

<b>Current OARs</b>	<b>Draft OARs</b>
<p><b>437-002-0282 Job Planning and Layout</b></p> <p>(1) Before operations are started, portable equipment shall be securely blocked to prevent accidental movement.</p> <p>(2) Tanks, boilers, drums and similar containers shall be equipped with ladders for the welders and other workers whenever conditions require their use for safe access and egress.</p> <p>(3) No welding equipment shall be allowed on elevated structures unless such structure is designed and built to support all loads imposed on the structure.</p> <p>(4) Work areas shall be designed, laid-out and operated in a manner to prevent welding hose and cable from creating a tripping hazard.</p> <p>(5) When welding or cutting is being performed in any confined space, the gas cylinders and/or welding machines shall be left on the outside.</p>	<p><b>437-002-0282 Job Planning and Layout</b></p> <p>(1) Before operations are started, portable equipment must be securely blocked to prevent accidental movement.</p> <p>(2) Tanks, boilers, drums and similar containers must be equipped with ladders for the welders and other workers whenever conditions require their use for safe access and egress.</p> <p>(3) Welding equipment must not be allowed on elevated structures unless such structure is designed and built to support all loads imposed on the structure.</p> <p>(4) Work areas must be designed, laid-out and operated in a manner to prevent welding hose and cable from creating a tripping hazard.</p> <p>(5) When welding or cutting is being performed in any confined space, the gas cylinders and/or welding machines must be left on the outside.</p>
<p><b>437-002-0283 Eye Protection and Protective Clothing</b></p> <p>(1) Easily ignited, highly flammable clothing, such as is made from synthetic materials, shall not be worn.</p> <p>(2) Flash goggles with side shields (Shade No. 2, Style Nos. 2 or 3) shall be worn under the welding helmet or hand shield.</p> <p>(3) The skin shall be covered completely, by a double layer of clothing or equivalent, to prevent burns or other damage by ultraviolet light.</p>	<p><b>437-002-0283 Eye Protection and Protective Clothing</b></p> <p>(1) Easily ignited, highly flammable clothing, such as is made from synthetic materials, must not be worn.</p> <p>(2) Flash goggles with side shields (Shade No. 2, Style Nos. 2 or 3) must be worn under the welding helmet or when using a hand shield.</p> <p>(3) During hot work, the skin must be covered completely by a double layer of clothing or equivalent to prevent burns or other damage by ultraviolet light.</p>

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<p><b>437-002-0284 Specifications for Protectors</b></p> <p>(1) Where the “lift front” welder’s helmet is used, there shall be a stationary safety glass on the inside of the frame next to the eyes to protect welder against flying particles when the front is lifted. Where lens containers will not permit use of such safety glass, safety goggles shall be worn.</p> <p>(2) Where the “lift front” helmet with three glasses is not used, or the flat type helmet is used, the welders shall wear other spectacle-type safety goggles in addition to the filter lens and cover glass.</p>	<p><b>437-002-0284 Additional Specifications for Protectors</b></p> <p>(1) When the “lift front” welder’s helmet is used, there must be a stationary safety glass on the inside of the frame next to the eyes to protect the welder from flying particles when the front is lifted. If lens containers do not permit use of such safety glass, appropriate safety goggles must also be worn.</p> <p>(2) Where the “lift front” helmet with three glasses is not used, or the flat type helmet is used, the welders must wear other spectacle-type safety goggles in addition to the filter lens and cover glass.</p>
<p><b>437-002-0285 Special Precautions</b></p> <p>Before welding or cutting on walls, floors or ceilings, an inspection shall be made to see that no combustible material is present on the hidden side.</p>	<p><b>437-002-0285 Additional Special Precautions</b></p> <p>Before welding or cutting on walls, floors or ceilings, the hidden side must be inspected to ensure that no combustible material is present.</p>
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<p><b>437-002-0286 Preservative Coatings</b></p> <p>(1) Before welding, cutting or heating is commenced on any surface covered by a preservative coating whose flammability is not known, a test shall be made by a competent person to determine its flammability.</p> <p>(2) Precautions shall be taken to prevent ignition of highly flammable hardened preservative coatings. When coatings are determined to be highly flammable, they shall be stripped from the area to be heated to prevent ignition.</p>	<p><b>437-002-0286 Flammable and Toxic Preservative Coatings</b></p> <p>(1) Before welding, cutting or heating is commenced on any surface covered by a preservative coating whose flammability is not known, a test must be made by a competent person to determine if it is flammable.</p> <p>(2) Precautions must be taken to prevent ignition of any flammable, preservative coating. When coatings are determined to be flammable, they shall be stripped from the area to be heated to prevent ignition.</p> <p>(3) In confined and other enclosed spaces, surfaces coated with toxic preservatives must be stripped or the employees must be protected by an appropriate respirator in accordance with the Respiratory Protection Standard, to prevent breathing toxic fumes and gases.</p> <p>(4) The preservative coatings must be removed a sufficient distance from the area to be heated to ensure that the temperature of any remaining unstripped metal will not be raised enough for it to break down or vaporize. Artificial cooling of the metal surrounding the heated area may be used to limit the size of the area that is required to be stripped.</p>
<p><b>437-002-0287 Toxic Preservative Coatings</b></p> <p>(1) In enclosed spaces, all surfaces covered with toxic preservatives shall be stripped of all toxic coatings for a distance of at least 4 inches from the area of heat application, or the employees shall be protected by a respirator against hazards from breathing toxic vapors in accordance with occupational health regulations.</p> <p>(2) The preservative coatings shall be removed a sufficient distance from the area to be heated to ensure that the temperature of the unstripped metal will not be appreciably raised. Artificial cooling of the metal surrounding the heated area may be used to limit the size of the area required to be cleaned.</p>	<p><b>(Repeal 437-002-0287)</b></p>

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<p><b>437-002-0288 Health Protection and Ventilation – General</b></p> <p>(1) When welding or cutting operations are being performed on the following materials (Table OR Q 1), the protective measures indicated are required unless atmospheric samples taken in the welder’s breathing zone indicate that the concentration does not exceed the limits specified in Division 2/Z, OAR 437-002-0382, Oregon Rules for Air Contaminants.</p> <p>(2) Nearby workers shall be afforded equivalent, effective, protection from these dangerous fumes.</p> <p><b>[Also see Table OR Q-1]</b></p>	<p><b>437-002-0288 Additional General Health Protection</b></p> <p>(1) Engineering controls, including local exhaust ventilation, must always be the primary control measure in workplaces. Respiratory protection can be used as a backup measure when engineering controls are insufficient to protect employees.</p> <p>(2) When welding, cutting, or grinding operations are performed on or with the materials listed in Table OR Q-1, the protective measures indicated are required unless air monitoring samples confirm that the concentration does not exceed the permissible limits specified in Division 2/Z, OAR 437-002-0382, Oregon Rules for Air Contaminants. For materials with substance-specific rules, employers must follow all requirements in those rules.</p> <p>(3) Nearby workers must also be provided equally effective protection from these air contaminants.</p> <p><b>[Also see Table OR Q-1]</b></p>

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<p><b>Note:</b> 1910.252(a)(3)(i) was not adopted by the Department. In Oregon 437-002-0297 applies:</p> <p><b>437-002-0297 Welding or Cutting Containers</b></p> <p>(1) No welding, torch or abrasive cutting, or other hot work shall be performed on drums, barrels, tanks or other containers until they have been cleaned so thoroughly as to make absolutely certain that there are no flammable materials present or any substances such as greases, tars, acids, surface coatings or other materials which when subjected to heat, might produce flammable or toxic vapors. Any pipe lines or connections to the drum or vessel shall be disconnected or blanked.</p> <p>(2) In order to meet the “absolutely certain” test required in subsection (1) of this rule, appropriate testing equipment shall be used prior to and frequently during the welding, torch or abrasive cutting or other hot work operation to insure that the container is free and remains free of flammable or toxic vapors.</p>	<p><b>437-002-0297 Welding or Cutting Containers</b></p> <p><b>Note:</b> 1910.252(a)(3)(i) was not adopted by the Department. In Oregon 437-002-0297 applies, instead.</p> <p>(1) A written work permit is required for welding, torch or abrasive cutting, or other hot work performed on drums, barrels, tanks, vessels or other containers.</p> <p>(2) The permit must specify that:</p> <p>(a) The container is cleaned thoroughly to ensure that there are no flammable materials or any substances present (such as greases, tars, acids, or surface coatings) that could produce flammable or toxic vapors when subjected to heat; and</p> <p>(b) Any pipe lines or connections to the container are disconnected or blanked; and</p> <p>(c) Appropriate testing equipment is used prior to and during the hot work operation to ensure that the container remains free of flammable or toxic vapors.</p>
<p><b>Note:</b> 1910.252(c)(4)(iii) was not adopted by the Department. In Oregon OAR 437-002-0298 applies:</p> <p><b>437-002-0298 Self-Contained Units</b></p> <p>In areas immediately hazardous to life, self-contained breathing equipment shall be used. The breathing equipment shall be approved by the Mine Safety and Health Administration and the National Institute for Occupational Safety and Health.</p>	<p><b>Note:</b> 1910.252(c)(4)(iii) was not adopted by the Department. In Oregon OAR 437-002-0298 applies.</p> <p><b>437-002-0298 Supplied Air Respiratory Equipment</b></p> <p>In areas immediately dangerous to life and health (IDLH), self-contained breathing apparatus or other supplied air respiratory equipment must be used. All respiratory equipment used must be approved by the National Institute for Occupational Safety and Health.</p>

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<p>(No current rule)</p>	<p><b>437-002-XXXX Additional Confined Space requirements</b></p> <p><i>(1) When welding operations will be performed inside a confined space, evaluate the space in accordance with OAR 437-002-0146, “Confined Spaces”, before work begins.</i></p> <p><i>(a) When there are potential or actual hazards within the space not directly related to the welding process, follow the requirements of 437-002-0146.</i></p> <p><i>(b) When the only actual or potential hazards associated with the space are directly related to the welding process, follow the requirements of paragraphs (2) through (6), below.</i></p> <p><i>(2) Provide forced air ventilation.</i></p> <p><i>(a) Direct the forced air to ventilate the immediate area(s) where each employee is working within the space, and</i></p> <p><i>(b) Continue until all employees have left the space.</i></p> <p><i>(3) Provide continuous air quality monitoring. To ensure that the forced air ventilation is preventing the accumulation of hazardous air contaminants, continuously test the internal atmosphere of the confined space with a calibrated, direct-reading instrument.</i></p> <p><i>(a) Provide all necessary equipment at no cost to employees.</i></p> <p><i>(b) Ensure all equipment is maintained and used in accordance with the instructions from the manufacturer.</i></p> <p><i>(c) Train all employees who use equipment in the proper use of that equipment.</i></p> <p><i>(4) If at any time during entry, monitoring indicates that atmospheric conditions are outside of the acceptable range, or if a hazardous condition is otherwise detected, the employer must ensure that all employees leave the space immediately.</i></p>

(5) Document that:

(a) The only hazard(s) present within the confined space is a potential atmospheric hazard created by the welding or cutting process; and that:

(b) Continuous forced air ventilation alone is sufficient to maintain the atmosphere in the confined space safe for entry.

**NOTE:** The welding standard was designed only to protect employees from the hazards of metal fume, gases, and smoke created from working with specific materials associated with the welding process.

(6) Maintain records of this monitoring data.

**NOTE:** This data is considered an exposure record and is covered by the requirements in 29 CFR 1910.1020 Access to Employee Exposure and Medical Records.

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<p>(No current rule)</p>	<p><b>437-002-XXX Y Manganese</b></p> <p><i>As a supplement to the requirements of OAR 437-002-0288, Table OR Q-2, describes respiratory protection for specific welding-related tasks. When any of the tasks described in Table OR Q-2 is being performed, the respiratory protection indicated may be relied upon as an alternative to air monitoring for Manganese exposure with the following conditions:</i></p> <p><i>(1) Determine the type of welding and the expected duration of the task. If a task goes over the duration for the applied protective factor(s) listed, the exposures for that shift must end or the higher level of respiratory protection must be provided.</i></p> <p><i>(2) When, during the course of a single work shift, an employee will perform more than one task listed in Table OR Q-2, add the total duration of all tasks together and choose respiratory protection with the higher protective factor for the duration of any single task.</i></p> <p><b>[Also see Table OR Q-2 for Manganese]</b></p>