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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

LIGHTNING PROTECTION SYSTEM COMPONENTS (LPSC) –

Part 1: Requirements for connection components

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.
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International Standard IEC 62561-1 has been prepared by IEC technical committee 81: Lightning protection.

This second edition cancels and replaces the first edition, published in 2012. This edition constitutes a technical revision.

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

- a) classification of connection components in permanent and non-permanent connection;
- b) requirements and corresponding tests for permanent connection components such as exothermic, brazing, welding, crimping, seaming;
- c) flow chart of tests for connection components.

The text of this standard is based on the following documents:

FDIS	Report on voting
81/551/FDIS	81/559/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.

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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

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.

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

~~IEC 62305-1, *Protection against lightning – Part 1: General principles*~~

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*



INTERNATIONAL STANDARD

NORME INTERNATIONALE

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

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COMMISSION ÉLECTROTECHNIQUE INTERNATIONALE

COMPOSANTS DES SYSTEMES DE PROTECTION CONTRE LA Foudre (CSPF) –

Partie 1: Exigences pour les composants de connexion

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La Norme internationale IEC 62561-1 a été établie par le comité d'études 81 de l'IEC: Protection contre la foudre.

Cette deuxième édition annule et remplace la première édition publiée en 2012. Cette édition constitue une révision technique.

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

- a) la classification des composants de connexion permanente et non permanente;
- b) les exigences et essais correspondants concernant les composants de connexion permanente, par exemple la soudure exothermique et d'autres procédés de soudage, le brasage, le sertissage ou l'agrafage;

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c) un organigramme des essais destinés aux composants de connexion.

Le texte de cette norme est issu des documents suivants:

FDIS	Rapport de vote
81/551/FDIS	81/559/RVD

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

Ce document a été rédigé selon les Directives ISO/IEC, Partie 2.

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

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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 SYSTEMES 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 à appliquer aux composants métalliques de connexion faisant partie d'un système de protection contre la foudre (SPF). Il peut s'agir, typiquement, des connecteurs, des colliers de serrage, des composants de pontage, des pièces d'expansion 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 et autres procédés de soudage, le brasage, 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 cités dans le texte 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 60068-2-52:1996, *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*

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