



Setting Standards for Safer Boating

The ABYC Standards and Technical Information Reports for Small Craft are the product of a consensus of representatives of government, industry and public sectors. It is intended solely as a guide to aid manufacturers and the marine community in the design, construction, equipage and maintenance of small craft.

ABYC reviews each standard at least every five years at which time it may be reaffirmed, revised, or withdrawn. ABYC welcomes any written comments on the Standards and Technical Information Reports.

ABYC E-10 July, 2016

Electrical Division Standard

Electrical Project Technical Committee

ABYC E-10

STORAGE BATTERIES



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NOTE: Membership on a committee shall not in and of itself constitute an endorsement of ABYC or any document developed by the committee on which the member serves.

This standard was developed under procedures accredited as meeting the criteria for American National Standards. The Project Technical Committee that approved the standard was balanced to ensure that individuals from competent and concerned interests have had an opportunity to participate.

This standard, which is the result of extended and careful consideration of available knowledge and experience on the subject, is intended to provide minimum performance requirements.

ABYC's Project Technical Committee meetings are open to the public. All inquiries regarding standards activity, interpretations, or meeting attendance should be directed to the ABYC Technical Department at comments@abycinc.org.

ABYC and its committees do not "approve", "certify", or "endorse" any item, construction, or proprietary device.

REQUEST FOR INTERPRETATIONS

Upon written request the Electrical PTC will render an interpretation of any requirement of the standard. The request for interpretation should be clear and unambiguous. Requests should be presented to the PTC in a manner in which they may be answered in a yes or no fashion.

The committee reserves the right to reconsider any interpretation when or if additional information which might affect it becomes available to the PTC. Persons aggrieved by an interpretation may appeal to the Committee for reinterpretation.

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E-10 STORAGE BATTERIES

Based on ABYC's assessment of the existing technology, and the problems associated with achieving the goals of this standard, ABYC recommends compliance with this standard for systems and associated equipment manufactured and/or installed after July 31, 2017.

10.1 PURPOSE

These standards and recommended practices are guides for the selection, location, installation, and wiring of storage batteries.

NOTES:

1. *The United States Coast Guard has promulgated mandatory requirements for batteries in 33 CFR, Subpart I, Sections CFR 183.420 (a), (b), (c), (d), (e), (f), and (g). Refer to the CFR for complete, current federal requirements.*
2. *Lithium Ion battery systems pose different risks from those encountered with lead acid batteries and should only be installed and maintained in accordance with manufacturer's recommendations.*

10.2 SCOPE

These standards and recommended practices apply to storage batteries used in direct current (DC) electrical systems on boats that operate at potentials of nominal fifty (50) volts or less.

10.3 REFERENCES

The following references form a part of this standard. Unless otherwise noted the latest version of the referenced standards shall apply.

10.3.1 ABYC - American Boat & Yacht Council, Inc., 613 Third St. Suite 10, Annapolis, MD 21403 Phone: (410) 990-4460. Fax: (410) 990-4466. Website: www.abycinc.org

[ABYC A-31, Battery Chargers and Inverters](#)
[ABYC E-11, AC and DC Electrical Systems On Boats](#)

10.3.2 BCI - Battery Council International, 401 North Michigan Avenue, Chicago, IL 60611. Phone: (312) 644-6610. Website: www.batterycouncil.org

Battery Technical Manual

10.3.3 CFR - Code of Federal Regulations and other government publications. Obtain from the Superintendent of Documents, United States Government Information, PO Box 371954, Pittsburgh, PA 15250-7954. Phone: (202) 512-1800. Fax: (202) 512-2250. Website: www.access.gpo.gov. An excerpted edition of the CFR is also available from ABYC, Inc.

33 CFR 183

10.4 DEFINITIONS

For the purposes of this standard the following definitions apply.

10.4.1 Battery Bank - two or more batteries connected in series to provide higher voltage, or in parallel to provide increased capacity.

10.4.2 Cold Cranking Amperage (CCA) - the discharged load, in amperes, that a new, fully charged battery at 0°F (-18°C) can deliver for 30 seconds, and maintain a voltage of 1.2 volts per cell or higher.

10.4.3 Marine Cranking Amperage (MCA) - the discharge load, in amperes, that a new, fully charged battery at 32°F (0°C), can deliver for 30 seconds, and maintain a voltage of 1.2 volts per cell or higher.

10.4.4 Battery Reserve Capacity - the number of minutes that a new, fully charged battery, at 80°F (27°C), can be continuously discharged at 25 amperes, and maintain a voltage of 1.75 volts per cell or higher (10.5 volts for a 12 volt battery or 5.25 volts for a 6 volt battery).