part are required for all hazardous locations. Armored cable may be used to enhance ground detection capabilities. Additionally, Type MC cable may be used subject to the restrictions in §111.60–23.

(b) Where conduit is installed, the applicable requirements of either NFPA NEC 2002 (incorporated by reference; see 46 CFR 110.10–1) or the IEC 60079 series (as defined in §111.105–1 and incorporated by reference; see 46 CFR 110.10–1) must be followed.

(c) Each cable entrance into explosionproof or flameproof equipment must be made with approved seal fittings, termination fittings, or glands that meet the requirements of §111.105–9.

(d) Each cable entrance into Class II and Class III (Zone 10, 11, Z, or Y) equipment must be made with dust-tight cable entrance seals approved for the installation.


§ 111.105–19 Switches.

A switch that is explosionproof or flameproof, or that controls any explosionproof or flameproof equipment, under §111.105–19 must have a pole for each ungrounded conductor.


§ 111.105–21 Ventilation.

A ventilation duct which ventilates a hazardous location has the classification of that location. Each fan for ventilation of a hazardous location must be nonsparking.


§ 111.105–27 Belt drives.

Each belt drive in a hazardous location must have:

(a) A conductive belt; and

(b) Pulleys, shafts, and driving equipment grounded to meet NFPA 77 (incorporated by reference, see 46 CFR 110.10–1).


§ 111.105–29 Combustible liquid cargo carriers.

(a) Each vessel that carries combustible liquid cargo with a closed-cup flashpoint of 60 degrees C (140 degrees F) or higher must have:

(1) Only intrinsically safe electric systems in cargo tanks; and

(2) No storage battery in any cargo handling room.

(b) If a submerged cargo pump motor is in a cargo tank, it must meet the requirements of §111.105–31(d).

(c) Where the cargo is heated to within 15°C of its flashpoint, the cargo pumproom must meet the requirements of §111.105–31(f) and the weather locations must meet §111.105–31(l).


§ 111.105–31 Flammable or combustible cargo with a flashpoint below 60°C (140°F), carriers of liquid-sulfur or inorganic acid.

(a) Applicability. Each vessel that carries combustible or flammable cargo with a closed-cup flashpoint lower than 60 degrees C (140 degrees F) or liquid sulphur cargo, or inorganic acid cargo must meet the requirements of this section, except—

(1) A vessel carrying bulk liquefied flammable gases as a cargo, cargo residue, or vapor which must meet the requirements of §111.105–32; and

(2) A vessel carrying carbon disulfide must have only intrinsically safe electric equipment in the locations listed in paragraphs (e) through (l) of this section.

(b) Cable location. Electric cable must be as close as practicable to the centerline and must be away from cargo tank openings.

(c) Lighting circuits. An enclosed hazardous space that has explosionproof lighting fixtures must:

(1) Have at least two lighting branch circuits; and

(2) Be arranged so that there is light for relamping any deenergized lighting circuit; and

(3) Not have the switch within the space for those spaces containing explosionproof lighting fixtures under