§ 120.350 Batteries—general.

(a) Where provisions are made for charging batteries, there must be natural or induced ventilation sufficient to dissipate the gases generated.

(b) Each battery must be located as high above the bilge as practicable, secured to prevent against shifting with the roll and pitch of the vessel, and free from exposure to water splash or spray.

(c) Batteries must be accessible for maintenance and removal.

(d) Connections must be made to battery terminals with permanent type connectors. Spring clips or other temporary type clamps are prohibited.

(e) Batteries must be mounted in trays lined with, or constructed of, a material that is resistant to damage by the electrolyte.

(f) Battery chargers must have an ammeter connected in the charging circuit.

(g) If the batteries are not adjacent to a distribution panel or switchboard that distributes power to the lighting, motor, and appliance circuits, the battery lead must have a fuse in series, located as close as practicable to the battery.

(h) Batteries used for engine starting are to be located as close as possible to the engine or engines served.

§ 120.352 Battery categories.

This section applies to batteries installed to meet the requirements of §120.310 of this part for secondary sources of power to vital loads, or sources of power to final emergency loads.

(a) Large. A large battery installation is one connected to a battery charger...
having an output of more than 2 kilo-
watks (kw), computed from the highest
possible charging current and the rated
voltage of the battery installation.
(b) Small. A small battery installa-
tion is one connected to a battery
charger having an output of 2 kw or
less, computed as above.

§ 120.354 Battery installations.
(a) Large batteries. Each large battery
installation must be located in a lock-
er, room or enclosed box solely dedi-
cated to the storage of batteries. Ven-
tilation must be provided in accord-
ance with §111.15–10 in subchapter J of
this chapter. Electrical equipment lo-
cated within the battery enclosure
must be approved by an independent
laboratory for Class I, Division 1, Group B hazardous locations and meet
§111.105 in subchapter J of this chapter.
(b) Small batteries. Each small battery
installation must be located in a well
ventilated space and protected from
falling objects. A small battery instal-
lation must not be in a closet, store-
room, or similar space.

§ 120.360 Semiconductor rectifier sys-
tems.
(a) Each semiconductor rectifier sys-
tem must have an adequate heat re-
moval system that prevents over-
heating.
(b) Where a semiconductor rectifier
system is used in a propulsion system
or in other vital systems it must:
(1) Have a current limiting circuit;
(2) Have external overcurrent protec-
tion; and
(3) Meet Sections 35.84.2 and 35.84.4 of
the American Bureau of Shipping
(ABS), “Rules for Building and
Classing Steel Vessels,” or other stand-
ard specified by the Commandant.

§ 120.370 General grounding require-
ments.
(a) A vessel’s hull must not carry
current as a conductor except for the
following systems:
(1) Impressed current cathodic pro-
tection systems; or
(2) Battery systems for engine start-
ing.
(b) Receptacle outlets and attach-
ment plugs for portable lamps, tools,
and similar apparatus operating at 100
volts or more, must have a grounding
pole and a grounding conductor in the
portable cord.
(c) Each nonmetallic mast and top
mast must have a lightning ground
conductor.

§ 120.372 Equipment and conductor
grounding.
(a) All metallic enclosures and
frames of electrical equipment must be
permanently grounded to the hull on a
metallic vessel. On a nonmetallic ves-
sel, the enclosures and frames of elec-
trical equipment must be bonded to-
gether to a common ground by a nor-
mally non-current carrying conductor.
Metallic cases of instruments and sec-
ondary windings of instrument trans-
mforme rs must be grounded.
(b) On a nonmetallic vessel, where a
ground plate is provided for radio
equipment, it must be connected to the
common ground.
(c) Equipment grounding conductors
must be sized in accordance with Sec-
tion 250–95 of the NEC (NFPA 70), or
other standard specified by the Com-
mandant.
(d) Each insulated grounding con-
ductor of a cable must be identified by
one of the following means.
(1) A green braid or green insulation;
(2) Stripping the insulation from the
entire exposed length of the grounding
conductor; or
(3) Marking the exposed insulation of
the grounding conductor with green
tape or green adhesive labels.
(e) Cable armor must not be used to
ground electrical equipment of sys-
tems.

§ 120.376 Grounded distribution sys-
tems (Neutral grounded).
(a) If a grounded distribution system
is provided, there must be only one
connection to ground, regardless of the
number of power sources. This ground
connection must be at the switchboard
or at the common ground plate, which
must be accessible.
(b) Each propulsion, power, lighting,
or distribution system having a neutral
bus or conductor must have the neutral
grounded.
(c) The neutral or each grounded gen-
eration and distribution system must