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IEC 62561-7

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# INTERNATIONAL STANDARD



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

INTERNATIONAL  
ELECTROTECHNICAL  
COMMISSION

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## INTERNATIONAL ELECTROTECHNICAL COMMISSION

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### LIGHTNING PROTECTION SYSTEM COMPONENTS (LPSC) –

#### Part 7: Requirements for earthing enhancing compounds

#### FOREWORD

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

This third edition cancels and replaces the second edition published in 2018. This edition constitutes a technical revision.

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

- a) Figure A.1 has been replaced with a simpler one that clearly shows the high and low corrosion load limits of the earth enhancing compounds without the need for special knowledge;
- b) pH measurement has been introduced.

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

Draft	Report on voting
81/755/FDIS	81/761/RVD

Full information on the voting for its approval can be found in the report on voting indicated in the above table.

The language used for the development of this International Standard is English.

This document was drafted in accordance with ISO/IEC Directives, Part 2, and developed in accordance with ISO/IEC Directives, Part 1 and ISO/IEC Directives, IEC Supplement, available at [www.iec.ch/members\\_experts/refdocs](http://www.iec.ch/members_experts/refdocs). The main document types developed by IEC are described in greater detail at [www.iec.ch/publications](http://www.iec.ch/publications).

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 [webstore.iec.ch](http://webstore.iec.ch) in the data related to the specific document. At this date, the document will be

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## INTRODUCTION

This part of IEC 62561 deals with the requirements and tests for earthing enhancing compounds used as lightning protection system components (LPSC) designed and implemented in accordance with the IEC 62305 series.

## 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, *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 16192, *Characterization of waste – analysis of eluates*~~

CEN/TR 16192, *Waste – Guidance on analysis of eluates*

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

ASTM G57-20, *Standard Test Method for 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*

# 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**





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## COMMISSION ÉLECTROTECHNIQUE INTERNATIONALE

# COMPOSANTS DES SYSTÈMES DE PROTECTION CONTRE LA Foudre (CSPF) –

## Partie 7: Exigences pour les enrichisseurs de terre

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L'IEC 62561-7 a été établie par le comité d'études 81 de l'IEC: Protection contre la foudre. Il s'agit d'une Norme internationale.

Cette troisième édition annule et remplace la deuxième édition parue en 2018. Cette édition constitue une révision technique.

Cette édition inclut les modifications techniques majeures suivantes par rapport à l'édition précédente:

- a) la Figure A.1 a été remplacée par une figure plus simple, qui indique clairement les limites haute et basse de la force corrosive des enrichisseurs de terre sans nécessiter aucune connaissance particulière;
- b) le mesurage du pH a été ajouté.

Le texte de cette Norme internationale est issu des documents suivants:

Projet	Rapport de vote
81/755/FDIS	81/761/RVD

Le rapport de vote indiqué dans le tableau ci-dessus donne toute information sur le vote ayant abouti à son approbation.

La langue employée pour l'élaboration de cette Norme internationale est l'anglais.

Ce document a été rédigé selon les Directives ISO/IEC, Partie 2, il a été développé selon les Directives ISO/IEC, Partie 1 et les Directives ISO/IEC, Supplément IEC, disponibles sous [www.iec.ch/members\\_experts/refdocs](http://www.iec.ch/members_experts/refdocs). Les principaux types de documents développés par l'IEC sont décrits plus en détail sous [www.iec.ch/publications](http://www.iec.ch/publications).

Une liste de toutes les parties de la série IEC 62561, publiée sous le titre général *Composants des systèmes de protection contre la foudre (CSPF)*, se trouve sur le site web de l'IEC.

Le comité a décidé que le contenu de ce document ne sera pas modifié avant la date de stabilité indiquée sur le site web de l'IEC sous [webstore.iec.ch](http://webstore.iec.ch) dans les données relatives au document recherché. À cette date, le document sera

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## INTRODUCTION

La présente partie de l'IEC 62561 spécifie les exigences et les essais pour les enrichisseurs de terre utilisés comme composants des systèmes de protection contre la foudre (CSPF) conçus et mis en œuvre conformément à la série IEC 62305.

## COMPOSANTS DES SYSTÈMES DE PROTECTION CONTRE LA Foudre (CSPF) –

### Partie 7: Exigences pour les enrichisseurs de terre

#### 1 Domaine d'application

La présente partie de l'IEC 62561 spécifie les exigences et les essais pour les enrichisseurs de terre qui génèrent une faible résistance d'un réseau de prises de terre.

#### 2 Références normatives

Les documents suivants sont cités dans le texte de sorte qu'ils constituent, pour tout ou partie de leur contenu, des exigences du présent document. Pour les références datées, seule l'édition citée s'applique. Pour les références non datées, la dernière édition du document de référence s'applique (y compris les éventuels amendements).

ISO 4689-3, *Minerais de fer – Dosage du soufre – Partie 3: Méthode par combustion et infrarouge*

EN 12457-2, *Caractérisation des déchets – Lixiviation – Essai de conformité pour la lixiviation des déchets fragmentés et des boues – Partie 2: Essai en bûchée unique avec un rapport liquide-solide de 10 l/kg et une granularité inférieure à 4 mm (sans ou avec réduction de la granularité)*

CEN/TR 16192, *Déchets – Recommandations pour analyse des éluats*

ASTM G57-20, *Standard Test Method for Measurement of Soil Resistivity Using the Wenner Four-Electrode Method* (disponible en anglais seulement)

ASTM G59-97, *Standard Test Method for Conducting Potentiodynamic Polarization Resistance Measurements* (disponible en anglais seulement)

ASTM G102-89, *Standard Practice for Calculation of Corrosion Rates and Related Information from Electrochemical Measurements* (disponible en anglais seulement)