
29 C.F.R. § 1910.308

Special systems.

(a) *Systems over 600 volts, nominal.* This paragraph covers the general requirements for all circuits and equipment operated at over 600 volts.

(1) *Aboveground wiring methods.* (i) Aboveground conductors shall be installed in rigid metal conduit, in intermediate metal conduit, in electrical metallic tubing, in rigid nonmetallic conduit, in cable trays, as busways, as cablebus, in other identified raceways, or as open runs of metal-clad cable suitable for the use and purpose. In locations accessible to qualified persons only, open runs of Type MV cables, bare conductors, and bare busbars are also permitted. Busbars shall be either copper or aluminum. Open runs of insulated wires and cables having a bare lead sheath or a braided outer covering shall be supported in a manner designed to prevent physical damage to the braid or sheath.

(ii) Conductors emerging from the ground shall be enclosed in approved raceways.

(2) *Braid-covered insulated conductors—open installations.* The braid on open runs of braid-covered insulated conductors shall be flame retardant or shall have a flame-retardant saturant applied after installation. This treated braid covering shall be stripped back a safe distance at conductor terminals, according to the operating voltage.

(3) *Insulation shielding.* (i) Metallic and semiconductor insulation shielding components of shielded cables shall be removed for a distance dependent on the circuit voltage and insulation. Stress reduction means shall be provided at all terminations of factory-applied shielding.

(ii) Metallic shielding components such as tapes, wires, or braids, or combinations thereof, and their associated conducting and semiconducting components shall be grounded.

(4) *Moisture or mechanical protection for metal-sheathed cables.* Where cable conductors emerge from a metal sheath and where protection against moisture or physical damage is necessary, the insulation of the conductors shall be protected by a cable sheath terminating device.

(5) *Interrupting and isolating devices.* (i) Circuit breaker installations located indoors shall consist of metal-enclosed units or fire-resistant cell-mounted units. In locations accessible only to qualified employees, open mounting of circuit breakers is permitted. A means of indicating the open and closed position of circuit breakers shall be provided.

(ii) Where fuses are used to protect conductors and equipment, a fuse shall be placed in each ungrounded conductor. Two power fuses may be used in parallel to protect the same load, if both fuses have identical ratings, and if both fuses are installed in an identified common mounting with electrical connections that will divide the current equally. Power fuses of the vented type may not be used indoors, underground, or in metal enclosures unless identified for the use.

(iii) Fused cutouts installed in buildings or transformer vaults shall be of a type identified for the purpose. Distribution cutouts may not be used indoors, underground, or in metal enclosures. They shall be readily accessible for fuse replacement.

(iv) Where fused cutouts are not suitable to interrupt the circuit manually while carrying full load, an approved means shall be installed to interrupt the entire load. Unless the fused cutouts are interlocked with the switch to prevent opening of the cutouts under load, a conspicuous sign shall be placed at such cutouts reading: "WARNING—DO NOT OPERATE UNDER LOAD."

(v) Suitable barriers or enclosures shall be provided to prevent contact with nonshielded cables or energized parts of oil-filled cutouts.

(vi) Load interrupter switches may be used only if suitable fuses or circuits are used in conjunction with these devices to interrupt fault currents.

(A) Where these devices are used in combination, they shall be coordinated electrically so that they will safely withstand the effects of closing, carrying, or interrupting all possible currents up to the assigned maximum short-circuit rating.

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