ICS 29.240.20 SLOVENSKÁ TECHNICKÁ NORMA Október 2023

STN	**Vonkajšie elektrické vedenia so striedavým napätím nad 1kV Časť 2-21: Národné normatívne hľadiská (NNA) pre SLOVINSKO (založená na EN 50341-1: 2012)**	**STN EN 50341-2-21** 33 3300

Overhead electrical lines exceeding AC 1 kV - National Normative Aspects (NNA) for Slovenia (based on EN 50341-1:2012)

Táto norma obsahuje anglickú verziu európskej normy.
This standard includes the English version of the European Standard.

Táto norma bola oznámená vo Vestníku ÚNMS SR č. 09/23

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EUROPEAN STANDARD

NORME EUROPÉENNE

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English Version

Overhead electrical lines exceeding AC 1 kV - National Normative Aspects (NNA) for Slovenia (based on EN 50341-1:2012)

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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.

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

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European foreword

The following statements 1 to 6 are required from CLC/TC 11 for all NNAs.

1 The Slovenian National Technical Committee is identified by the following address:

Slovenski Inštitut za Standardizacijo (SIST)
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SI-1000 Ljubljana, SLOVENIA
phone ++386 1 478 3013
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Name of the relevant technical body: SIST/TC NVV *Technical Committee for Overhead lines and conductors.*

2 The Slovenian NC and its technical body NVV "*Overhead power lines and conductors*" of SIST prepared this Part 2-21 of EN 50341, listing the Slovenian National Normative Aspects (NNA) under its sole responsibility, and duly passed it through the CENELEC and CLC/TC 11 procedures.

NOTE: The Slovenian NC also takes sole responsibility for the technically correct co-ordination of this EN 50341-2-21 with EN 50341-1:2012. It performed the necessary checks in the frame of quality assurance/control. However, it is noted that this quality control was made in the framework of the general responsibility of a standards committee under the national laws/regulations.

3 This EN 50431-2-21, hereafter referred to as Part 2-21, is normative in Slovenia and informative in other countries.

4 This Part 2-21 shall be read in conjunction with EN 50341-1, hereafter referred to as Part 1. All clause numbers used in this NNA correspond to those of Part 1. Specific subclauses, which are prefixed "SI", shall be read as amendments to the relevant text in Part 1. Any necessary clarification regarding the application of this NNA in conjunction with Part 1 shall be referred to the Slovenian NC who will, in co-operation with CLC/TC 11, clarify the requirements.

When no reference is made in this NNA to a specific subclause, then Part 1 applies.

5 In case of "boxed values" defined in Part 1, amended values, (if any) which are defined in Part 2-21 shall be considered in Slovenia.

However, any "boxed value", whether in Part 1 or in this Part 2-21, shall not be amended in the direction of greater risk in a Project Specification.

6 The Slovenian National standards/regulations related to overhead electrical lines exceeding 1 kV AC are listed in subclause 2.1 SI.1 of this Part 2-21.

NOTE All national standards referred to in this Part 2-21 will be replaced by the relevant European Standards as soon as they become available and are declared by the Slovenian NC to be applicable and thus reported to the secretary of CLC/TC 11.

1. Scope

1.1 General

(A-dev) **Sl.1 Definition of the new overhead power line**

A new overhead power line is defined as a functionally completed installation for the transmission of electricity between points A and B (i.e. the new construction of all conductors, their supports together with foundations, earthing system, insulators, accessories and fittings).

The overhead lines currently being designed (starting of a design to obtain a building permit) or being under construction may be completed in accordance with the standards in force at the time of the start of the design or construction of the overhead line.

In the case of maintenance and renovation works with major structural changes to overhead lines, this standard shall be applied in accordance with the project specification. E.g., for the construction of new support on new foundations in the existing overhead line, the provisions of this standard shall be applied to support and foundations but for the other elements of the overhead line don’t need to be complied with this standard.

For the design and construction of DC overhead lines, the requirements of this standard are also applicable to the design of structures, but not for electrical requirements, which have to be specified in the project specification.

1.2 Field of application

(ncpt) **Sl.1 Conductors with optical fiber wires**

This standard is also applicable for designing and construction of conductors with fiber optic wires (OPPC), optical ground wires (OPGW) and ADSS (All Dielectric Self Supporting) cables.

(ncpt) **Sl.2 Use of cover conductors and overhead insulated cable networks**

In overhead lines with covered conductors, insulated by artificial mass and overhead insulated cable networks up to and including 45 kV, project requirements shall be defined in the project specification.

(ncpt) **Sl.3 Use for the installation of other equipment on supports**

This Standard also applies to all other equipment intended for installation of new overhead line supports. Other equipment shall be considered as the equipment which does not belong to the basic elements of the overhead line, e. g. equipment for the passage of overhead line into cable, disconnectors, telecommunications equipment, meteorological equipment, measuring equipment and more. Static verification of the support and foundation of the overhead water must be carried out due to the impact of the self-weight of other equipment and the impact of wind and ice on other equipment.

2. Normative references, definitions, and symbols

2.1 Normative references

All standards referred to in the text in this Standard are listed in EN 50341-1:2012. In addition to these standards, the design and construction of overhead lines above 1 kV in Slovenia must consider the applicable national legislation and regulations related to spatial placement and safety, and quality.

(A-dev) **Sl.1 National normative acts and regulations**, to be taken into account when designing and building overhead lines in Slovenia are:

Energy Act, (Uradni list RS, št. 60/19, 65/20, 158/20 – ZURE, 121/21 – ZSROVE, 172/21 – ZOEE, 204/21 – ZOP in 44/22 – ZOTDS)

Building Act (Uradni list RS, št. 199/21 in 105/22 – ZZNŠPP)

Rules on technical conditions for the construction of overhead high voltage lines of alternating current from 1kV to 400 kV (Uradni list RS, št. 52/14 in 67/22)

Spatial Planning Act (Uradni list RS, št. 33/07, 70/08 – ZVO-1B, 108/09, 80/10 – ZUPUDPP, 43/11 – ZKZ-C, 57/12, 57/12 – ZUPUDPP-A, 109/12, 76/14 – odl. US, 14/15 – ZUUJFO, 61/17 – ZUreP-2 in 199/21 – ZUreP-3)

Decree on the assessment and management of environmental noise (Uradni list RS, št. 121/04, 59/19, 44/22 – ZVO-2 in 53/22)

Spatial Management Act Uradni list RS, št. 199/21)

Rules on electromagnetic compatibility (Uradni list RS, št. 39/16 in 9/20)

Rules on the first measurements and operational monitoring of the sources of electromagnetic radiation and the terms of its implementation (Uradni list RS, št. 70/96, 41/04 – ZVO-1, 17/11 – ZTZPUS-1 in 44/22 – ZVO-2)

Reference	*Title*
EN 338	Structural timber - Strength classes
EN 1090-1+A1	Execution of steel structures and aluminium structures - Part 1: Requirements for conformity assessment of structural components
EN 1090-2	Execution of steel structures and aluminium structures - Part 2: Technical requirements for steel structures
EN 1991-1-4	Eurocode 1: Actions on structures - Part 1-4: General actions - Wind actions
EN 1991-1-4:2005/A101:2008	Eurocode 1: Actions on structures - Part 1-4: General actions - Wind actions - National annex
EN 1993-1-1:2005	Eurocode 3: Design of steel structures - Part 1-1: General rules and rules for buildings
EN 1995-1-1	Eurocode 5: Design of timber structures - Part 1-1: General - Common rules and rules for buildings
EN 1995-1-2	Eurocode 5: Design of timber structures - Part 1-2: General - Structural fire design
EN 1997-1:2005	Eurocode 7: Geotechnical design - Part 1: General rules
EN 10025-1:2004	Hot rolled products of structural steels - Part 1: General technical delivery conditions
EN 10025-2:2019	Hot rolled products of structural steels - Part 2: Technical delivery conditions for non-alloy structural steels
EN 50182	Conductors for overhead lines - Round wire concentric lay stranded conductors

EN 50183	Conductors for overhead lines - Aluminium-magnesium-silicon alloy wires
EN 50189	Conductors for overhead lines - Zinc coated steel wires
EN 50341-1:2012	Overhead electrical lines exceeding AC 1 kV - Part 1: General requirements - Common specifications
EN 50443	Effects of electromagnetic interference on pipelines caused by high voltage a.c. electric traction systems and/or high voltage a.c. power supply systems
EN 50522:2011	Earthing of power installations exceeding 1 kV a.c.
EN 60071-1	Insulation co-ordination - Part 1: Definitions, principles and rules
EN 61232	Aluminium-clad steel wires for electrical purposes
EN 61284	Overhead lines - Requirements and tests for fittings
IEC/TR3 61597	Overhead electrical conductors - Calculation methods for stranded bare conductors
EN ISO 898-1	Mechanical properties of fasteners made of carbon steel and alloy steel - Part 1: Bolts, screws and studs with specified property classes - Coarse thread and fine pitch thread (ISO 898-1)

2.2 Definitions

The definitions listed in EN 50341-1:2012 are supplemented and detailed for the purpose of this Part 2-21 as follows:

2.2.110 Factor of ice load

Factor that determines the ice loading in a given geographical zone

2.3 Symbols

For the purpose of this Part of the Standard 2-21, the symbols listed in EN 50341-1:2012 shall be used and the following:

f_{zl} the factor of ice load