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# INTERNATIONAL STANDARD



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## Lightning protection system components (LPSC) – Part 1: Requirements for connection components

INTERNATIONAL  
ELECTROTECHNICAL  
COMMISSION

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## INTERNATIONAL ELECTROTECHNICAL COMMISSION

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### LIGHTNING PROTECTION SYSTEM COMPONENTS (LPSC) –

#### Part 1: Requirements for connection components

#### FOREWORD

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IEC 62561-1 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 2017. This edition constitutes a technical revision.

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

- a) definitions of connection types mentioned in the scope have been added;
- b) location classification has been expanded in detail;
- c) the document has been updated in line with the new edition of ISO 22479:2019 on humid sulphurous atmosphere treatment;
- d) a new normative Annex E for reduced test procedures has been introduced.

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

Draft	Report on voting
81/721/FDIS	81/724/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).

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## INTRODUCTION

This part of IEC 62561 deals with the requirements and tests for lightning protection system components (LPSC) used for the installation of a lightning protection system (LPS) designed and implemented according to the IEC 62305 series.

## LIGHTNING PROTECTION SYSTEM COMPONENTS (LPSC) –

### Part 1: Requirements for connection components

#### 1 Scope

This part of IEC 62561 specifies the requirements and tests for metallic connection components that form part of a lightning protection system (LPS). Typically, these can be connectors, clamps, bonding and bridging components, expansion pieces and test joints.

For the purposes of this document the following connection types are considered as connection components: exothermic, brazing, welding, clamping, crimping, seaming, screwing or bolting.

Testing of components for an explosive atmosphere is not covered by this document.

#### 2 Normative references

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IEC 60068-2-52:1996/2017, *Environmental testing – Part 2-52: Tests – Test Kb: Salt mist, cyclic (sodium chloride solution)*

IEC 62561-2, *Lightning protection system components (LPSC) – Part 2: Requirements for conductors and earth electrodes*

ISO 6957:1988, *Copper alloys – Ammonia test for stress corrosion resistance*

~~ISO 6988:1985, *Metallic and other non-organic coatings – Sulphur dioxide test with general condensation of moisture*~~

ISO 22479:2019, *Corrosion of metals and alloys – Sulfur dioxide test in a humid atmosphere (fixed gas method)*

# INTERNATIONAL STANDARD

# NORME INTERNATIONALE

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**Lightning protection system components (LPSC) –  
Part 1: Requirements for connection components**

**Composants des systèmes de protection contre la foudre (CSPF) –  
Partie 1: Exigences pour les composants de connexion**





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## COMMISSION ÉLECTROTECHNIQUE INTERNATIONALE

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

#### Partie 1: Exigences pour les composants de connexion

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L'IEC 62561-1 a été établie par le comité d'études 81: Protection contre la foudre. Il s'agit d'une Norme internationale.

Cette troisième édition annule et remplace la deuxième édition parue en 2017. Cette édition constitue une révision technique.

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

- a) les définitions des types de connexions mentionnés dans le domaine d'application du document ont été ajoutées;
- b) la classification des emplacements a été développée de façon détaillée;

- c) le document a été mis à jour conformément à la nouvelle édition de l'ISO 22479:2019 concernant le traitement en atmosphère humide sulfureuse;
- d) la nouvelle Annexe E normative concernant les procédures d'essai simplifiées a été introduite.

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

Projet	Rapport de vote
81/721/FDIS	81/724/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. A cette date, le document sera

- reconduit,
- supprimé,
- remplacé par une édition révisée, ou
- amendé.

## INTRODUCTION

La présente partie de l'IEC 62561 traite des exigences et des essais pour les composants des systèmes de protection contre la foudre (CSPF) utilisés pour l'installation d'un système de protection contre la foudre (SPF) conçu et mis en œuvre conformément à la série IEC 62305.

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

### Partie 1: Exigences pour les composants de connexion

#### 1 Domaine d'application

La présente partie de l'IEC 62561 spécifie les exigences et les essais applicables aux composants métalliques de connexion qui font partie d'un système de protection contre la foudre (SPF). Il peut s'agir, en général, des connecteurs, des colliers de serrage, des composants de collage et de pontage, des pièces de dilatation et des joints de contrôle.

Pour les besoins du présent document, les types de connexions suivants sont considérés comme des composants de connexion: la soudure exothermique, le brasage, le soudage, le serrage, le sertissage, l'agrafage, le vissage et le boulonnage.

Les essais de composants pour atmosphère explosive ne sont pas concernés par le présent document.

#### 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).

IEC 60068-2-52:2017, *Essais d'environnement – Partie 2-52: Essais – Essai Kb: Brouillard salin, essai cyclique (solution de chlorure de sodium)*

IEC 62561-2, *Composants des systèmes de protection contre la foudre (CSPF) – Partie 2: Exigences pour les conducteurs et les électrodes de terre*

ISO 6957:1988, *Alliages de cuivre – Essai à l'ammoniaque pour la résistance à la corrosion sous contrainte*

ISO 22479:2019, *Corrosion des métaux et alliages – Essai au dioxyde de soufre en atmosphère humide (méthode avec volume fixe de gaz)*