

Overhead electrical lines exceeding AC 1 kV - Part 2-19:
National Normative Aspects (NNA) for CZECH REPUBLIC
(based on EN 50341-1:2012)

EESTI STANDARDI EESSÕNA

NATIONAL FOREWORD

See Eesti standard EVS-EN 50341-2-19:2016 sisaldab Euroopa standardi EN 50341-2-19:2015 ingliskeelset teksti.	This Estonian standard EVS-EN 50341-2-19:2016 consists of the English text of the European standard EN 50341-2-19:2015.
Standard on jõustunud sellekohase teate avaldamisega EVS Teatajas	This standard has been endorsed with a notification published in the official bulletin of the Estonian Centre for Standardisation.
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Standard on kättesaadav Eesti Standardikeskusest.	The standard is available from the Estonian Centre for Standardisation.

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EUROPÄISCHE NORM

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English Version

**Overhead electrical lines exceeding AC 1 kV - Part 2-19:
National Normative Aspects (NNA) for CZECH REPUBLIC
(based on EN 50341-1:2012)**

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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, 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: Avenue Marnix 17, B-1000 Brussels

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Foreword

1. The Czech National Committee (NC) is identified by the following address :
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2. The Czech National Committee has prepared this Part 2–19 (EN 50341-2-19) listing the Czech National Normative Aspects (NNA) under its sole responsibility and duly passed this document through the CENELEC and CLC/TC11 procedures.

NOTE The Czech National Committee also takes sole responsibility for the technically correct co-ordination of this EN 50341-2-19 with EN 50341-1. It has performed the necessary checks in the frame of quality assurance/control. However, it is noted that this quality assurance/control has been made in the framework of the general responsibility of The Czech National Committee under the national laws/regulations.

3. This EN 50341-2-19 is normative in the Czech Republic and informative for other countries.
4. This EN 50341-2-19 has to be read in conjunction with EN 50341-1, hereinafter referred as Part 1. All clause numbers used in Part 2–19 correspond to those of Part 1. Specific subclauses which are prefixed CZ are to be read as amendments to the relevant text in Part 1. Any necessary clarification regarding the application of Part 2–19 in conjunction with Part 1 shall be referred to the Czech Office for Standards, Metrology and Testing that will, in co-operation with CLC/TC11, clarify the requirements. When no reference is made in Part 2–19 to a specific subclause, then Part 1 applies.
5. In the case of “boxed values” defined in Part 1, amended values (if any) which are defined in Part 2–19 shall be taken into account in the Czech Republic.
However, any “boxed values” whether in Part 1 or Part 2-19, shall not be amended in direction of greater risk in the Project Specification.
6. The national Czech standards/regulations, regarding overhead lines exceeding 1 kV AC, are listed in 2.1/CZ.2 and 2.1/CZ.3.

NOTE All national standards referred to in this Part 2–19 will be replaced by the relevant European Standards as soon as they become available and are declared by the Czech Office for Standards, Metrology and Testing to be applicable and thus reported to the secretary of CLC/TC11.

1 Scope

1.1 General

(ncpt) CZ.1 New overhead line

The new overhead line is considered a brand new electric overhead line with nominal voltage exceeding 1 kV AC, between the points A and B.

The new branch line of the existing overhead line shall be considered a new overhead line except for a junction support for which the specific requirements shall be defined in the Project Specification.

The extent of application of this standard in respect of reconstruction, relaying and extension of existing overhead lines shall be determined in the Project Specification. Simultaneously, the Project Specification shall determine, which of the previous national standards shall be used and to what extent they shall be used for the project in question.

1.2 Field of application

(ncpt) CZ.1 Field of application

The requirements of this standard shall be adopted, where applicable (e.g. requirements on loads, external clearances, etc.), for telecommunication cables as well.

In case of overhead line under the design stage, parties concerned shall agree the extent of the application of this standard.

Overhead line under construction may be completed according to standards valid during the design stage of the line. The parties concerned shall agree any possible application of certain clauses of this standard.

(ncpt) CZ.2 Installation of telecommunication equipment on supports

Provisions of this standard also apply to the telecommunication equipment and devices (aerials, dish antennas, etc.) which are installed on individual supports of overhead power lines, especially in terms of wind and ice loads on such installed equipment. Design and installation has to respect requirements of the utility operating the line in question. The design of such telecommunication equipment has to incorporate such technical solutions and such precautions, which shall allow safe access and maintenance of both a power line and telecommunication equipment, and which shall provide protection of persons performing repairs or maintenance of the power line and/or telecommunication equipment against electric shock and protection of telecommunication equipment and attached installations against the influence of the power line (short-circuits, switching and lightning overvoltages etc.).

2 Normative references, definitions and symbols

2.1 Normative references

(ncpt) CZ.1 General

National laws, Government regulations and other binding regulations are included in following 2.1/CZ.2. International and national standards quoted in EN 50341-2-19 and not included in 2.1 EN 50341-1 are included in 2.1/CZ.3.

The set of standards included in 2.1 EN 50341-1 under a common title of Eurocodes is valid in the Czech Republic including the Czech National Application documents related to relevant standards, unless EN 50341-1 and/or these Czech National Normative Aspects (EN 50341-2-19) specify otherwise.

NOTE Some EN, IEC, ISO and CISPR International Standards and publications implemented as Czech National Standards – ČSN EN, ČSN IEC, ČSN ISO and ČSN CISPR – include informative notes and informative annexes useful in the Czech Republic.

(A-dev) **CZ.2 National laws, government decrees and other binding rules of law**

Reference	Title
114/1995 Sb.	Zákon o vnitrozemské plavbě <i>Inland Navigation Act</i>
222/1995 Sb.	Vyhláška ministerstva dopravy o vodních cestách, plavebním provozu v přístavech, společné havárii a dopravě nebezpečných věcí <i>Regulation of the Ministry of Transport on Waterways, Navigable operation in Harbors, Common collapse and the transport of dangerous goods</i>
1/2008 Sb.	Nařízení vlády o ochraně zdraví před neionizujícím zářením <i>Decree of the government on health protection against non-ionizing radiation</i>
458/2000 Sb.	Zákon o podmínkách podnikání a o výkonu státní správy v energetických odvětvích a o změně některých zákonů (energetický zákon) <i>Act on Conditions of Enterprise and on Performance of State Administration in Power Industries and on Alteration of Certain Acts (Energy Act)</i>
FMPE 994/11:1981 FMD 621/1981-SM	Dohoda o postupu při interferenčním ovlivnění zabezpečovacího zařízení celostátních drah zařízeními elektrizační soustavy <i>The agreement on the common practice on interference influence of state railway security equipment by electricity system devices</i>

(ncpt) **CZ.3 Standards**

Reference	Title
ČSN EN 1991-1-4:2007 ČSN EN 1991-1-4 NA:2013	Eurokód 1: Zatížení konstrukcí – Část 1-4: Obecná zatížení – Zatížení větrem (Národní příloha NA pro ČR, Mapa větrných oblastí) <i>Eurocode 1: Action on structures. Part 1-4: General actions – Wind Actions (National Annex NA for the Czech Republic, Wind zone map)</i>
ČSN 33 2040:1993	Elektrotechnické předpisy. Ochrana před účinky elektromagnetického pole 50 Hz v pásmu vlivu zařízení elektrizační soustavy. <i>Electric engineering regulations. Protection against effects of the electromagnetic fields 50 Hz in the zone of influence of electric power system device</i>
ČSN 33 2160:1993	Elektrotechnické předpisy. Předpisy pro ochranu sdělovacích vedení a zařízení před nebezpečnými vlivy trojfázových vedení vn, vvn a zvn <i>Electric engineering regulations. Rules for the protection of telecommunication lines and equipment against dangerous influences of three-phase high voltage, very high voltage and ultra high voltage lines</i>
ČSN 33 2165 ed.2:2014	Elektrotechnické předpisy. Zásady pro ochranu ocelových izolovaných potrubí uložených v zemi před nebezpečnými vlivy venkovních trojfázových vedení a stanic vvn a zvn <i>Electric engineering regulations. Principles for protection of buried insulated steel pipelines against dangerous effects of very high voltage overhead lines and very high voltage stations</i>

Reference	Title
ČSN 34 1530:2010	Drážní zařízení – Elektrická trakční vedení železničních drah celostátních, regionálních a vleček <i>Railway applications – The catenary for electrified railways</i>
ČSN 730810:2009	Požární bezpečnost staveb – Společná ustanovení <i>Fire protection of buildings - General requirements</i>
ČSN 73 6133:2010	Návrh a provádění zemního tělesa pozemních komunikací <i>Road earthwork - Design and execution</i>
EN 13501-1:2007 +A1:2009	Požární klasifikace stavebních výrobků a konstrukcí staveb – Část 1: Klasifikace podle výsledků zkoušek reakce na oheň <i>Fire classification of construction products and building elements - Part 1: Classification using data from reaction to fire tests.</i>
EN 13501-5:2005 +A1:2009 + AC:2008-09	Požární klasifikace stavebních výrobků a konstrukcí staveb - Část 5: Klasifikace podle výsledků zkoušek střech vystavených vnějšímu požáru <i>Fire classification of construction products and building elements - Part 5: Classification using data from external fire exposure to roofs tests</i>
EN 50522	Uzemňování elektrických instalací AC nad 1 kV <i>Earthing of power installations exceeding 1 kV AC.</i>
ČSN EN 61936-1:2011	Elektrické instalace nad AC 1 kV – Část 1: Všeobecná pravidla (Národní příloha NA – odrušení vedení a rozveden vn, vvn a zvn – přípustné meze vf šumu) <i>Power installations exceeding 1 kV AC – Part 1: Common rules (National Annex NA – Disturbance elimination for lines and substations of high voltage, extra high voltage and ultra high voltage – allowed high-frequency noise limits</i>
EN 62305-3	Ochrana před bleskem – Část 3: Hmotné škody na stavbách a nebezpečí života <i>Protection against lightning – Part 3: Physical damage to structures and life hazard</i>
EN ISO 14688-1:2002 +A1:2013	Geotechnický průzkum a zkoušení – Pojmenování a zařizování zemin – Část 1: Pojmenování a popis <i>Geotechnical investigation and testing - Identification and classification of soil - Part 1: Identification and description</i>
EN ISO 14688-2:2004 +A1:2013	Geotechnický průzkum a zkoušení - Pojmenování a zařizování zemin - Část 2: Zásady pro zařizování <i>Geotechnical investigation and testing - Identification and classification of soil - Part 2: Principles for a classification</i>
EN ISO 14689-1:2003	Geotechnický průzkum a zkoušení - Pojmenování a zařizování hornin - Část 1: Pojmenování a popis <i>Geotechnical investigation and testing - Identification and classification of rock - Part 1: Identification and description</i>
EN 206	Beton - Specifikace, vlastnosti, výroba a shoda <i>Concrete - Specification, performance, production and conformity</i>

(ncpt) **CZ.4 Other publications**

Reference	Title
The Ministry of Transport TP-76 (updated in 2009)	Ministerstvo dopravy - Technické podmínky – Geotechnický průzkum pro pozemní komunikace – část A: Zásady geotechnického průzkumu <i>Ministry of transport - Technical conditions – Geotechnical investigation for roads – part A: The principles of geotechnical investigation</i>
ČSN 73 1001:1988 (withdrawn 1.4.2010)	Zakládání staveb. Základová půda pod plošnými základy <i>Foundation of structures. Subsoil under shallow foundations</i>
ČSN 73 3050:1987 (withdrawn 1.3.2010)	Zemné práce. Všeobecné ustanovenia <i>Earth works. General requirements</i>
CIGRE TB 207:2002	CIGRÉ technical brochure N° 207 “Thermal behaviour of overhead conductors”
CIGRE TB 273:2005	CIGRÉ technical brochure N° 273 “Overhead conductor safe design tension with respect to Aeolian vibrations”

2.2 Definitions(ncpt) **CZ.1 span**

part of a line between attachment points of a *conductor* on two consecutive *supports* (IEV 466-03-01)

NOTE This definition is included for the reason that the English word “span” corresponds with the Czech conversion used in ČSN IEC 50 (466) which means “a span length”

(ncpt) **CZ.2 overhead telecommunication line and equipment**

wire or cable line and telecommunication equipment leading above ground and outside buildings and transmitting information via electromagnetic waves

(ncpt) **CZ.3 aluminium based conductor**

bare *conductor* made of round or shaped wires being concentric lay stranded with alternating directions of stranding, with grease or not, produced of materials or various materials according to one of following alternatives

- aluminium wires
- aluminium alloy wires
- combination of aluminium wires and aluminium alloy wires
- combination of aluminium wires and steel zinc coated wires
- combination of aluminium wires and aluminium clad steel wires
- combination of aluminium alloy wires and steel zinc coated wires
- combination of aluminium alloy wires and aluminium clad steel wires

(ncpt) **CZ.4 steel based conductor**

bare *conductor* made of round or shaped wires being concentric lay stranded with alternating directions of stranding, with grease or not, produced of materials or various materials according to one of following alternatives

- steel zinc coated wires
- aluminium clad steel wires

2.3 Symbols(ncpt) **CZ.1 Symbols**

Symbols which are contained in EN 50341-2-19 and are not contained in EN 50341-1, or which are contained in EN 50341-2-19 also with a different meaning than in 2.3 EN 50341-1, are included below.