

**WAC 296-24-68505 Installation of arc welding equipment. (1)**

**General.** Installation including power supply must be according to the requirements of chapter 296-24 WAC Part L, and WAC 296-800-280.

**(2) Grounding.**

(a) You must ground the frame or case of the welding machine (except engine-driven machines) under the conditions and according to the methods prescribed in chapter 296-24 WAC Part L, and WAC 296-800-280.

(b) You must not use conduits containing electrical conductors for completing a work-lead circuit. You must not use pipelines as a permanent part of a work-lead circuit, but may be used during construction, extension or repair providing current is not carried through threaded joints, flanged bolted joints, or caulked joints and that special precautions are used to avoid sparking at connection of the work-lead cable.

(c) You must not use chains, wire ropes, cranes, hoists, and elevators to carry welding current.

(d) Where a structure, conveyor, or fixture is regularly employed as a welding current return circuit, you must bond joints or provide them with adequate current collecting devices and appropriate periodic inspection should be conducted to ascertain that no condition of electrolysis or shock, or fire hazard exists by virtue of such use.

(e) You must check all ground connections to determine that they are mechanically strong and electrically adequate for the required current.

**(3) Supply connections and conductors.**

(a) You must provide a disconnecting switch or controller at or near each welding machine which is not equipped with such a switch or controller mounted as an integral part of the machine. The switch must be according to chapter 296-24 WAC Part L, and WAC 296-800-280. You must provide overcurrent protection as specified in chapter 296-24 WAC Part L, and WAC 296-800-280. You must provide a disconnect switch with overload protection or equivalent disconnect and protection means, permitted by chapter 296-24 WAC Part L, and WAC 296-800-280, for each outlet intended for connection to a portable welding machine.

(b) For individual welding machines, the rated current-carrying capacity of the supply conductors must be not less than the rated primary current of the welding machines.

(c) For groups of welding machines, the rated current-carrying capacity of conductors may be less than the sum of the rated primary currents of the welding machines supplied. You must determine the conductor rating in each case according to the machine loading based on the use to be made of each welding machine and the allowance permissible in the event that all the welding machines supplied by the conductors will not be in use at the same time.

(d) In operations involving several welders on one structure, d.c. welding process requirements may require the use of both polarities; or supply circuit limitations for a.c. welding may require distribution of machines among the phases of the supply circuit. In such cases no load voltages between electrode holders will be 2 times normal in d.c. or 1, 1.4, 1.73, or 2 times normal on a.c. machines. Similar voltage differences will exist if both a.c. and d.c. welding are done on the same structure.

(i) You must connect all d.c. machines with the same polarity.

(ii) You must connect all a.c. machines to the same phase of the supply circuit and with the same instantaneous polarity.

[Statutory Authority: RCW 49.17.010, 49.17.040, 49.17.050, and 49.17.060. WSR 15-24-100, § 296-24-68505, filed 12/1/15, effective 1/5/16. Statutory Authority: RCW 49.17.010, [49.17].040, and [49.17].050. WSR 01-11-038, § 296-24-68505, filed 5/9/01, effective 9/1/01. Statutory Authority: Chapter 49.17 RCW. WSR 91-24-017 (Order 91-07), § 296-24-68505, filed 11/22/91, effective 12/24/91; Order 73-5, § 296-24-68505, filed 5/9/73 and Order 73-4, § 296-24-68505, filed 5/7/73.]