of a special tool) shall be provided in the end application.

- *non-rewirable connectors* as defined in EN 61984:2001, 3.5,
- *automatic couplers*, due to their additional mechanical complexity and the need for more specific requirements and testing,
- *inter-vehicle jumpers*, as they are connector and cable assemblies whose characteristics depend on those of both elements. Inter-vehicle connectors within the limits set in the scope of this European Standard are therefore covered by the agreed choice of suitable mechanical and environmental characteristics as defined by Annex B, and suggested by Annex C.

1 Scope

This European Standard retains EN 61984:2001 as the minimum performance requirements for railway rolling stock electrical connectors.

It identifies additional terms, test methods and performance requirements for single-pole and multipole connectors with rated voltages up to 1 000 V, rated currents up to 125 A per contact and frequencies below 3 MHz used for indoor and outdoor applications in railway rolling stock.

This European Standard identifies the application levels for electrical connectors based on

- the severity of the service conditions in different rolling stock technologies,
- the intended use of the rolling stock,
- the location of the connector in the rolling stock system.

This European Standard is not applicable to internal connections of electronic devices such as connectors for printed boards and rack-and-panel connectors.

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 50124-1:2001 + A2:2005	Railway applications - Insulation coordination - Part 1: Basic requirements - Clearances and creepage distances for all electrical and electronic equipment
EN 50153:2002	Railway applications - Rolling stock - Protective provisions relating to electrical hazards
EN 50264-1:2008	Railway rolling stock power and control cables having special fire performance - Part 1: General requirements
EN 50264-2-1	Railway applications - Railway rolling stock power and control cables having special fire performance - Part 2-1: Cables with crosslinked elastomeric insulation - Single core cables
EN 50264-2-2	Railway applications - Railway rolling stock power and control cables having special fire performance - Part 2-2: Cables with crosslinked elastomeric insulation - Multicore cables
EN 50264-3-1	Railway applications - Railway rolling stock power and control cables having special fire performance - Part 3-1: Cables with crosslinked elastomeric insulation with reduced dimensions - Single core cables
EN 50264-3-2	Railway applications - Railway rolling stock power and control cables having special fire performance - Part 3-2: Cables with crosslinked elastomeric insulation with reduced dimensions - Multicore cables
EN 50306-1:2002	Railway applications - Railway rolling stock cables having special fire performance - Thin wall - Part 1: General requirements
EN 50306-2:2002	Railway applications - Railway rolling stock cables having special fire performance - Thin wall - Part 2: Single core cables
EN 50306-3:2002	Railway applications - Railway rolling stock cables having special fire performance - Thin wall - Part 3: Single core and multicore cables (pairs, triples and quads) screened and thin wall sheathed
EN 50306-4:2002	Railway applications - Railway rolling stock cables having special fire performance - Thin wall - Part 4: Multicore and multipair cables standard wall sheathed

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