

STN	Vonkajšie elektrické vedenia so striedavým napätím nad 1 kV. Časť 2-4: Národné normatívne hľadiská (NNA) pre Nemecko (založené na EN 50341-1: 2012).	STN EN 50341-2-4 33 3300
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Overhead electrical lines exceeding AC 1 kV - Part 2-4: National Normative Aspects (NNA) for Germany (based on EN 50341-1:2012)

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

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Overhead electrical lines exceeding AC 1 kV - Part 2-4: National Normative Aspects (NNA) for Germany (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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Contents

	Page
European foreword	8
1 Scope	9
1.1 General.....	9
1.2 Field of application	9
2 Normative references, definitions and symbols	9
2.1 Normative references	9
2.2 Definitions.....	14
2.3 Symbols.....	19
3 Basis of design	23
3.2 Requirements of overhead lines	23
3.2.1 Basic requirements	23
3.2.2 Reliability requirements.....	23
3.2.5 Strength coordination	23
3.2.6 Additional considerations	23
3.4 Actions.....	23
3.4.3 Classification of actions by their nature and/or the structural response	23
3.6 Design values.....	24
3.6.3 Design value of a material property	24
3.6.4 Combination value of a variable action	24
4 Actions on lines	24
4.1 Introduction.....	24
4.3 Wind loads.....	24
4.4 Wind forces on overhead line components	27
4.4.1 Wind forces on conductors	27
4.4.2 Wind forces on insulator sets	29
4.4.3 Wind forces on lattice towers	30
4.4.4 Wind forces on poles.....	32
4.5 Ice loads	32
4.5.2 Ice forces on conductors	32
4.6 Combined wind and ice loads	34
4.6.4 Equivalent diameter D of ice-covered conductor	34
4.6.6 Combination of wind velocities and ice loads	34
4.8 Security loads.....	34
4.8.1 General.....	34
4.9 Safety loads.....	34
4.9.1 Construction and maintenance loads.....	34

	Page
4.9.2 Loads related to the weight of lines men.....	35
4.10 Forces due to short-circuit currents.....	35
4.11 Other special forces	35
4.12 Load cases	35
4.12.1 General.....	35
4.12.2 Standard load cases.....	36
4.13 Partial factors for actions.....	39
5 Electrical requirements.....	40
5.2 Currents.....	40
5.2.1 Normal current.....	40
5.4 Classification of voltages and overvoltages	40
5.4.2 Representative power frequency voltages	40
5.5 Minimum air clearance distances to avoid flashover.....	40
5.5.3 Empirical method based on European experience	40
5.6 Load cases for calculation of clearances	40
5.6.3 Wind loads for determination of electric clearances.....	40
5.6.4 Ice loads for the determination of electric clearances.....	41
5.6.5 Combined wind and ice loads	41
5.8 Internal clearances within the span and at the top of support.....	41
5.9 External clearances.....	42
5.9.1 General.....	42
5.9.2 External clearances to ground in areas remote from buildings, roads etc.....	45
5.9.3 External clearances to residential and other buildings.....	45
5.9.4 External clearances to crossing traffic routes	47
5.9.5 External clearances to adjacent traffic routes.....	47
5.9.6 External clearances to other power lines or overhead telecommunication lines	48
5.11 Electric and magnetic fields.....	48
5.11.1 Electric and magnetic fields under a line.....	48
5.11.2 Electric and magnetic field Induction.....	48
5.11.3 Interference with telecommunication circuits	49
6 Earthing systems.....	49
6.1 Introduction.....	49
6.1.2 Requirements for dimensioning of earthing systems	49
6.1.3 Earthing measures against lightning effects	51
6.3 Dimensioning with regard to thermal strength.....	51
6.3.2 Current rating calculation	51
6.4 Dimensioning with regard to human safety	52
6.4.2 Touch voltage limits at different locations	52

	Page
6.4.3 Basic design of earthing systems with regard to permissible touch voltage.....	52
6.4.4 Measures in systems with isolated neutral or resonant earthing.....	53
6.5 Site inspection and documentation of earthing systems.....	53
7 Supports.....	53
7.1 Initial design considerations.....	53
7.2 Materials.....	54
7.2.1 Steel materials, bolts, nuts and washers, welding consumables.....	54
7.2.6 Wood.....	54
7.2.8 Other materials.....	54
7.3 Lattice steel towers.....	54
7.3.1 General.....	54
7.3.5 Structural analysis.....	55
7.3.6 Ultimate limit states.....	55
7.3.8 Resistance of connections.....	55
7.4 Steel poles.....	57
7.4.1 General.....	57
7.4.5 Structural analysis.....	57
7.4.6 Ultimate limit states.....	57
7.4.7 Serviceability limit states.....	58
7.4.8 Resistance of connections.....	58
7.5 Wood poles.....	58
7.5.2 Basis of design.....	58
7.5.5 Ultimate limit states.....	59
7.5.6 Serviceability limit states.....	59
7.5.7 Resistance of connections.....	59
7.6 Concrete poles.....	59
7.6.2 Basis of Design.....	59
7.6.2.1 General rules.....	59
7.6.4 Ultimate limit states.....	59
7.6.5 Serviceability limit states.....	60
7.7 Guyed structures.....	60
7.7.1 General.....	60
7.7.3 Materials.....	60
7.8 Other structures.....	60
7.9 Corrosion protections and finishes.....	61
7.9.1 General.....	61
7.9.2 Galvanising.....	61
7.9.4 Paint over galvanising in plant (Duplex system).....	61
7.9.7 Protection of wood poles.....	61
7.10 Maintenance facilities.....	61

	Page
7.10.1 Climbing	61
7.10.2 Maintainability.....	63
7.10.3 Safety requirements	63
8 Foundations.....	63
8.2 Basis of geotechnical design.....	63
8.2.2 Geotechnical design by calculation.....	63
8.2.3 Design by prescriptive measures	64
8.2.4 Load tests and tests on experimental models.....	64
8.6 Interaction between support foundations and soil.....	64
9 Conductors and earth wires	65
9.2 Aluminium based conductors	65
9.2.1 Characteristics and dimensions	65
9.2.3 Conductor service temperatures and grease characteristics.....	66
9.3 Steel based conductors.....	66
9.3.1 Characteristics and dimensions	66
9.3.3 Conductor service temperatures and grease characteristics.....	67
9.3.4 Mechanical requirements	67
9.4 Copper based conductors	68
9.6 General requirements.....	69
9.6.2 Partial factor for conductors	69
9.6.3 Minimum cross sections	70
9.6.4 Sag-tension calculations	70
10 Insulators	71
10.1 Introduction.....	71
10.7 Mechanical requirements	71
10.9 Material selection and specification	73
10.10 Characteristics and dimensions of insulators.....	73
11 Hardware	73
11.1 Introduction.....	73
11.2 Electrical requirements.....	73
11.2.1 Requirements applicable to all fittings.....	73
11.2.2 Requirements applicable to current carrying fittings	74
11.6 Mechanical requirements	74
12 Quality assurance, checks and taking-over	76
Annex G (normative) Calculation methods for earthing systems	77
G.4 Touch voltage and body current.....	77
G.4.1 Equivalence between touch voltage and body current	77
Annex J (normative) Angles in lattice steel towers.....	78

	Page
J.2 General.....	78
J.3 Tensile resistance of angles connected through one leg.....	78
J.4 Buckling resistance of angles in compression	79
J.4.1 Flexural buckling resistance.....	79
J.4.3 Slenderness of members	79
J.4.3.2 Leg members and chords	79
J.4.3.3 Primary bracing pattern.....	80
J.4.3.4 Compound members.....	84
J.4.4 Secondary (or redundant) bracing members	84
J.5 Design resistance of bolted connections	85
J.5.1 General.....	85
Annex M (informative) Geotechnical and structural design of foundations.....	86
M.3 Sample semi-empirical models for resistance estimation	86
M.3.1 Geotechnical design by calculation.....	86
M.3.1.1 General.....	86
M.3.1.2 Monoblock foundations	86
M.3.1.3 Slab foundations	86
M.3.1.4 Grillage-typ slab foundations	86
M.3.1.5 Single-pile foundations.....	86
M.3.1.6 Separate stepped block foundations, pad and chimney foundations	87
M.3.1.9 Pile foundations.....	87
M.3.2 Structural design of concrete foundations.....	87
Annex AA (informative) Assumptions for ice loads	88
Literature.....	90

Figures

Figure 4/DE.1 – Map of wind zones for the Federal Republic of Germany according to DIN EN 1991-1-4/NA:2010-12	26
Figure 4/DE.2 – Wind action on conductors and resulting wind force in any wind direction.....	28
Figure 4/DE.3 – Wind action on towers.....	32
Figure 5/DE.1 – Description of the wake behind a wind energy converter, where $\tan \beta = 0,1$ has to be assumed.....	47
Figure 6/DE.1 – Separated earthing systems with connection via an overhead line.....	50
Figure 6/DE.2 – Separated earthing systems via cable connection	50
Figure J.4/DE.1 – Slenderness ratio λ of leg members.....	80
Figure J.4/DE.2 – Usual diagonal bracings	81
Figure J.4/DE.3 – Application of secondary and spatial bracing systems	81
Figure AA.1 – Ice load zone map for the German Federal Republic (informative)	89

Tables

	Page
Table 3/DE.1 – Material partial factors for towers and poles.....	24
Table 4/DE.1 – Aerodynamic drag factors C_x	29
Table 5/DE.1 – Nominal voltages in the system and related maximum operational voltages and maximum voltage for equipment	40
Table 5/DE.2 – Nominal voltages in the grid and voltage-related minimum clearances	46
Table 6/DE.1 – Cumulative frequency of lightning currents on towers of lines with shield wires.....	51
Table 6/DE.2 – Decisive currents for rating of the earthing system	52
Table 7/DE.1 – Dimensions of connections and edge distances of jointing components.....	56
Table 9/DE.1 – Mechanical characteristics, permissible everyday stress for standard conductors according to DIN EN 50182.....	65
Table 9/DE.2 – Permissible conductor temperature in case of short-circuit load for conductors using aluminium as conducting material	66
Table 9/DE.3 – Permissible conductor temperature in case of short-circuit load for conductor made of steel	67
Table 9/DE.4 – Mechanical characteristics, permissible everyday stresses for standardized conductors according to DIN VDE 0212-399 (VDE 0212-399) and DIN EN 50182.....	67
Table 9/DE.5 – Mechanical characteristics, permissible everyday stresses for conductors according to DIN 48201-1 and DIN 48201-2.....	68
Table 9/DE.6 – Permissible conductor temperature in case of short-circuit loading for conductors made of copper.....	69
Table 9/DE.7 – Minimum cross sections	70
Table 10/DE.1 – Material partial factors for insulators (related to the mechanical failing load)	72

European foreword

The following 6 statements are required from CLC/TC 11 for all NNAs; statement 7 was added by the German National Committee (NC).

- 1 The German National Committee is identified by the following address:

Deutsche Elektrotechnische Kommission im DIN und VDE (DKE)
 Stresemannallee 15 (VDE Haus)
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Name of the relevant technical body: Komitee 421 (K 421) "Freileitungen" (Overhead power lines)

- 2 The German NC and its technical body K 421 "Overhead power lines" of Deutsche Elektrotechnische Kommission im DIN und VDE (DKE) prepared this Part 2-4 of EN 50341, listing the German National Normative Aspects (NNA) under its sole responsibility, and duly passed it through the CENELEC and CLC/TC 11 procedures.

NOTE The German NC also takes sole responsibility for the technically correct co-ordination of this EN 50431-2-4 with EN 50341-1. 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 EN 50341-2-4 is normative in Germany and informative in other countries.

- 4 This Part 2-4 has to 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 "DE", are to be read as amendments to the relevant text in Part 1. Any necessary clarification regarding the application of this combined NNA in conjunction with Part 1 shall be referred to the German 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 2-4 shall be taken into account in Germany.

However, any "boxed value", whether in Part 1 or Part 2-4, shall not be amended in the direction of greater risk in a Project Specification.

- 6 The National German standards/regulations related to overhead electrical lines exceeding 1 kV AC are listed in 2.1 of this Part 2-4.

NOTE All national standards referred to in this Part 2-4 will be replaced by the relevant European Standards as soon as they become available and are declared by the German NC to be applicable and thus reported to the secretary of CLC/TC 11.

- 7 5.11.1/DE.1 is an "A-dev"
 4.3/DE.1, 4.4.1/DE.1, 4.5.2/DE.1, 5.2.1/DE.1, 5.6.3.2/DE.1, 5.6.3.3/DE.1, 5.6.4/DE.1, 5.6.5/DE.1,
 and 9.6.4/DE.2 are "snc".
 All other subclauses DE.X are "ncpt".

1 Scope

1.1 General

1.1 DE.1 General

(ncpt) (Supplement to DIN EN 50341-1 (VDE 0210-1):2013-11, clause 1.1)

This EN applies for planning and design of overhead lines with nominal voltages above AC 1 kV.

This EN needs not to be adopted for existing installations. Installations in the planning and construction stage may be completed adopting the standard edition valid at the beginning of planning.

1.2 Field of application

1.2 DE.1 Application for conductors with components for telecommunication

(ncpt) (Supplement to DIN EN 50341-1 (VDE 0210-1):2013-11, 1.2)

In Germany this EN is applicable for all types of conductors (according to the information in clause 1.2) which contain components for telecommunication.

1.2 DE.2 Application for installation of telecommunication equipment on supports

(ncpt) (Supplement to DIN EN 50341-1 (VDE 0210-1):2013-11, 1.2)

In Germany this EN is applicable for the installation of telecommunication equipment on supports. Reference is made to 4.11.1/DE.1 "Extension of utilization".

2 Normative references, definitions and symbols

2.1 Normative references

The following documents which are quoted partly or as a whole in this document are necessary for the application of this document. In case of dated reference only the referred edition is applicable. In case of non-dated references the last edition of the referred document (including all modifications) is applicable.

DAST 022¹⁾, *Guideline of DAST for hot-dip-zinc-coating of prefabricated loadbearing steel components*

DAST-Richtlinie – Feuerverzinken von tragenden Stahlbauteilen

DIN 1054:2010-12, *Subsoil – Verification of the safety of earthworks and foundations – Supplementary rules to DIN EN 1997-1:2009-09 + NA:2010-12*

Baugrund – Sicherheitsnachweise im Erd- und Grundbau – Ergänzende Regelungen zu DIN EN 1997-1:2009-09 + NA:2010-12

DIN 4102-7:1998-07, *Fire behaviour of building materials and building components – Part 7: Roofing – Definitions, requirements and testing*

Brandverhalten von Baustoffen und Bauteilen – Teil 7: Bedachungen – Begriffe, Anforderungen und Prüfungen

¹⁾ Source: Stahlbau Verlags- und Service GmbH

DIN 48006-1, *Insulators for overhead lines – Part 1: Long-rod insulators LP with socket caps*
Isolatoren für Starkstrom-Freileitungen – Langstabisolatoren mit Pfannenkappen

DIN 48006-2, *Insulators for overhead lines – Part 2: Long-rod insulators LG with clevis caps*
Isolatoren für Starkstrom-Freileitungen – Langstabisolatoren mit Gabelkappen

DIN 48006-3, *Insulators for overhead lines – Part 3: solid-core (VK) insulators*
Isolatoren für Starkstrom-Freileitungen – Vollkernisolatoren VK

DIN 48200-1, *Copper wires for stranded conductors*
Drähte für Leitungsseile – Drähte aus Kupfer

DIN 48200-2, *Bronze wires for stranded conductors*
Drähte für Leitungsseile – Drähte aus Kupferknetlegierung

DIN 48201-1, *Copper stranded conductors*
Leitungsseile – Seile aus Kupfer

DIN 48201-2, *Bronze stranded conductors*
Leitungsseile – Seile aus Kupfer-Knetlegierungen (Bz)

DIN 48203-1, *Copper wires and copper stranded conductors; technical delivery conditions*
Drähte und Seile für Leitungen aus Kupfer – Technische Lieferbedingungen

DIN 48203-2, *Wrought copper alloy (Bz) wires and conductors; technical delivery conditions*
Drähte und Seile für Leitungen aus Kupferknetlegierungen (Bz) – Technische Lieferbedingungen

DIN VDE 0212-399 (VDE 0212-399), *Conductors for Overhead lines – Conductors of concentric stranded round galvanized steel wires*
Leiter für Freileitungen – Leiter aus konzentrisch verseilten runden verzinkten Stahldrähten

DIN VDE V 0212-490 (VDE V 0212-490):2014-12, *Fittings for overhead lines – Part 490: Components for the protection of birds – Requirements and tests*
Armaturen für Freileitungen – Teil 490: Bauteile für den Vogelschutz – Anforderungen und Prüfungen

DIN EN 10025-1:2005-02, *Hot rolled products of structural steels – Part 1: General technical delivery conditions*
Warmgewalzte Erzeugnisse aus Baustählen – Teil 1: Allgemeine technische Lieferbedingungen

DIN EN 10025-2:2005-04, *Hot rolled products of structural steels – Part 2: Technical delivery conditions for non-alloy structural steels*
Warmgewalzte Erzeugnisse aus Baustählen – Teil 2: Technische Lieferbedingungen für unlegierte Baustähle

DIN EN 1090-1, *Execution of steel structures and aluminium structures – Part 1: Requirements for conformity assessment of structural components*
Ausführung von Stahltragwerken und Aluminiumtragwerken – Teil 1: Konformitätsnachweisverfahren für tragende Bauteile

DIN EN 1090-2, *Execution of steel structures and aluminium structures – Part 2: Technical requirements for steel structures*
Ausführung von Stahltragwerken und Aluminiumtragwerken – Teil 2: Technische Regeln für die Ausführung von Stahltragwerken

DIN EN 12385-4:2008-06 + amendment 1:2009-01, *Steel wire ropes – Safety – Part 4: Stranded ropes for general lifting applications; German version EN 12385-4:2002+A1:2008*
Drahtseile aus Stahldraht – Sicherheit – Teil 4: Litzenseile für allgemeine Hebezwecke; Deutsche Fassung EN 12385-4:2002 + A1:2008

DIN EN 12843:2004-11, *Precast concrete products – Masts and poles; German version EN 12843:2004*
Betonfertigteile – Masten; Deutsche Fassung EN 12843:2004

DIN EN 1991-1-4:2010-12, *Eurocode 1: Actions on structures – Part 1-4: General actions – Wind actions; German version EN 1991-1-4:2005 + A1:2010 + AC:2010*
Eurocode 1: Einwirkungen auf Tragwerke – Teil 1-4: Allgemeine Einwirkungen – Windlasten; Deutsche Fassung EN 1991-1-4:2005 + A1:2010 + AC:2010

DIN EN 1991-1-4/NA:2010-12, *National Annex - Nationally determined parameters – Eurocode 1: Actions on structures – Part 1-4: General actions - Wind actions*
Nationaler Anhang – National festgelegte Parameter – Eurocode 1: Einwirkungen auf Tragwerke – Teil 1-4: Allgemeine Einwirkungen – Windlasten

DIN EN 1992-1-1:2011-01, *Eurocode 2: Design of concrete structures – Part 1-1: General rules and rules for buildings; German version EN 1992-1-1:2004 + AC:2010*
Eurocode 2: Bemessung und Konstruktion von Stahlbeton- und Spannbetontragwerken – Teil 1-1: Allgemeine Bemessungsregeln und Regeln für den Hochbau; Deutsche Fassung EN 1992-1-1:2004 + AC:2010

DIN EN 1992-1-1/NA:2013-04, *National Annex – Nationally determined parameters – Eurocode 2: Design of concrete structures – Part 1-1: General rules and rules for buildings*
Nationaler Anhang – National festgelegte Parameter – Eurocode 2: Bemessung und Konstruktion von Stahlbeton- und Spannbetontragwerken – Teil 1-1: Allgemeine Bemessungsregeln und Regeln für den Hochbau

DIN EN 1997-1:2009-09, *Eurocode 7: Geotechnical design – Part 1: General rules; German version EN 1997-1:2004 + AC:2009*
Eurocode 7: Entwurf, Berechnung und Bemessung in der Geotechnik – Teil 1: Allgemeine Regeln; Deutsche Fassung EN 1997-1:2004 + AC:2009

DIN EN 1997-1/NA:2010-12, *National Annex – Nationally determined parameters – Eurocode 7: Geotechnical design – Part 1: General rules*
Nationaler Anhang – National festgelegte Parameter – Eurocode 7: Entwurf, Berechnung und Bemessung in der Geotechnik – Teil 1: Allgemeine Regeln

DIN EN 50182, *Conductors for overhead lines – Round wire concentric lay stranded conductors*
Leiter für Freileitungen – Leiter aus konzentrisch verseilten runden Drähten

DIN EN 50183, *Conductors for overhead lines – Aluminium-magnesium-silicon alloy wire for overhead line conductors*
Leiter für Freileitungen – Drähte aus Aluminium-Magnesium-Silizium-Legierung

DIN EN 50189, *Conductors for overhead lines – Zinc coated steel wires for stranded conductors*
Leiter für Freileitungen – Verzinkte Stahldrähte

DIN EN 50341-1 (VDE 0210-1):2013-11, *Overhead electrical lines exceeding AC 1 kV – Part 1: General requirements – Common specifications; German version EN 50341-1:2012*
Freileitungen über AC 1 kV – Teil 1: Allgemeine Anforderungen – Gemeinsame Festlegungen; Deutsche Fassung EN 50341-1:2012

DIN EN 50413 (VDE 0848-1):2009-08, *Basic standard on measurement and calculation procedures for human exposure to electric, magnetic and electromagnetic fields (0 Hz - 300 GHz); German version EN 50413:2008*
Grundnorm zu Mess- und Berechnungsverfahren der Exposition von Personen in elektrischen, magnetischen und elektromagnetischen Feldern (0 Hz bis 300 GHz); Deutsche Fassung EN 50413:2008

DIN EN 50443 (VDE 0845-8):2012-08, *Effects of electromagnetic interference on pipelines caused by high voltage AC electric traction systems and/or high-voltage AC power supply systems; German version EN 50443:2011*
Auswirkungen elektromagnetischer Beeinflussungen von Hochspannungswechselstrombahnen und/oder Hochspannungsanlagen auf Rohrleitungen; Deutsche Fassung EN 50443:2011

DIN EN 50522 (VDE 0101-2):2011-11, *Earthing of power installations exceeding 1 kV AC, German version EN 50522:2010*
Erdung von Starkstromanlagen mit Nennwechselspannungen über 1 kV; Deutsche Fassung EN 50522: 2010

DIN EN 60038 (VDE 0175-1):2012-04, *CENELEC standard voltages (IEC 60038:2009, modified); German version EN 60038:2011*
CENELEC-Normspannungen (IEC 60038:2009, modifiziert); Deutsche Fassung EN 60038:2011

DIN IEC 60273 (VDE 0674-4):1993-08, *Characteristics of indoor and outdoor post insulators for systems with nominal voltages greater than 1 000 V (IEC 60273:1990); German version HD 578 S1:1992*
Kenngößen von Innenraum- und Freiluft-Stützisolatoren für Systeme mit Nennspannungen über 1 000 V (IEC 60273:1990); Deutsche Fassung HD 578 S1:1992

DIN EN 60383-1 (VDE 0446-1):1997-05, *Insulators for overhead lines with a nominal voltage above 1 kV – Part 1: Ceramic or glass insulator units for AC systems – Definitions, test methods and acceptance criteria (IEC 60383-1:1993); German version EN 60383-1:1996*
Isolatoren für Freileitungen mit einer Nennspannung über 1 kV – Teil 1: Keramik- oder Glas-Isolatoren für Wechselspannungssysteme – Begriffe, Prüfverfahren und Annahmekriterien (IEC 60383-1:1993); Deutsche Fassung EN 60383-1:1996

DIN EN 60433 (VDE 0446-7), *Insulators for overhead lines with a nominal voltage above 1 kV – Ceramic insulators for AC systems – Characteristics of insulator units of the long rod type*
Isolatoren für Freileitungen mit einer Nennspannung über 1 kV – Keramik-Isolatoren für Wechselspannungssysteme – Kenngößen von Kettenisolatoren in Langstabausführung

DIN EN 60865-1 (VDE 0103):2012-09, *Short-circuit currents – Calculation of effects – Part 1: Definitions and calculation methods (IEC 60865-1:2011); German version EN 60865-1:2012*
Kurzschlussströme – Berechnung der Wirkung – Teil 1: Begriffe und Berechnungsverfahren (IEC 60865-1:2011); Deutsche Fassung EN 60865-1:2012

DIN EN 60889, *Hard-drawn aluminium wire for overhead line conductors*
Hartgezogene Aluminiumdrähte für Leiter von Freileitungen

DIN EN 61109 (VDE 0441-100), *Insulators for overhead lines – Composite suspension and tension insulators for AC systems with a nominal voltage greater than 1000 V – Definitions, test methods and acceptance criteria*
Isolatoren für Freileitungen – Verbund-Hänge- und -Abspannisolatoren für Wechselstromsysteme mit einer Nennspannung über 1 000 V – Begriffe, Prüfverfahren und Annahmekriterien

DIN EN 61232, *Aluminium-clad steel wires for electrical purposes (IEC 61232:1993, modified)*
Aluminium-ummantelte Stahldrähte für die Elektrotechnik

DIN EN 61284 (VDE 0212-1):1998-05, *Overhead lines – Requirements and tests for fittings (IEC 61284:1997); German version EN 61284:1997*
Freileitungen – Anforderungen und Prüfungen für Armaturen (IEC 61284:1997); Deutsche Fassung EN 61284:1997

DIN EN 61854 (VDE 0212-2), *Overhead lines – Requirements and tests for spacers*
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Vogelschutz an Mittelspannungsfreileitungen

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koniec náhľadu – text ďalej pokračuje v platenej verzii STN

²⁾ Source: VDE-VERLAG GMBH

³⁾ Source: VDE-InfoCenter - Verbandsgeschäftsstelle