



SLOVENSKI STANDARD
SIST EN 50122-2:2022/oprA1:2024
01-junij-2024

Železniške naprave - Fiksni postroji - Električna varnost, ozemljitev in povratni tokokrog - 2. del: Zaščitni ukrepi proti učinkom blodečih tokov, ki jih povzročajo enosmerni sistemi vleke

Fixed installations for railway applications - Electrical safety, earthing and the return circuit - Part 2: Provisions against the effects of stray currents caused by DC traction systems

Ortsfeste Anlagen für Bahnanwendungen - Elektrische Sicherheit, Erdung und Rückleitung - Teil 2: Schutzmaßnahmen gegen Streustromwirkungen durch Gleichstrombahnen

Installations Fixes pour applications ferroviaires - Sécurité électrique, mise à la terre et circuit de retour - Partie 2: Mesures de protection contre les effets des courants vagabonds issus de la traction électrique à courant continu

Ta slovenski standard je istoveten z: EN 50122-2:2022/prA1:2024

ICS:

29.120.50	Varovalke in druga nadtokovna zaščita	Fuses and other overcurrent protection devices
29.280	Električna vlečna oprema	Electric traction equipment

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EUROPEAN STANDARD
NORME EUROPÉENNE
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English Version

Fixed installations for railway applications - Electrical safety, earthing and the return circuit - Part 2: Provisions against the effects of stray currents caused by DC traction systems

Installations Fixes pour applications ferroviaires - Sécurité électrique, mise à la terre et circuit de retour - Partie 2: Mesures de protection contre les effets des courants vagabonds issus de la traction électrique à courant continu

Ortsfeste Anlagen für Bahnanwendungen - Elektrische Sicherheit, Erdung und Rückleitung - Teil 2: Schutzmaßnahmen gegen Streustromwirkungen durch Gleichstrombahnen

This draft amendment prA1, if approved, will modify the European Standard EN 50122-2:2022; it is submitted to CENELEC members for enquiry.
Deadline for CENELEC: 2024-07-12.

It has been drawn up by CLC/SC 9XC.

If this draft becomes an amendment, CENELEC members are bound to comply with the CEN/CENELEC Internal Regulations which stipulate the conditions for giving this amendment the status of a national standard without any alteration.

This draft amendment was established by CENELEC in three official versions (English, French, German).

A version in any other language made by translation under the responsibility of a CENELEC member into its own language and notified to the CEN-CENELEC Management Centre has the same status as the official versions.

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Recipients of this draft are invited to submit, with their comments, notification of any relevant patent rights of which they are aware and to provide supporting documentation.

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

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

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35 European foreword

36 This document (EN 50122-2:2022/prA1:2024) was prepared by SC 9XC, "Electric supply and earthing systems
37 for public transport equipment and ancillary apparatus (fixed installations)", of CLC/TC 9X, "Electrical and
38 electronic applications for railways".

39 This document is currently submitted to the Enquiry.

40 The following dates are proposed:

- latest date by which the existence of this document has to be announced at national level (doa) dor + 6 months
- latest date by which this document has to be implemented at national level by publication of an identical national standard or by endorsement (dop) dor + 12 months
- latest date by which the national standards conflicting with this document have to be withdrawn (dow) dor + 36 months (to be confirmed or modified when voting)

41 This document has been prepared under a Standardization Request addressed to CENELEC by the European
42 Commission. The Standing Committee of the EFTA States subsequently approves these requests for its
43 Member States.

44 Any feedback and questions on this document should be directed to the users' national committee. A complete
45 listing of these bodies can be found on the CENELEC website.

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Document Preview

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<https://standards.itih.ai/catalog/standards/sist/26030df7-06c9-4a8d-90b0-cd1c04de5e7e/sist-en-50122-2-2022-opra1-2024>

EN 50122-2:2022/prA1:2024 (E)**46 1 Modification to the Title**

47 *Modify the first part of the title to read:*

48 “Fixed installations for railway application - Electrical safety, earthing and the return circuit - Part 2: Provisions
49 against the effects of stray currents caused by DC traction systems”

50 2 Modification to Clause 2, Normative references

51 *Add the following standard:*

52 “EN ISO 21857:2021, *Petroleum, petrochemical and natural gas industries - Prevention of corrosion on*
53 *pipeline systems influenced by stray currents (ISO 21857:2021)”*

54 3 Modification to Clause 4, Identification of hazards and risks

55 *Replace the first paragraph by the following:*

56 DC electric traction power supply systems can cause stray currents, which can adversely affect railway
57 infrastructure as well as third party structures, if the feed and return circuits are not sufficiently insulated from
58 earth.

59 *Replace the first line of the second paragraph by the following:*

60 “Where current leaves the structure through an ionic path such as concrete or soil the major effects of such
61 stray currents can be corrosion.”

62 *Replace the sixth paragraph by the following:*

63 “The railway system design shall be completed before key parameters for stray current effects are decided. This
64 includes parameters such as substation locations, track formations, bonding, insulated rail joint positions and
65 civil structure designs (e.g. overhead contact line system (including foundations), bridges, viaducts, tunnels).
66 See also 5.4 and Clause 6.”

67 4 Modification to 5.1, General

68 *Replace the first paragraph by the following:*

69 “The magnitude and extent of stray currents depends on the overall system design of the electric traction power
70 supply system. Stray currents leaving the return circuit through an electrolytic path can affect the return circuit
71 itself and neighbouring installations, see Clause 4.”

72 *Replace the NOTE 2 by the following:*

73 “NOTE 2 Stray currents from DC railway systems are, by their very nature, dynamic, and adherence to the guidelines in
74 Clause 5 does not always ensure that the corrosion risk to third party infrastructure does not exist.”

75 *Replace the last sentence of the last paragraph by the following:*

76 “The corrosion risk to the railway system can be assessed using the guidelines in this document.”

77 *After the last paragraph, add the following new NOTE 3:*

78 “NOTE 3 The responsibility for the assessment of the corrosion risk to third-party structures lies with the owners of those
79 structures. EN ISO 21857 provides guidance for pipelines and can be used for other structures as well. EN strict control is
80 exercised over the construction and installation EN ISO 21857 recommends joint committees to assess the stray current
81 corrosion risks, e.g. railway infrastructure managers and other involved parties.”

82 5 Modification to 5.2, General Criteria for the protection of the tracks

83 *Replace the first paragraph by the following:*

84 “Experience over more than three decades has proven that the corrosion damage to the tracks including their