



**SLOVENSKI STANDARD**  
**SIST EN 50119:2009/A1:2013**  
**01-julij-2013**

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**Železniške naprave - Stabilne naprave električne vleke - Kontaktni vodniki električne vleke**

Railway applications - Fixed installations - Electric traction overhead contact lines

Bahnanwendungen - Ortsfeste Anlagen - Oberleitungen für den elektrischen Zugbetrieb

Applications ferroviaires - Installations fixes - Lignes aériennes de contact pour la traction électrique

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Ta slovenski standard je istoveten z: **EN 50119:2009/A1:2013**

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**ICS:**

29.280      Električna vlečna oprema      Electric traction equipment

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EUROPEAN STANDARD  
NORME EUROPÉENNE  
EUROPÄISCHE NORM

**EN 50119/A1**

April 2013

ICS 29.280

English version

**Railway applications -  
Fixed installations -  
Electric traction overhead contact lines**

Applications ferroviaires -  
Installations fixes -  
Lignes aériennes de contact pour la  
traction électrique

Bahnanwendungen -  
Ortsfeste Anlagen -  
Oberleitungen für den elektrischen  
Zugbetrieb

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This amendment A1 modifies the European Standard EN 50119:2009; it was approved by CENELEC on 2013-03-11. 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.

Up-to-date lists and bibliographical references concerning such national standards may be obtained on application to the CEN-CENELEC Management Centre or to any CENELEC member.

This amendment exists 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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**CENELEC**

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

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## Foreword

This document (EN 50119:2009/A1:2013) has been prepared by CLC/SC 9XC "Electric supply and earthing systems for public transport equipment and ancillary apparatus (Fixed installations)".

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) 2014-03-11
- latest date by which the national standards conflicting with this document have to be withdrawn (dow) 2016-03-11

This standard was amended to correct some technical mistakes and to add some clarifications. The requirements for insulators were also completed with mechanical and surface requirements.

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## 1 Modification to Clause 2

Replace "HD 578" with "HD 578 S1".

## 2 Modification to 5.1.2

Replace the paragraph that immediately follows Table 1 with the following one:

"For higher temperatures than those in Table 1, the possible reduction in conductor strength according to the duration of the raised temperature shall be checked and, if necessary, the dimensions of the conductor(s) should be increased or the working load reduced."

## 3 Modification to 5.2.2

In the 1<sup>st</sup> paragraph, replace "shall be" with "are".

## 4 Modifications to 5.3.7

Replace the current title of the subclause "Welded or soldered joints  $K_{\text{joint}}$ " with "Joints  $K_{\text{joint}}$ ".

Replace the whole paragraph in the subclause with the following one:

"The effect of joints is considered by the factor  $K_{\text{joint}}$ . This shall be equal to 1,00 if no joints are adopted. Otherwise,  $K_{\text{joint}}$  shall be equal to the ratio of the tensile strength of joints to the higher calculated rated tensile strength of contact wire. The minimum tensile strength of the joint shall be in accordance with EN 50149."

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## 5 Modification to 5.4.6

Replace the whole paragraph in the subclause with the following one:

"The effect of termination fittings is considered by the factor  $K_{\text{clamp}}$  which shall be equal to 1,00 if the clamping force is equal or more than 95 % of the calculated rated tensile strength. Otherwise  $K_{\text{clamp}}$  shall be equal to the ratio of the clamping force to the calculated rated tensile strength."

## 6 Modifications to 6.2.4.7

In the title of the subclause, replace "structures" with "masts".

In the 1<sup>st</sup> paragraph, replace "structure" with "mast".

In the title of Table 13, replace "structure" with "mast".

In the top row of Table 13, replace "Structure type" with "Mast type".

In the title of Figure 4, replace "structure" with "mast".

## 7 Modification to 6.4.7

In the 1<sup>st</sup> paragraph, in the 1<sup>st</sup> sentence, add "and structures" between "Cross span supports" and "shall be".

## 8 Modification to 7.2

*In the 2<sup>nd</sup> paragraph, in the last list entry, replace "tube" with "arm".*

## 9 Modification to 7.4

*In the 1<sup>st</sup> paragraph, replace "(for ACSR and AACSR stranded conductors)" with "for AL1/STyz and AL3/STyz (ACSR and AACSR)".*

## 10 Modifications to 7.9

*Replace the 1<sup>st</sup> list entry with the following one:*

"

— be able to sustain thermal load cycling with no reduction in mechanical and electrical integrity;"

*Delete the last list entry and replace the final semi-colon at the end of the 3<sup>rd</sup> list entry with a full stop.*

## 11 Modifications to 7.10

*Immediately after the line with the number and title of subclause 7.10, add the following line with a new subclause number and title:*

"

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**7.10.1 General requirements** [standards.iteh.ai/catalog/standards/sist/98c8310c-1c8b-4058-ac18-2e686263920a/sist-en-50119-2009-a1-2013](https://standards.iteh.ai/catalog/standards/sist/98c8310c-1c8b-4058-ac18-2e686263920a/sist-en-50119-2009-a1-2013)

*In the 4<sup>th</sup> paragraph about post insulators, in the only list entry, replace "HD 578" with "HD 578 S1 (IEC 60273)".*

*At the very end of the subclause, add the following two new subclauses:*

"

### 7.10.2 Mechanical requirements

The mechanical requirements for composite insulators shall be in accordance with EN 50151.

For other insulators, the minimum tensile strength of the insulator shall be at least 95 % of the calculated tensile strength of the conductor. The maximum working tensile load on the insulator shall not exceed 40 % of the minimum tensile strength of the insulator. In either case, the highest value should be used.

The maximum working, bending or torsion load shall not exceed 40 % of the minimum, bending or torsion strength of the insulator. Simultaneous tensile and bending and/or torsion load shall be taken into account if necessary. The maximum working bending load may additionally be limited by any deflection criteria defined in the customer specification.

The end fittings shall be suitably protected from corrosion and electrochemically compatible with interface connections. Particular attention shall be given to the protection of the end fittings against moisture entry, chemical activity or fixing degradation.

### 7.10.3 Insulator surface

In addition to the electrical and mechanical performance requirements, the design should address the suitability of the insulator surface in catering for:

- cleaning by natural or manual methods;
- localised atmospheric pollution;
- low voltage erosion;
- electro-chemical activity or water absorption;
- anti-vandalism;
- radio interference according to EN 60437."

## 12 Modification to 8.2.1.5.2

Delete the last paragraph (which begins with "For suspension clamps,...").

## 13 Modification to 8.2.2.5

Replace the 2<sup>nd</sup> paragraph with the following one:

"No defects impairing the function of the components or clamps are acceptable. Deformation intended in the design is acceptable if it does not impair the function."

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## 14 Modifications to 8.7.2 (standards.iteh.ai)

Replace the 2<sup>nd</sup> paragraph with the following one: [50119:2009/A1:2013](https://standards.iteh.ai/catalog/standards/sist/98c8310c-1c8b-4058-ac18-266e28920544/en-50119-2009-a1-2013)

[https://standards.iteh.ai/catalog/standards/sist/98c8310c-1c8b-4058-ac18-](https://standards.iteh.ai/catalog/standards/sist/98c8310c-1c8b-4058-ac18-266e28920544/en-50119-2009-a1-2013)

"The compression distance, C shall be specified, between 20 mm and 200 mm and the force,  $F_L$  in the dropper shall be specified, between 100 N to 400 N."

Immediately after the 3<sup>rd</sup> paragraph, add the following NOTE:

"NOTE The values to be specified and the length will depend on the intended application."

In the key to Figure 9, replace the definition given for Symbol (2) with "half-cycle – dropper in subject to force,  $F_L$ ".

In the key to Figure 9, in the definition given for Symbol  $F_L$ , delete "internal".

## 15 Modification to 8.9.2

Add the following NOTE immediately after the 2<sup>nd</sup> paragraph:

"

NOTE The values to be specified and the length will depend on the intended application."

## 16 Modification to 8.15.1

In the 1<sup>st</sup> paragraph, in the list entry just before the NOTE, replace "tested (routine and type test)" with "calculated".