
29 C.F.R. § 1926.403

General requirements.

- (a) *Approval.* All electrical conductors and equipment shall be approved.
- (b) *Examination, installation, and use of equipment—(1) Examination.* The employer shall ensure that electrical equipment is free from recognized hazards that are likely to cause death or serious physical harm to employees. Safety of equipment shall be determined on the basis of the following considerations:
- (i) Suitability for installation and use in conformity with the provisions of this subpart. Suitability of equipment for an identified purpose may be evidenced by listing, labeling, or certification for that identified purpose.
 - (ii) Mechanical strength and durability, including, for parts designed to enclose and protect other equipment, the adequacy of the protection thus provided.
 - (iii) Electrical insulation.
 - (iv) Heating effects under conditions of use.
 - (v) Arcing effects.
 - (vi) Classification by type, size, voltage, current capacity, specific use.
 - (vii) Other factors which contribute to the practical safeguarding of employees using or likely to come in contact with the equipment.
- (2) *Installation and use.* Listed, labeled, or certified equipment shall be installed and used in accordance with instructions included in the listing, labeling, or certification.
- (c) *Interrupting rating.* Equipment intended to break current shall have an interrupting rating at system voltage sufficient for the current that must be interrupted.
- (d) *Mounting and cooling of equipment—(1) Mounting.* Electric equipment shall be firmly secured to the surface on which it is mounted. Wooden plugs driven into holes in masonry, concrete, plaster, or similar materials shall not be used.
- (2) *Cooling.* Electrical equipment which depends upon the natural circulation of air and convection principles for cooling of exposed surfaces shall be installed so that room air flow over such surfaces is not prevented by walls or by adjacent installed equipment. For equipment designed for floor mounting, clearance between top surfaces and adjacent surfaces shall be provided to dissipate rising warm air. Electrical equipment provided with ventilating openings shall be installed so that walls or other obstructions do not prevent the free circulation of air through the equipment.
- (e) *Splices.* Conductors shall be spliced or joined with splicing devices designed for the use or by brazing,
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welding, or soldering with a fusible metal or alloy. Soldered splices shall first be so spliced or joined as to be mechanically and electrically secure without solder and then soldered. All splices and joints and the free ends of conductors shall be covered with an insulation equivalent to that of the conductors or with an insulating device designed for the purpose.

(f) *Arcing parts.* Parts of electric equipment which in ordinary operation produce arcs, sparks, flames, or molten metal shall be enclosed or separated and isolated from all combustible material.

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