



SLOVENSKI STANDARD
SIST EN 50341-2-9:2019/A1:2019
01-april-2019

Nadzemni električni vodi za izmenične napetosti nad 1 kV - 2-9. del: Nacionalna normativna določila (NNA) za Veliko Britanijo in Severno Irsko (na podlagi EN 50341-1:2012)

Overhead electrical lines exceeding AC 1 kV - Part 2-9: National Normative Aspects (NNA) for Great Britain and Northern Ireland (based on EN 50341-1:2012)

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Ta slovenski standard je istoveten z: [EN 50341-2-9:2017/A1:2018](https://standards.iteh.ai/catalog/standards/sist/5717e29d-eae2-4831-a510-1d50694c6cc/sist-en-50341-2-9-2019-a1-2019)

ICS:

29.240.20 Daljnovodi Power transmission and
distribution lines

SIST EN 50341-2-9:2019/A1:2019 en,fr,de

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EUROPEAN STANDARD

EN 50341-2-9:2017/A1

NORME EUROPÉENNE

EUROPÄISCHE NORM

July 2018

ICS 29.240.20

English Version

Overhead electrical lines exceeding AC 1 kV - Part 2-9: National Normative Aspects (NNA) for Great Britain and Northern Ireland (based on EN 50341-1:2012)

This amendment A1 modifies the European Standard EN 50341-2-9:2017; it was approved by CENELEC on 2018-05-15. 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.

CENELEC members are the national electrotechnical committees of Austria, Belgium, Bulgaria, Croatia, Cyprus, the Czech Republic, Denmark, Estonia, Finland, Former Yugoslav Republic of Macedonia, France, Germany, Greece, Hungary, Iceland, Ireland, Italy, Latvia, Lithuania, Luxembourg, Malta, the Netherlands, Norway, Poland, Portugal, Romania, Serbia, Slovakia, Slovenia, Spain, Sweden, Switzerland, Turkey and the United Kingdom.



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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European foreword

1. The British National Committee is identified by the following address:

British Standards Institution

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London W4 4AL

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Fax: +44 20 8996 7799

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2. The British National Committee (NC) has prepared this Part 2-9/A1 (EN 50341-2-9:2017/A1) listing the GB National Normative Aspects Amendment 1 (NNA/A1) under its sole responsibility and duly passed this document through the CENELEC and CLC/TC 11 procedures.

NOTE: The British NC also takes sole responsibility for the technically correct co-ordination of this EN 50341-2-9:2017/A1 with Part 2-9 (EN 50341-2-9:2017). It has performed the necessary checks in the frame of quality assurance / control. However, it is noted that this quality control has been made in the framework of the general responsibility of a standards committee under the national laws / regulations.

3. This NNA/A1 is normative in GB and informative for other countries.
4. This NNA/A1 shall be read in conjunction with Part 2-9 and Part 1. The highlighted text (in yellow) shows the changes. All clause numbers used in this NNA/A1 correspond to those in Part 2-9 and Part 1. Specific sub-clauses that are prefixed 'GB' are to be read as amendments to the relevant text in Part 1 and Part 2-9. Any necessary clarification regarding the application of this NNA/A1 in conjunction with Part 2-9 and Part 1 shall be referred to the British NC who will, in co-operation with CLC/TC 11, clarify the requirements.

Where no reference is made in this NNA/A1 to a specific sub-clause, then Part 1 shall apply.

5. In the case of "boxed values" defined in Part 1, amended values (if any), which are defined in this NNA/A1, shall be taken into account in GB and Northern Ireland.

However any boxed value whether in Part 1 or in this NNA/A1, shall not be modified in the direction of greater risk in a Project Specification.

6. The GB and Northern Ireland standards / regulations relating to overhead electrical lines exceeding A.C. 1 kV are listed in subclause 2.1.

NOTE: all national standards referred to in this NNA/A1 will be replaced by the relevant European Standards as soon as they become available and are declared by the British NC to be applicable and thus reported to the secretary of CLC/TC 11

7. The British NC declares in accordance with clause 4.1 of Part 1 that this NNA/A1 follows both design "Approach 1" and design "Approach 3". The specific design Approach to be used shall be specified in the Project Specification.

1 Modification to J.5.1 General

Table J.3/ GB.1 Design resistance for individual fasteners subjected to shear and/ or tension

Replace:

<p><u>Shear resistance per shear plane:</u> Shear resistance per shear plane ($F_{v,Rd}$), if shear plane passes through unthreaded portion of the bolt:- $F_{v,Rd} = 0.65 f_{ub} A / \gamma_{M2}$ or $0.95 f_{yb} A / \gamma_{M2}$, whichever is the lesser.</p>
<p><u>Bearing resistance per bolt</u> Bearing resistance for a bolt, ($F_{b,Rd}$), shall be taken as the lowest of the following values 1.)-4.):-</p> <ol style="list-style-type: none"> 1.) $2.0 f_y D T$ 2.) $1.33 f_y e_1 T$ for $e_1 > 1.5D$ or $2.0 f_y (e_1 - D/2) T$ for $e_1 \leq 1.5D$ 3.) $1.0 f_y (P_1 - D/2) T$ 4.) $2.67 f_y (e_2 - D/2) T$ <p>Where:-</p> <ul style="list-style-type: none"> • D is the diameter of bolt hole. • T is thickness of member. • f_y is the yield strength of the member. • P_1 is the minimum centre-to-centre distance between two consecutive holes, on the same row; • e_1 is the minimum distance of the bolt nearest to the end; • e_2 is the minimum distance of the bolt nearest to the edge <p>The design resistance of a group of fasteners may be taken as the sum of the design bearing resistances, $F_{b,Rd}$ of the individual fasteners provided that the design shear resistance, $F_{v,Rd}$ of each individual fastener is greater than or equal to the design bearing resistance, $F_{b,Rd}$. Otherwise, the design resistance of a group of fasteners should be taken as the number of fasteners multiplied by the smallest design resistance of any of the individual fasteners.</p> <p>Normally, yield strength of bolts will be greater or equal to the yield stress of the material being connected, but in the event that this is not the case, a separate bearing check on bolts should be undertaken using:</p> $F_{b,Rd} = 2.0 f_{yb} d T$ <p>Where D = diameter of bolt f_{yb} = yield stress of bolt.</p>

With:

Shear resistance per shear plane:

Shear resistance per shear plane ($F_{v,Rd}$), if shear plane passes through unthreaded portion of the bolt:-

$$F_{v,Rd} = 0.65 f_{ub} A / \gamma_{M2} \text{ or } 0.95 f_{yb} A / \gamma_{M2}, \text{ whichever is the lesser.}$$

Bearing resistance per bolt

Bearing resistance for a bolt, ($F_{b,Rd}$), shall be taken as the lowest of the following values 1.)-4.):-

- 1.) $2.0 f_y D T$
- 2.) $1.33 f_y e_1 T$ for $e_1 > 1.5D$ or $2.0 f_y (e_1 - D/2) T$ for $e_1 \leq 1.5D$
- 3.) $1.0 f_y (P_1 - D/2) T$
- 4.) $2.67 f_y (e_2 - D/2) T$

Where:-

- D is the diameter of bolt.
- T is thickness of member.
- f_y is the yield strength of the member.
- P_1 is the minimum centre-to-centre distance between two consecutive holes, on the same row;
- e_1 is the minimum distance of the bolt nearest to the end;
- e_2 is the minimum distance of the bolt nearest to the edge

The design resistance of a group of fasteners may be taken as the sum of the design bearing resistances, $F_{b,Rd}$ of the individual fasteners provided that the design shear resistance, $F_{v,Rd}$ of each individual fastener is greater than or equal to the design bearing resistance, $F_{b,Rd}$. Otherwise, the design resistance of a group of fasteners should be taken as the number of fasteners multiplied by the smallest design resistance of any of the individual fasteners.

Normally, yield strength of bolts will be greater or equal to the yield stress of the material being connected, but in the event that this is not the case, a separate bearing check on bolts should be undertaken using:

$$F_{b,Rd} = 2.0 f_{yb} D T$$

Where D = diameter of bolt
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f_{yb} = yield stress of bolt.