



BSI Standards Publication

Small craft — Electrical devices — Established practices for the design, construction and installation of lightning-protection systems

National foreword

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TECHNICAL
REPORT

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10134

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**Small craft — Electrical devices —
Established practices for the design,
construction and installation of
lightning-protection systems**

*Petits navires — Dispositifs électriques — Pratiques établies pour la
conception, la construction et l'installation de dispositifs de protection
contre la foudre*



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Foreword

ISO (the International Organization for Standardization) is a worldwide federation of national standards bodies (ISO member bodies). The work of preparing International Standards is normally carried out through ISO technical committees. Each member body interested in a subject for which a technical committee has been established has the right to be represented on that committee. International organizations, governmental and non-governmental, in liaison with ISO, also take part in the work. ISO collaborates closely with the International Electrotechnical Commission (IEC) on all matters of electrotechnical standardization.

The procedures used to develop this document and those intended for its further maintenance are described in the ISO/IEC Directives, Part 1. In particular, the different approval criteria needed for the different types of ISO documents should be noted. This document was drafted in accordance with the editorial rules of the ISO/IEC Directives, Part 2 (see www.iso.org/directives).

Attention is drawn to the possibility that some of the elements of this document may be the subject of patent rights. ISO shall not be held responsible for identifying any or all such patent rights. Details of any patent rights identified during the development of the document will be in the Introduction and/or on the ISO list of patent declarations received (see www.iso.org/patents).

Any trade name used in this document is information given for the convenience of users and does not constitute an endorsement.

For an explanation of the voluntary nature of standards, the meaning of ISO specific terms and expressions related to conformity assessment, as well as information about ISO's adherence to the World Trade Organization (WTO) principles in the Technical Barriers to Trade (TBT), see www.iso.org/iso/foreword.html.

This document was prepared by Technical Committee ISO/TC 183, *Small craft*.

This first edition of this Technical Report cancels and replaces the second edition of the former International Standard (ISO 10134:2003).

The main changes compared to the previous International Standard are as follows:

- transformation into an informative document.

Any feedback or questions on this document should be directed to the user's national standards body. A complete listing of these bodies can be found at www.iso.org/members.html.

Introduction

The probability of a lightning strike to a recreational craft varies with geographic location and time of year, but when the conditions that create an electrical discharge between clouds and the earth exist, there is nothing that can be done to prevent the lightning discharge. Craft can be struck in open water or when tied to the dock. The presence of a lightning-protection system on a craft cannot provide complete protection from equipment damage or personal injury and such protection is not implied in this Technical Report.

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Small craft — Electrical devices — Established practices for the design, construction and installation of lightning-protection systems

1 Scope

This document describes established practices for the design, construction and installation of lightning-protection systems fitted on small craft of hull length up to 24 m.

2 Normative references

There are no normative references in this document.

3 Terms and definitions

For the purposes of this document, the following terms and definitions apply.

ISO and IEC maintain terminological databases for use in standardization at the following addresses:

- ISO Online browsing platform: available at <https://www.iso.org/obp>
- IEC Electropedia: available at <http://www.electropedia.org/>

3.1

air gap

interruption of a conductive path by a small air space not exceeding 2 mm in order to prevent the passage of low-voltage current without interrupting the flow of lightning current

3.2

air terminal

uppermost part of the lightning protection system, intended to dissipate the charge or start the lightning ground process

3.3

lightning ground plate lightning ground strip

means to conduct the electrical current from a boat's conductive elements to the water in which the boat floats

3.4

lightning-protective mast

conductive structure or means for electrical connection of an *air terminal* (3.2) to the *lightning ground plate* (3.3)

3.5

side flash

an arc-over discharge that occurs from the lightning-protection system to any metal object

3.6

lightning bonding conductor

conductor intended to be used for potential equalization between metal bodies and the lightning-protection system