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Railway applications – Current collection systems – Technical criteria for the interaction between pantograph and overhead contactline (to achieve free access)

Applications ferroviaires – Systèmes de captage de courant – Critères techniques d'interaction entre le pantographe et la ligne aérienne de contact (réalisation du libre accès)



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INTERNATIONAL
ELECTROTECHNICAL
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INTERNATIONALE

ICS 45.060.01

ISBN 978-2-8322-4602-3

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INTERNATIONAL ELECTROTECHNICAL COMMISSION

**RAILWAY APPLICATIONS – CURRENT COLLECTION SYSTEMS –
TECHNICAL CRITERIA FOR THE INTERACTION BETWEEN PANTOGRAPH
AND OVERHEAD CONTACTLINE (TO ACHIEVE FREE ACCESS)**

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International Standard IEC 62486 has been prepared by IEC technical committee 9: Electrical equipment and systems for railways.

This second edition cancels and replaces the first edition published in 2010. This edition constitutes a technical revision.

This edition includes the following significant technical changes with respect to the previous edition:

- a) the upper line properties for both AC and DC power systems as well as the current collector characteristics have been clarified;
- b) the requirements for pantograph with individually spring parts of the pantograph head were taken;
- c) the lateral deviation of the contact wire is made to EN 15273;
- d) in Annex A have been added to specific conditions of CN and JP;

- e) in Annex B, special national conditions have been supplemented by the data of additional IEC members.

The text of this standard is based on the following documents:

FDIS	Report on voting
9/2277/FDIS	9/2298/RVD

Full information on the voting for the approval of this International Standard can be found in the report on voting indicated in the above table.

This document has been drafted in accordance with the ISO/IEC Directives, Part 2.

This international standard is derived from the European standard EN 50367 that was offered to the IEC by CENELEC.

The reader's attention is drawn to the fact that Annexes B and C list all of the “in-some-country” clauses on differing practices of a less permanent nature relating to the subject of this standard.

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RAILWAY APPLICATIONS – CURRENT COLLECTION SYSTEMS – TECHNICAL CRITERIA FOR THE INTERACTION BETWEEN PANTOGRAPH AND OVERHEAD CONTACTLINE (TO ACHIEVE FREE ACCESS)

1 Scope

This document specifies requirements for the interaction between pantographs and overhead contact lines, to achieve interoperability.

NOTE These requirements are defined for a limited number of pantograph types, referred to as 'interoperable pantograph', together with the geometry and characteristics of compatible overhead contact lines.

This document describes parameters and values for all planned lines and future lines.

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.

IEC 60050-811:1991, *International Electrotechnical Vocabulary – Chapter 811: Electric traction*

IEC 60494-1:2013, *Railway applications – Rolling stock – Pantographs – Characteristics and tests – Part 1: Pantographs for main line vehicles*

IEC 60913:2013, *Railway applications – Fixed installations – Electric traction overhead contact lines*

IEC 62313:2009, *Railway applications – Power supply and rolling stock – Technical criteria for the coordination between power supply (substation) and rolling stock*

IEC 62499:2008, *Railway applications – Current collection systems – Pantographs, testing methods for carbon contact strips*

IEC 62846:2016, *Railway applications – Current collection systems – Requirements for and validation of measurements of the dynamic interaction between pantograph and overhead contact line*

IEC 62917, *Railway applications – Fixed installations – Electric traction – Copper and copper alloy grooved contact wires*

3 Terms and definitions

For the purposes of this document, the terms and definitions given in IEC 60050-811:1991 and the following apply.

ISO and IEC maintain terminological databases for use in standardization at the following addresses:

- IEC Electropedia: available at <http://www.electropedia.org/>
- ISO Online browsing platform: available at <http://www.iso.org/obp>