

**WAC 296-307-50011 General requirements that apply to welding ventilation.** (1) The following three factors in arc and gas welding must be considered when determining the amount of contamination to which welders may be exposed:

(a) Dimensions of space in which welding is to be done (especially ceiling height);

(b) Number of welders; and

(c) The possibility of hazardous fumes, gases, or dust according to the metals involved.

(2) Other factors involved may require ventilation or respiratory protective devices as needed to meet the requirements of this section. Such factors include:

(a) Atmospheric conditions;

(b) Heat generated; and

(c) Presence of volatile solvents.

(3) When welding must be performed in a space entirely screened on all sides, the screens must be arranged so that no serious restriction of ventilation exists. The screens should be mounted so that they are about 2 feet above the floor unless the work is performed at so low a level that the screen must be extended nearer to the floor to protect nearby employees from the glare of welding.

(4) Local exhaust or general ventilating systems must be provided and arranged to keep the amount of toxic fumes, gases, or dusts below the maximum allowable in chapter 296-62 WAC.

**Note:** A number of potentially hazardous materials are employed in fluxes, coatings, coverings, and filler metals used in welding and cutting or are released to the atmosphere during welding and cutting. These include but are not limited to the materials itemized in WAC 296-307-50019 through 296-307-50029.

(5) The employer must determine which potentially hazardous materials are associated with welding and cutting and inform employees through signs, labels or other appropriate means.

(a) Welding may produce fumes and gases hazardous to health. Avoid breathing these fumes and gases. Use adequate ventilation. See ANSI Z 49.1-1967, Safety in Welding and Cutting, published by the American Welding Society.

(b) Brazing (welding) filler metals containing cadmium in significant amounts must carry the following notice on tags, boxes, or other containers:

WARNING  
CONTAINS CADMIUM—POISONOUS FUMES MAY BE FORMED ON HEATING

• Do not breathe fumes. Use only with adequate ventilation such as fume collectors, exhaust ventilators, or air-supplied respirators. See ANSI Z 49.1-1967.

• If chest pain, cough, or fever develops after use call physician immediately.

• Keep children away when using.

(c) Brazing and gas welding fluxes containing fluorine compounds must have a cautionary wording to indicate that they contain fluorine compounds. The American Welding Society recommends the following for brazing and gas welding fluxes:

CAUTION  
CONTAINS FLUORIDES

This flux when heated gives off fumes that may irritate eyes, nose and throat.

• Avoid fumes. Use only in well-ventilated spaces.

• Avoid contact of flux with eyes or skin.

• Do not take internally.

[Statutory Authority: RCW 49.17.010, 49.17.040, 49.17.050, and 49.17.060. WSR 20-21-091, § 296-307-50011, filed 10/20/20, effective 11/20/20. Statutory Authority: RCW 49.17.040. WSR 98-24-096, § 296-307-50011, filed 12/1/98, effective 3/1/99. WSR 97-09-013, recodified as § 296-307-50011, filed 4/7/97, effective 4/7/97. Statutory Authority: RCW 49.17.040, [49.17.]050 and [49.17.]060. WSR 96-22-048, § 296-306A-50011, filed 10/31/96, effective 12/1/96.]