

Lightning protection components (LPC) —

Part 1: Requirements for connection components

The European Standard EN 50164-1:1999, with the incorporation of amendment A1:2006, has the status of a British Standard

ICS 91.120.40

National foreword

This British Standard is the official English language version of EN 50164-1:1999, incorporating amendment A1:2006.

The start and finish of text introduced or altered by amendment is indicated in the text by tags **A1** **A1**. Tags indicating changes to CEN text carry the number of the CEN amendment. For example, text altered by CEN amendment A1 is indicated by **A1** **A1**.

The UK participation in its preparation was entrusted to Technical Committee GEL/81, Lightning protection.

A list of organizations represented on GEL/81 can be obtained on request to its secretary.

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English version

Lightning protection components (LPC) — Part 1: Requirements for connection components

Composants de Protection contre la Foudre
(CPF) — Partie 1: Prescriptions pour les
composants de connexion

Blitzschutzbauteile — Teil 1: Anforderungen für
Verbindungsbauteile

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CENELEC

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

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Foreword

This European Standard was prepared by the Technical Committee CENELEC TC 81X, Lightning protection.

The text of the draft was submitted to the formal vote and was approved by CENELEC as EN 50164-1 on 1999-08-01.

The following dates were fixed:

- latest date by which the EN has to be implemented at national level by publication of an identical national standard or by endorsement (dop) 2000-08-01
- latest date by which the national standards conflicting with the EN have to be withdrawn (dow) 2002-08-01

Annexes designated “normative” are part of the body of the standard

Annexes designated “informative” are given for information only.

In this standard, annexes C and D are normative and annexes A, B and E are informative.

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Foreword to amendment A1

This amendment was prepared by the Technical Committee CENELEC TC 81X, Lightning protection.

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1 Scope

This European Standard specifies the requirements and tests for metallic connection components such as connectors, bonding and bridging components, expansion pieces as well as test joints for Lightning Protection Systems (LPS).

NOTE Lightning Protection Components (LPC) may also be suitable for use in hazardous conditions such as fire and explosive atmosphere. Regard should be taken of the extra requirements necessary for the components to be installed in such conditions.

2 Normative references

This European Standard incorporates by dated or undated reference, provisions from other publications. These normative references are cited at the appropriate places in the text and the publications are listed hereafter. For dated references, subsequent amendments to or revisions of any of these publications apply to this European Standard only when incorporated in it by amendment or revision. For undated references the latest edition of the publication referred to applies (including amendments).

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

EN ISO 6988:1994, *Metallic and other non-organic coatings — Sulfur dioxide test with general condensation of moisture*

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

Ⓐ IEC 61312-1:1995, *Protection against lightning electromagnetic impulse — Part 1: General principles* Ⓐ

3 Definitions

For the purpose of this European Standard, the following definitions apply.

3.1

connection component

component for the connection of conductors to each other or to metal installations. This also includes bridging component and expansion piece

3.2

metal installation

extended metal items in the structure to be protected which may form a path for lightning current, such as pipes, staircases, elevator guide rails, ventilation, heating and air conditioning ducts, and interconnected reinforcing steel

3.3

bridging component

connection component for the connection of metal installations

3.4

expansion piece

connection component designed to compensate for changes in length in conductors and/or metal installations caused by temperature changes

3.5

connector

connection component to interconnect two or more conductors

3.6

clamp

connection component for the connection of conductors to metal installations

3.7

pipe clamp

clamp for the connection of conductors to metal pipes

3.8

test joint

joint which is designed and situated to facilitate electrical testing and measurement of LPS

3.9

connection range

range minimum to maximum on which a specific connection component is designed to be used

Ⓐ 3.10

bonding bar

metal bar on which metal installations, external conductive parts, electric power and telecommunication lines, and other cables can be connected to an LPS Ⓐ

4 Classification

4.1 According to its capability to withstand lightning current

- class H for heavy duty;
- class N for normal duty.

4.2 According to its installation

- above ground;
- buried in ground.

5 Requirements

5.1 General

Connection components shall be designed in such a manner that when they are installed in accordance with the manufacturer's instructions their performance shall be reliable, stable and safe to persons and surrounding equipment.

Ⓐ Note deleted Ⓐ