

**Lightning Protection System Components (LPSC) - Part
7: Requirements for earthing enhancing compounds**

This document is a preview generated by EVS

EESTI STANDARDI EESSÕNA

NATIONAL FOREWORD

See Eesti standard EVS-EN 62561-7:2012 sisaldab Euroopa standardi EN 62561-7:2012 ingliskeelset teksti.	This Estonian standard EVS-EN 62561-7:2012 consists of the English text of the European standard EN 62561-7:2012.
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.
Euroopa standardimisorganisatsioonid on teinud Euroopa standardi rahvuslikele liikmetele kättesaadavaks 16.03.2012.	Date of Availability of the European standard is 16.03.2012.
Standard on kättesaadav Eesti Standardikeskusest.	The standard is available from the Estonian Centre for Standardisation.

Tagasisidet standardi sisu kohta on võimalik edastada, kasutades EVS-i veebilehel asuvat tagasiside vormi või saates e-kirja meiliaadressile standardiosakond@evs.ee.

ICS 29.020, 91.120.40

Standardite reprodutseerimise ja levitamise õigus kuulub Eesti Standardikeskusele

Andmete paljundamine, taastekitamine, kopeerimine, salvestamine elektroonsesse süsteemi või edastamine ükskõik millises vormis või millisel teel ilma Eesti Standardikeskuse kirjaliku loata on keelatud.

Kui Teil on küsimusi standardite autorikaitse kohta, võtke palun ühendust Eesti Standardikeskusega:
Aru 10, 10317 Tallinn, Eesti; www.evs.ee; telefon 605 5050; e-post info@evs.ee

The right to reproduce and distribute standards belongs to the Estonian Centre for Standardisation

No part of this publication may be reproduced or utilized in any form or by any means, electronic or mechanical, including photocopying, without a written permission from the Estonian Centre for Standardisation.

If you have any questions about copyright, please contact Estonian Centre for Standardisation:
Aru 10, 10317 Tallinn, Estonia; www.evs.ee; phone 605 5050; e-mail info@evs.ee

**Lightning Protection System Components (LPSC) -
Part 7: Requirements for earthing enhancing compounds
(IEC 62561-7:2011, modified)**

Composants des systèmes de protection
contre la foudre (CSPF) -
Partie 7: Exigences pour les enrichisseurs
de terre
(CEI 62561-7:2011, modifiée)

Blitzschutzsystembauteile (LPSC) -
Teil 7: Anforderungen an Mittel zur
Verbesserung der Erdung
(IEC 62561-7:2011, modifiziert)

This European Standard was approved by CENELEC on 2012-01-02. 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, 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.

CENELEC

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

Management Centre: Avenue Marnix 17, B - 1000 Brussels

Foreword

The text of document 81/413/FDIS, future edition 1 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 62561-7:2012.

A draft amendment, which covers common modifications to IEC 62561-7 (81/413/FDIS), was prepared by CLC/TC 81X, "Lightning protection" and approved by CENELEC.

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) 2013-01-02
- latest date by which the national standards conflicting with the document have to be withdrawn (dow) 2015-01-02

This document supersedes EN 50164-7:2008.

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

Endorsement notice

The text of the International Standard IEC 62561-7:2011 was approved by CENELEC as a European Standard with common modifications.

COMMON MODIFICATIONS

Introduction

Replace IEC 62561 by EN 62561.

Replace IEC 62305 by EN 62305.

1 Scope

Replace IEC 62561 by EN 62561.

Bibliography

Replace IEC 62305 by EN 62305.

Replace IEC 62561-2 by EN 62561-2 ¹⁾.

¹⁾ At draft stage.

Annex ZA
(normative)
Normative references to international publications
with their corresponding European publications

The following documents, in whole or in part, are normatively referenced in this document and are indispensable for its application. For dated references, only the edition cited applies. For undated references, the latest edition of the referenced document (including any amendments) applies.

NOTE When an international publication has been modified by common modifications, indicated by (mod), the relevant EN/HD applies.

<u>Publication</u>	<u>Year</u>	<u>Title</u>	<u>EN/HD</u>	<u>Year</u>
-	-	Characterisation 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 - Determination of pH, As, Ba, Cd, Cl-, Co, Cr, Cr VI, Cu, Mo, Ni, NO ₂ -, Pb, total S, SO ₄ ²⁻ , V and Zn	EN 12506	-
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	-	-
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	-	-

CONTENTS

FOREWORD.....	4
INTRODUCTION.....	6
1 Scope.....	7
2 Normative references	7
3 Terms and definitions	7
4 Requirements.....	8
4.1 General.....	8
4.2 Documentation	8
4.3 Material.....	8
4.4 Marking.....	8
5 Tests.....	8
5.1 General.....	8
5.2 Leaching test.....	9
5.2.1 General	9
5.2.2 Determination of leachable ions.....	9
5.2.3 Passing criteria.....	9
5.3 Sulphur determination	9
5.3.1 General	9
5.3.2 Passing criteria.....	9
5.4 Determination of resistivity	9
5.4.1 General	9
5.4.2 Testing apparatus.....	10
5.4.3 Test procedure	11
5.4.4 Passing criteria.....	12
5.5 Corrosion tests.....	12
5.5.1 General	12
5.5.2 Test apparatus	12
5.5.3 Test preparation	12
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	13
6.1 General.....	13
6.2 Report identification	13
6.2.1 Title or subject of the report.....	13
6.2.2 Name, address and telephone number of the test laboratory	13
6.2.3 Name, address and telephone number of the sub test laboratory where the test was carried out if different from company which has been assigned to perform the test.....	13
6.2.4 Unique identification number (or serial number) of the test report	13
6.2.5 Name and address of the vendor	13
6.2.6 Report shall be paginated and the total number of pages indicated	13
6.2.7 Date of issue of report	13
6.2.8 Date(s) of performance of test(s)	13

6.2.9	Signature and title, or an equivalent identification of the person(s) authorized to sign for the testing laboratory for the content of the report	13
6.3	Signature and title of person(s) conducting the test	14
6.4	Specimen description	14
6.4.1	Sample description	14
6.4.2	Detailed description and unambiguous identification of the test sample and/or test assembly	14
6.4.3	Characterization and condition of the test sample and/or test assembly	14
6.4.4	Sampling procedure, where relevant.....	14
6.4.5	Date of receipt of test items.....	14
6.4.6	Photographs, drawings or any other visual documentation, if available.....	14
6.4.7	Standards and references.....	14
6.4.8	Identification of the test standard used and the date of issue of the standard	14
6.4.9	Other relevant documentation with the documentation date	14
6.5	Test procedure	14
6.5.1	Description of the test procedure	14
6.5.2	Justification for any deviations from, additions to or exclusions from the referenced standard.....	14
6.5.3	Any other information relevant to a specific test such as environmental conditions	14
6.5.4	Configuration of testing assembly	14
6.5.5	Location of the arrangement in the testing area and measuring techniques.....	14
6.6	Testing equipment, description	14
6.7	Measuring instruments description	14
6.8	Results and parameters recorded.....	14
6.8.1	The measured, observed or derived results shall be clearly identified, at least for	14
6.8.2	Statement pass/fail.....	15
	Bibliography.....	16
	Figure 1 – Configuration of four–electrode soil box	11

INTRODUCTION

This Part 7 of IEC 62561 deals with the requirements and tests for earthing enhancing compounds as being a lightning protection system components (LPSC) designed and implemented according to the IEC 62305 series of standards.

This document is a preview generated by EVS

LIGHTNING PROTECTION SYSTEM COMPONENTS (LPSC) –

Part 7: Requirements for earthing enhancing compounds

1 Scope

This Part 7 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, in whole or in part, are normatively referenced in this document and are indispensable for its application. 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 12506, *Characterization of waste – Analysis of eluates – Determination of pH, As, Ba, Cd, Cl⁻, Co, Cr VI, Cu, Mo, Ni, NO₂⁻, SO₄²⁻, V and Zn*

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*

3 Terms and definitions

For the purposes of this document, the following terms and definitions apply.

3.1

earthing enhancing compound

conductive compound producing low resistance of an earth termination system

3.2

manufacturer's instructions

supplier's instructions

written instructions provided by the manufacturer or the supplier in his documentation (see 4.2)