

This is a preview of "DS/EN IEC 62561-7:20...". Click here to purchase the full version from the ANSI store.

Komponenter til lynbeskyttelses anlæg (LPSC) – Del 7: Krav til materialer til forbedring af jordings anlæg

Lightning protection system components (LPSC) –
Part 7: Requirements for earthing enhancing compounds

DANSK STANDARD
Danish Standards Association

Göteborg Plads 1
DK-2150 Nordhavn

Tel: +45 39 96 61 01

Tel: +45 39 96 61 01

dansk.standard@ds.dk

www.ds.dk

This is a preview of "DS/EN IEC 62561-7:20...". Click here to purchase the full version from the ANSI store.

DS projekt: M309615
ICS: 29.020; 91.120.40

Første del af denne publikations betegnelse er:
DS/EN IEC, hvilket betyder, at det er en international standard, der har status som europæisk og dansk standard.

Denne publikations overensstemmelse er:
IDT med: IEC 62561-7:2018
IDT med: EN IEC 62561-7:2018

DS-publikationen er på engelsk.

Denne publikation erstatter: [DS/EN 62561-7:2012](#)

DS-publikationstyper

Dansk Standard udgiver forskellige publikationstyper.
Typen på denne publikation fremgår af forsiden.

Der kan være tale om:

Dansk standard

- standard, der er udarbejdet på nationalt niveau, eller som er baseret på et andet lands nationale standard, eller
- standard, der er udarbejdet på internationalt og/eller europæisk niveau, og som har fået status som dansk standard

DS-information

- publikation, der er udarbejdet på nationalt niveau, og som ikke har opnået status som standard, eller
- publikation, der er udarbejdet på internationalt og/eller europæisk niveau, og som ikke har fået status som standard, fx en teknisk rapport, eller
- europæisk præstandard

DS-håndbog

- samling af standarder, eventuelt suppleret med informativt materiale

DS-hæfte

- publikation med informativt materiale

Til disse publikationstyper kan endvidere udgives

- tillæg og rettelsesblade

DS-publikationsform

Publikationstyperne udgives i forskellig form som henholdsvis

- fuldttekstpublikation (publikationen er trykt i sin helhed)
- godkendelsesblad (publikationen leveres i kopi med et trykt DS-omslag)
- elektronisk (publikationen leveres på et elektronisk medie)

DS-betegnelse

Alle DS-publikationers betegnelse begynder med DS efterfulgt af et eller flere præfikser og et nr., fx **DS 383**, **DS/EN 5414** osv. Hvis der efter nr. er angivet et **A** eller **Cor**, betyder det, enten at det er et **tillæg** eller et **rettelsesblad** til hovedstandard, eller at det er indført i hovedstandard.

DS-betegnelse angives på forsiden.

Overensstemmelse med anden publikation:

Overensstemmelse kan enten være IDT, EQV, NEQ eller MOD

- **IDT:** Når publikationen er identisk med en given publikation.
- **EQV:** Når publikationen teknisk er i overensstemmelse med en given publikation, men præsentationen er ændret.
- **NEQ:** Når publikationen teknisk eller præsentationsmæssigt ikke er i overensstemmelse med en given standard, men udarbejdet på baggrund af denne.
- **MOD:** Når publikationen er modificeret i forhold til en given publikation.

This is a preview of "DS/EN IEC 62561-7:20...". [Click here to purchase the full version from the ANSI store.](#)

EUROPÄISCHE NORM

March 2018

ICS 29.020; 91.120.40

Supersedes EN 62561-7:2012

English Version

Lightning protection system components (LPSC) - Part 7: Requirements for earthing enhancing compounds (IEC 62561-7:2018)

Composants des systèmes de protection contre la foudre
(CSPPF) - Partie 7: Exigences pour les enrichisseurs de terre
(IEC 62561-7:2018)

Blitzschutzsystembauteile (LPSC) - Teil 7: Anforderungen
an Mittel zur Verbesserung der Erdung
(IEC 62561-7:2018)

This European Standard was approved by CENELEC on 2018-03-01. CENELEC members are bound to comply with the CEN/CENELEC Internal Regulations which stipulate the conditions for giving this European Standard 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 European Standard 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

This is a preview of "DS/EN IEC 62561-7:20...". [Click here to purchase the full version from the ANSI store.](#)

The text of document 81/576/FDIS, future edition 2 of IEC 62561-7, prepared by IEC/TC 81 "Lightning protection" was submitted to the IEC-CENELEC parallel vote and approved by CENELEC as EN IEC 62561-7:2018.

The following dates are fixed:

- latest date by which the document has to be implemented at national level by publication of an identical national standard or by endorsement (dop) 2018-12-01
- latest date by which the national standards conflicting with the document have to be withdrawn (dow) 2021-03-01

This document supersedes EN 62561-7:2012.

Attention is drawn to the possibility that some of the elements of this document may be the subject of patent rights. CENELEC shall not be held responsible for identifying any or all such patent rights.

Endorsement notice

The text of the International Standard IEC 62561-7:2018 was approved by CENELEC as a European Standard without any modification.

In the official version, for Bibliography, the following notes have to be added for the standards indicated:

IEC 62305 (series)	NOTE	Harmonized as EN 62305 (series).
IEC 62561-2	NOTE	Harmonized as EN 62561-2.

This is a preview of "DS/EN IEC 62561-7:20...". Click here to purchase the full version from the ANSI store.

(normative)

Normative references to international publications with their corresponding European publications

The following documents are referred to in the text in such a way that some or all of their content constitutes requirements of this document. For dated references, only the edition cited applies. For undated references, the latest edition of the referenced document (including any amendments) applies.

NOTE 1 Where an International Publication has been modified by common modifications, indicated by (mod), the relevant EN/HD applies.

NOTE 2 Up-to-date information on the latest versions of the European Standards listed in this annex is available here: www.cenelec.eu.

<u>Publication</u>	<u>Year</u>	<u>Title</u>	<u>EN/HD</u>	<u>Year</u>
ISO 4689-3	-	Iron ores -- Determination of sulfur content -- Part 3: Combustion/infrared method	-	-
ISO 14869-1	-	Soil quality_ - Dissolution for the determination of total element content_ - Part_1: Dissolution with hydrofluoric and perchloric acids	-	-
		Characterization of waste – Leaching – Compliance test for leaching of granular waste materials and sludges – Part 2: One stage batch test at a liquid to solid ratio of 10 l/kg for materials with particle size below 4 mm (without or with size reduction)	EN 12457-2	
		Characterization of waste – Analysis of eluates	EN 16192	
ASTM G102-89	-	Standard Practice for Calculation of Corrosion Rates and Related Information from Electrochemical Measurements	-	-
ASTM G57-06	-	Standard Test Method for Field Measurement of Soil Resistivity Using the Wenner Four-Electrode Method	-	-
ASTM G59-97	-	Standard Test Method for Conducting Potentiodynamic Polarization Resistance Measurements	-	-

This is a preview of "DS/EN IEC 62561-7:20...". [Click here to purchase the full version from the ANSI store.](#)



INTERNATIONAL STANDARD

NORME INTERNATIONALE

**Lightning protection system components (LPSC) –
Part 7: Requirements for earthing enhancing compounds**

**Composants des systèmes de protection contre la foudre (CSPF) –
Partie 7: Exigences pour les enrichisseurs de terre**



CONTENTS

FOREWORD.....	3
INTRODUCTION.....	5
1 Scope.....	6
2 Normative references	6
3 Terms and definitions	6
4 Requirements	7
4.1 General.....	7
4.2 Documentation.....	7
4.3 Material	7
4.4 Marking.....	7
5 Tests	8
5.1 General.....	8
5.2 Leaching test	8
5.2.1 General	8
5.2.2 Determination of leachable ions.....	8
5.2.3 Passing criteria.....	8
5.3 Sulphur determination.....	8
5.3.1 General	8
5.3.2 Passing criteria.....	8
5.4 Determination of resistivity.....	9
5.4.1 General	9
5.4.2 Testing apparatus.....	9
5.4.3 Test procedure	10
5.4.4 Passing criteria.....	11
5.5 Corrosion tests	11
5.5.1 General	11
5.5.2 Test apparatus	11
5.5.3 Test preparation	11
5.5.4 Test procedure	12
5.5.5 Passing criteria.....	12
5.6 Marking and indications	12
6 Structure and content of the test report.....	12
6.1 General.....	12
6.2 Report identification.....	13
6.3 Specimen description.....	13
6.4 Standards and references	13
6.5 Test procedure.....	13
6.6 Testing equipment description	13
6.7 Measuring instruments description.....	14
6.8 Results and parameters recorded	14
6.8.1 Measured, observed or derived results	14
6.8.2 Statement pass/fail	14
Annex A (informative) Corrosion load.....	15
Bibliography.....	16
Figure 1 – Configuration of four–electrode soil box	10
Figure A.1 – Corrosion load (free corrosion without concentration cell).....	15

This is a preview of "DS/EN IEC 62561-7:20...". [Click here to purchase the full version from the ANSI store.](#)

INTERNATIONAL ELECTROTECHNICAL COMMISSION

LIGHTNING PROTECTION SYSTEM COMPONENTS (LPSC) –

Part 7: Requirements for earthing enhancing compounds

FOREWORD

- 1) The International Electrotechnical Commission (IEC) is a worldwide organization for standardization comprising all national electrotechnical committees (IEC National Committees). The object of IEC is to promote international co-operation on all questions concerning standardization in the electrical and electronic fields. To this end and in addition to other activities, IEC publishes International Standards, Technical Specifications, Technical Reports, Publicly Available Specifications (PAS) and Guides (hereafter referred to as "IEC Publication(s)"). Their preparation is entrusted to technical committees; any IEC National Committee interested in the subject dealt with may participate in this preparatory work. International, governmental and non-governmental organizations liaising with the IEC also participate in this preparation. IEC collaborates closely with the International Organization for Standardization (ISO) in accordance with conditions determined by agreement between the two organizations.
- 2) The formal decisions or agreements of IEC on technical matters express, as nearly as possible, an international consensus of opinion on the relevant subjects since each technical committee has representation from all interested IEC National Committees.
- 3) IEC Publications have the form of recommendations for international use and are accepted by IEC National Committees in that sense. While all reasonable efforts are made to ensure that the technical content of IEC Publications is accurate, IEC cannot be held responsible for the way in which they are used or for any misinterpretation by any end user.
- 4) In order to promote international uniformity, IEC National Committees undertake to apply IEC Publications transparently to the maximum extent possible in their national and regional publications. Any divergence between any IEC Publication and the corresponding national or regional publication shall be clearly indicated in the latter.
- 5) IEC itself does not provide any attestation of conformity. Independent certification bodies provide conformity assessment services and, in some areas, access to IEC marks of conformity. IEC is not responsible for any services carried out by independent certification bodies.
- 6) All users should ensure that they have the latest edition of this publication.
- 7) No liability shall attach to IEC or its directors, employees, servants or agents including individual experts and members of its technical committees and IEC National Committees for any personal injury, property damage or other damage of any nature whatsoever, whether direct or indirect, or for costs (including legal fees) and expenses arising out of the publication, use of, or reliance upon, this IEC Publication or any other IEC Publications.
- 8) Attention is drawn to the Normative references cited in this publication. Use of the referenced publications is indispensable for the correct application of this publication.
- 9) Attention is drawn to the possibility that some of the elements of this IEC Publication may be the subject of patent rights. IEC shall not be held responsible for identifying any or all such patent rights.

International Standard IEC 62561-7 has been prepared by IEC technical committee 81: Lightning protection.

This second edition cancels and replaces the first edition, published in 2011. This edition constitutes a technical revision.

This edition includes the following significant technical changes with respect to the previous edition:

- a) information concerning the execution of the test for the determination of the resistivity in 5.4.3;
- b) addition of Annex A for the assessment of the corrosion load.

This is a preview of "DS/EN IEC 62561-7:20...". [Click here to purchase the full version from the ANSI store.](#)

The text of this International Standard is based on the following documents:

FDIS	Report on voting
81/576/FDIS	81/579/RVD

Full information on the voting for the approval of this International Standard can be found in the report on voting indicated in the above table.

This document has been drafted in accordance with the ISO/IEC Directives, Part 2.

A list of all parts in the IEC 62561 series, published under the general title *Lightning protection system components (LPSC)*, can be found on the IEC website.

The committee has decided that the contents of this document will remain unchanged until the stability date indicated on the IEC website under "<http://webstore.iec.ch>" in the data related to the specific document. At this date, the document will be

- reconfirmed,
- withdrawn,
- replaced by a revised edition, or
- amended.

This is a preview of "DS/EN IEC 62561-7:20...". [Click here to purchase the full version from the ANSI store.](#)

INTRODUCTION

This part of IEC 62561 deals with the requirements and tests for earthing enhancing compounds as being a lightning protection system component (LPSC) designed and implemented according to IEC 62305 (all parts).

LIGHTNING PROTECTION SYSTEM COMPONENTS (LPSC) –

Part 7: Requirements for earthing enhancing compounds

1 Scope

This part of IEC 62561 specifies the requirements and tests for earthing enhancing compounds producing low resistance of an earth termination system.

2 Normative references

The following documents are referred to in the text in such a way that some or all of their content constitutes requirements of this document. For dated references, only the edition cited applies. For undated references, the latest edition of the referenced document (including any amendments) applies.

ISO 4689-3, *Iron ores – Determination of sulfur content – Part 3: Combustion/infrared method*

ISO 14869-1, *Soil quality – Dissolution for the determination of total element content – Part 1: Dissolution with hydrofluoric and perchloric acids*

EN 12457-2, *Characterization of waste – Leaching – Compliance test for leaching of granular waste materials and sludges – Part 2: One stage batch test at a liquid to solid ratio of 10 l/kg for materials with particle size below 4 mm (without or with size reduction)*

EN 16192, *Characterization of waste – Analysis of eluates*

ASTM G57-06, *Standard Test Method for Field Measurement of Soil Resistivity, Using the Wenner, Four-Electrode Method*

ASTM G59-97, *Standard Test Method for Conducting Potentiodynamic Polarization Resistance Measurements*

ASTM G102-89, *Standard Practice for Calculation of Corrosion Rates and Related Information from Electrochemical Measurements*