IEC 62305-3

Edition 3.0 2024-09

INTERNATIONAL STANDARD

NORME INTERNATIONALE

colour inside

Protection against lightning – Part 3: Physical damage to structures and life hazard

Protection contre la foudre – Partie 3: Dommages physiques sur les structures et risques humains

IEC 62305-3:2024-09(en-fr)

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INTERNATIONAL ELECTROTECHNICAL COMMISSION

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PROTECTION AGAINST LIGHTNING –

Part 3: Physical damage to structures and life hazard

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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IEC 62305-3 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 2010. This edition constitutes a technical revision.

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

a) Minimum thicknesses of metal sheets or metal pipes are given in Table 4 for air-termination systems where it is necessary to prevent hot-spot problems. Maximum temperature rises ΔT (K) and time duration t_{50} (s) for different thicknesses and long strokes are also given.
b) Cross-reference to the IEC 62561 series is made for the use of reliable, stable, safe and appropriate LPS components.

c) The application of two methods – general and simplified – for separation distance calculation is clarified.

d) Some changes to the requirements for continuity of steel reinforcement are made.

e) Annex C is revised to address comments from IEC subcommittee 31J.

f) Revision of positioning of air-termination conductors are modified according to the three accepted methods. A more precise description of the methods for positioning of the air-termination systems is made according to the complexity of structures to be protected. The main text has been simplified, Annex A has been deleted and all detailed information has been moved to Annex D.

g) Information on the protection of green roofs is introduced in Annex D.

h) Information on the protection of protruding parts on facades of tall buildings is introduced in Annex D;

i) a new definition of “electrically insulated LPS” has been introduced to distinguish it from an LPS both electrically and physically isolated from the structure, with a slight modification of the other LPS definitions.

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

Draft	Report on voting
81/764/FDIS	81/767/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. The main document types developed by IEC are described in greater detail at www.iec.ch/publications.

A list of all parts in the IEC 62305 series, published under the general title *Protection against lightning,* can be found on the IEC website.

The following differing practices of a less permanent nature exist in the countries indicated below.

In Austria, Annex C shall not be applied and is replaced by the National standard ÖVE/ÖNORM EN 62305-3 Beiblatt 1:2013-11-01 Blitzschutz – Teil 3: Schutz von baulichen Anlagen und Personen – Beiblatt 1: Zusätzliche Informationen für bauliche Anlagen mit explosionsgefährdeten Bereichen. In Austria, Annex C shall be classified as "Informative".

In Germany, the need for lightning protection is determined by, and the class of required LPS shall be selected according to, a national annex to the third edition of IEC 62305-1 (including an option for a risk assessment following the third edition of IEC 62305-2).

In Germany, for a metallic or electrically-continuous connected reinforced concrete framework, in addition, DIN EN 62305-3 Beiblatt 1 shall be applied.

In Germany, 8.1 condition b) is not applied – see DIN EN 62305-3 Beiblatt 1. Instead, the alternate measures, as described in DIN EN 62305-3 Beiblatt 1, shall be applied.

In Germany, for 8.2, the alternate measures, as described in DIN EN 62305-3 Beiblatt 1, shall be applied.