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Railway applications - Rolling stock - Conductor rail current collectors (shoegear): Characteristics and tests

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This standard includes the English version of the European Standard.

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## Railway applications - Rolling stock - Conductor rail current collectors (shoegear): Characteristics and tests

Applications ferroviaires - Matériel roulant - Appareil de prise de courant sur le rail de contact (capteur de courant) : Caractéristiques et essais

Bahnanwendungen - Fahrzeuge - Stromabnehmer für Stromschienen (Schleifschuhträger): Merkmale und Prüfungen

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

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**EN 50702:2021 (E)****European foreword**

This document (EN 50702:2021) has been prepared by CLC/SC 9XB, “*Electrical, electronic and electromechanical material on board rolling stock, including associated software*”.

The following dates are fixed:

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| — | latest date by which this document has to be implemented at national level by publication of an identical national standard or by endorsement | (dop) | 2022-04-12 |
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## **Introduction**

This document corresponds to the aim of the EN 50206 series.

The electrical power of a transmission unit is achieved by collecting current from a conductor rail by means of one or more current collector(s), which is/are installed on the traction unit or on a vehicle of the trainset.

The collector shoes of the current collector which slide along the conductor rail facilitate the transmission of electric power.

The current collector and the conductor rail form two oscillating sub-systems which can be displaced. There is a unilateral sliding linkage between them, which ensures continuous contact. Their design should allow for minimum wear of both sub-systems when in operation.

**EN 50702:2021 (E)****1 Scope**

This document specifies the tests for the current collectors to enable current collection from the third or fourth rail system as well as associated fuses and short circuit devices. It also specifies the general assembly characteristics to be applied to current collectors. This document is applicable to all types of vehicles with third or fourth rail current collectors. This document does not apply to roof mounted pantographs.

**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 50123-1:2003, *Railway applications - Fixed installations - D.C. switchgear - Part 1: General*

EN 50124-1:2017, *Railway applications - Insulation coordination - Part 1: Basic requirements - Clearances and creepage distances for all electrical and electronic equipment*

EN 50125-1:2014, *Railway applications - Environmental conditions for equipment - Part 1: Rolling stock and on-board equipment*

EN 50125-2:2002, *Railway applications - Environmental conditions for equipment - Part 2: Fixed electrical installations*

EN 50125-3:2003, *Railway applications - Environmental conditions for equipment - Part 3: Equipment for signalling and telecommunications*

EN 50163:2004, *Railway applications - Supply voltages of traction systems*

EN 50215:2009, *Railway applications - Rolling stock - Testing of rolling stock on completion of construction and before entry into service*

EN 60112:2003,<sup>1</sup> *Method for the determination of the proof and the comparative tracking indices of solid insulating materials (IEC 60112:2003)*

EN 60529:1991,<sup>2</sup> *Degrees of protection provided by enclosures (IP Code) (IEC 60529:1989)*

EN 60587:2007, *Electrical insulating materials used under severe ambient conditions - Test methods for evaluating resistance to tracking and erosion (IEC 60587:2007)*

EN 61373:2010,<sup>3</sup> *Railway applications - Rolling stock equipment - Shock and vibration tests (IEC 61373:2010)*

**koniec náhľadu – text ďalej pokračuje v platenej verzii STN**

<sup>1</sup> As impacted by EN 60112:2003/A1:2009.

<sup>2</sup> As impacted by EN 60529:1991/A2:2013 and EN 60529:1991/COR1:2019.

<sup>3</sup> As impacted by EN 61373:2010/AC:2017-09.