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## 29 C.F.R. § 1910.254

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### Arc welding and cutting.

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(a) *General*—(1) *Equipment selection*. Welding equipment shall be chosen for safe application to the work to be done as specified in paragraph (b) of this section.

(2) *Installation*. Welding equipment shall be installed safely as specified by paragraph (c) of this section.

(3) *Instruction*. Workmen designated to operate arc welding equipment shall have been properly instructed and qualified to operate such equipment as specified in paragraph (d) of this section.

(b) *Application of arc welding equipment*—(1) *General*. Assurance of consideration of safety in design is obtainable by choosing apparatus complying with the Requirements for Electric Arc-Welding Apparatus, NEMA EW-1-1962, National Electrical Manufacturers Association or the Safety Standard for Transformer-Type Arc-Welding Machines, ANSI C33.2—1956, Underwriters' Laboratories, both of which are incorporated by reference as specified in § 1910.6.

(2) *Environmental conditions*. (i) Standard machines for arc welding service shall be designed and constructed to carry their rated load with rated temperature rises where the temperature of the cooling air does not exceed 40 °C (104 °F) and where the altitude does not exceed 3,300 feet (1,005.8 m), and shall be suitable for operation in atmospheres containing gases, dust, and light rays produced by the welding arc.

(ii) Unusual service conditions may exist, and in such circumstances machines shall be especially designed to safely meet the requirements of the service. Chief among these conditions are:

- (A) Exposure to unusually corrosive fumes.
- (B) Exposure to steam or excessive humidity.
- (C) Exposure to excessive oil vapor.
- (D) Exposure to flammable gases.
- (E) Exposure to abnormal vibration or shock.
- (F) Exposure to excessive dust.
- (G) Exposure to weather.
- (H) Exposure to unusual seacoast or shipboard conditions.

(3) *Voltage*. The following limits shall not be exceeded:

- (i) Alternating-current machines

(A) Manual arc welding and cutting—80 volts.

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