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## 29 C.F.R. § 1910.255

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### Resistance welding.

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- (a) *General—(1) Installation.* All equipment shall be installed by a qualified electrician in conformance with subpart S of this part. There shall be a safety-type disconnecting switch or a circuit breaker or circuit interrupter to open each power circuit to the machine, conveniently located at or near the machine, so that the power can be shut off when the machine or its controls are to be serviced.
- (2) *Thermal protection.* Ignitron tubes used in resistance welding equipment shall be equipped with a thermal protection switch.
- (3) *Personnel.* Workmen designated to operate resistance welding equipment shall have been properly instructed and judged competent to operate such equipment.
- (4) *Guarding.* Controls of all automatic or air and hydraulic clamps shall be arranged or guarded to prevent the operator from accidentally activating them.
- (b) *Spot and seam welding machines (nonportable)—(1) Voltage.* All external weld initiating control circuits shall operate on low voltage, not over 120 volts, for the safety of the operators.
- (2) *Capacitor welding.* Stored energy or capacitor discharge type of resistance welding equipment and control panels involving high voltage (over 550 volts) shall be suitably insulated and protected by complete enclosures, all doors of which shall be provided with suitable interlocks and contacts wired into the control circuit (similar to elevator interlocks). Such interlocks or contacts shall be so designed as to effectively interrupt power and short circuit all capacitors when the door or panel is open. A manually operated switch or suitable positive device shall be installed, in addition to the mechanical interlocks or contacts, as an added safety measure assuring absolute discharge of all capacitors.

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