



**SLOVENSKI STANDARD**  
**SIST EN 50164-1:2000/oprA2:2007**  
**01-september-2007**

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Lightning Protection Components (LPC) -- Part 1: Requirements for connection components

Blitzschutzbauteile -- Teil 1: Anforderungen an Verbindungsbauteile

Composants de protection contre la foudre (CPF) -- Partie 1: Prescriptions pour les composants de connexion

**Ta slovenski standard je istoveten z: EN 50164-1:1999/prA2:2007**

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**ICS:**

91.120.40 Zæ ãæ|`^åÁc^| Lightning protection

**SIST EN 50164-1:2000/oprA2:2007 en**



English version

**Lightning Protection Components (LPC) -  
Part 1: Requirements for connection components**

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foudre (CPF) -  
Partie 1: Prescriptions pour les  
composants de connexion

Blitzschutzbauteile -  
Teil 1: Anforderungen an  
Verbindungsbauteile

This draft amendment prA2, if approved, will modify the European Standard EN 50164-1:1999; it is submitted to CENELEC members for Unique Acceptance Procedure.  
Deadline for CENELEC: 2007-10-26.

It has been drawn up by CLC/TC 81X.

If this draft becomes an amendment, CENELEC members are bound to comply with the CEN/CENELEC Internal Regulations which stipulate the conditions for giving this amendment the status of a national standard without any alteration.

This draft amendment was established by CENELEC 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 Central Secretariat has the same status as the official versions.

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**CENELEC**

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

**Central Secretariat: rue de Stassart 35, B - 1050 Brussels**

## Foreword

This draft amendment to the European Standard EN 50164-1:1999 was prepared by the Technical Committee CENELEC TC 81X, Lightning protection. It is submitted to the Unique Acceptance Procedure.

The following dates are proposed:

- latest date by which the existence of the amendment has to be announced at national level (doa) dor + 6 months
- latest date by which the amendment has to be implemented at national level by publication of an identical national standard or by endorsement (dop) dor + 12 months
- latest date by which the national standards conflicting with the amendment have to be withdrawn (dow) dor + 36 months (to be confirmed or modified when voting)

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Draft for

## Text of prA2 to EN 50164-1:1999

### Foreword

Add the following after the 3<sup>rd</sup> paragraph:

EN 50164 is a family standard and consists of the following parts under the generic title “*Lightning Protection Components (LPC)*”:

Part 1	Requirements for connection components
Part 2	Requirements for conductors and earth electrodes
Part 3	Requirements for isolating spark gaps
Part 4 <sup>1)</sup>	Requirements for conductor fasteners
Part 5 <sup>2)</sup>	Requirements for earth electrode inspection housings
Part 6 <sup>2)</sup>	Requirements for lightning strike counters
Part 7 <sup>1)</sup>	Requirements for earthing enhancing compounds

### 1 Scope

Replace the 1<sup>st</sup> paragraph by:

This European Standard specifies the requirements and tests for metallic connection components that form part of a Lightning Protection System (LPS). Typically these can be connectors, bonding and bridging components, expansion pieces and test joints.

Delete the NOTE.

### 2 Normative references

Add the following references after EN 60068-2-5:1996:

- EN 62305-1 Protection against lightning – Part 1: General principles (IEC 62305-1)
- EN 62305-3 Protection against lightning – Part 3: Physical damage to structures and life hazard (IEC 62305-3, mod.)
- EN 62305-4 Protection against lightning – Part 4: Electrical and electronic systems within structures (IEC 62305-4)

### 6 Tests

#### 6.2.1 Arrangement of the specimen

Delete the 2<sup>nd</sup> and 3<sup>rd</sup> paragraphs.

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<sup>1)</sup> At draft stage.

<sup>2)</sup> In preparation.

## 6.2.2 Conditioning/ageing

Replace the whole subclause by the following:

### 6.2.2 Conditioning/ageing

Following the manufacturer's declaration in accordance with 4.2 the arrangement of the specimen shall be subjected to a conditioning / ageing consisting of a salt mist treatment as specified in C.1 followed by a humid sulphurous atmosphere treatment as specified in C.2, and an additional ammonia atmosphere treatment for specimens made of copper alloy with a copper content less than 80 % as specified in C.3.

After the treatment the arrangement is fixed on an insulated plate taking care to avoid any damage to the specimen due to handling. The minimum distance between the specimen, conductors and the insulating plate shall be 20 mm.

NOTE 1 This treatment is not necessary for connection components designed to be embedded exclusively in concrete.

NOTE 2 Bonding bars only for indoor applications are tested without conditioning/ageing

## 6.3 Electrical test

Replace Table 1 with the following table:

**Table 1 – Lightning impulse current [ $I_{imp}$ ] parameters**

Classification	$I_{imp}$ $\pm 10 \%$ kA	$WR$ $\pm 35 \%$ kJ/ $\Omega$	$T_1$ $\mu s$	$t_d$ ms
H	100	2 500	$\leq 50$	$\leq 2$
N	50	630	$\leq 50$	$\leq 2$

NOTE These parameters are derived from EN 61643-11, Low-voltage surge protective devices – Part 11: Surge protective devices connected to low-voltage power systems - Requirements and tests.

## 6.4 Marking test

Replace in the 1<sup>st</sup> paragraph “petroleum spirit” by “white spirit”.

Delete the NOTE 1.

Replace NOTE 2 by:

NOTE Marking made by moulding, pressing or engraving is not subjected to this test.

Add the following new clause after Clause 7.

## 8 Structure and content of the test report

The purpose of this instruction is to provide general requirements for laboratory test reports. This document is intended to promote clear, complete reporting procedures for laboratories submitting test reports.

The results of each test carried out by the laboratory shall be reported accurately, clearly, unambiguously and objectively, in accordance with any instructions in the test methods. The results shall be reported in a test report and shall include all the information necessary for the interpretation of the test results and all information required by the method used.

Particular care and attention shall be paid to the arrangement of the report, especially with regard to presentation of the test data and ease of assimilation by the reader. The format shall be carefully and specifically designed for each type of test carried out, but the headings shall be standardized as indicated herein.

The structure of each report shall include at least the following:

## **8.1 Report identification**

- 8.1.1 A title or subject of the report
- 8.1.2 Name, address and telephone number of the test laboratory
- 8.1.3 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.
- 8.1.4 Unique identification number (or serial number) of the test report
- 8.1.5 Name and address of the vendor
- 8.1.6 Report shall be paginated and the total number of pages indicated
- 8.1.7 Date of issue of report
- 8.1.8 Date(s) of performance of test(s)
- 8.1.9 Signature and title, or an equivalent identification of the person(s) authorized to sign for the testing laboratory for the content of the report
- 8.1.10 Signature and title of person(s) conducting the test

## **8.2 Specimen description**

- 8.2.1 Sample description
- 8.2.2 Detailed description and unambiguous identification of the test sample and/or test assembly
- 8.2.3 Characterization and condition of the test sample and/or test assembly
- 8.2.4 Sampling procedure, where relevant
- 8.2.5 Date of receipt of test items
- 8.2.6 Photographs, drawings or any other visual documentation, if available

## **8.3 Conductor**

- 8.3.1 Conductor material
- 8.3.2 Nominal cross-section area, dimensions and shape. It is recommended that the actual cross-sectional area should also be given

## **8.4 Standards and references**

- 8.4.1 Identification of the test standard used and the date of issue of the standard
- 8.4.2 Other relevant documentation with the documentation date

## **8.5 Test procedure**

**8.5.1** Description of the test procedure

**8.5.2** Justification for any deviations from, additions to or exclusions from the referenced standard

**8.5.3** Any other information relevant to a specific test such as environmental conditions

**8.5.4** Configuration of testing assembly

**8.5.5** Location of the arrangement in the testing area and measuring techniques

## **8.6 Testing equipment, description**

**8.6.1** Description of equipment used for every test conducted i.e. generator, conditioning/ageing device

## **8.7 Measuring instruments description**

**8.7.1** Characteristics and calibration date of all instruments used for measuring the values specified in the standard i.e. radius gauge shunts, tensile testing machine, extensometer, ohmmeter, torque meter, thickness caliper gauge etc.

## **8.8 Results and parameters recorded**

The measured, observed or derived results shall be clearly identified at least for

**8.8.1** Current

**8.8.2** Charge

**8.8.3** Specific energy

**8.8.4** Duration

**8.8.5** Ohmic resistance

**8.8.6** Tightening torque

**8.8.7** Loosening torque

The above shall be presented by tables, graphs, drawings, photographs or other documentation of visual observations as appropriate.

## **8.9 Statement of pass/fail**

A statement of pass/fail identifying the part of the test for which the specimen has failed and also a description of the failure.

## **Annex C (normative) Conditioning/ageing for connection components above ground**

Delete "... above ground" from the title.

### **C.1 Salt mist treatment**

**Add** at the end of the clause the following note:

**NOTE** If the salt mist chamber can maintain the temperature conditions as specified in 9.3 of EN 60068-2-52:1996 and a relative humidity of not less than 90 % then the specimen may remain in it for the humidity storage period.