under pressure, shall be immediately available in the hot work area.

(3) Surfaces covered with preservative coatings shall be stripped for at least 4 inches (10.16 cm) from the area of heat application or employees shall be protected by supplied air respirators in accordance with the requirements of §1910.134 of this chapter.

(h) Protection against radiant energy.

(1) Employees shall be protected from radiant energy eye hazards by spectacles, cup goggles, helmets, hand shields or face shields with filter lenses complying with the requirements of this paragraph.

(2) Filter lenses shall have an appropriate shade number, as indicated in Table G–1, for the work performed. Variations of one or two shade numbers are permissible to suit individual preferences.

(3) If filter lenses are used in goggles worn under the helmet, the shade numbers of both lenses equals the value shown in Table G–1 for the operation.

**TABLE G–1—FILTER LENSES FOR PROTECTION AGAINST RADIANT ENERGY**

<table>
<thead>
<tr>
<th>Operation</th>
<th>Shade No.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Soldering</td>
<td>2</td>
</tr>
<tr>
<td>Torch Brazing</td>
<td>3 or 4</td>
</tr>
<tr>
<td>Light cutting, up to 1 inch</td>
<td>3 or 4</td>
</tr>
<tr>
<td>Medium cutting, 1-6 inches</td>
<td>4 or 5</td>
</tr>
<tr>
<td>Heavy cutting, over 6 inches</td>
<td>5 or 6</td>
</tr>
<tr>
<td>Light gas welding, up to ¼ inch</td>
<td>4 or 5</td>
</tr>
<tr>
<td>Medium gas welding, ½-1 inch</td>
<td>5 or 6</td>
</tr>
<tr>
<td>Heavy gas welding, over ½ inch</td>
<td>6 or 8</td>
</tr>
<tr>
<td>Shielded Metal-Arc Welding</td>
<td>10</td>
</tr>
<tr>
<td>Inert-gas Metal-Arc Welding</td>
<td>11</td>
</tr>
<tr>
<td>Shielded Metal-Arc Welding</td>
<td>12</td>
</tr>
<tr>
<td>3/16- to ½-inch electrodes</td>
<td>14</td>
</tr>
</tbody>
</table>


§ 1917.153 Spray painting (See also §1917.2, definition of Hazardous cargo, materials, substance, or atmosphere).

(a) Scope. This section covers painting operations connected with maintenance of structures, equipment and gear at the marine terminal and of transient equipment serviced at the terminal. It does not apply to overall painting of terminal structures under construction, major repair or rebuilding of terminal structures, or portable spraying apparatus not used regularly in the same location.

(b) Definitions—(1) Spray painting area means any area where flammable vapors, mists or combustible residues, ducts or deposits may be present due to paint spraying operations.

(2) Spray booth means an enclosure containing a flammable or combustible spraying operation and confining and limiting the escape of paint, vapor and residue by means of a powered exhaust system.

(3) Approved means, for the purpose of this section, that the equipment has been approved for the specified use by a nationally recognized testing laboratory.

(c) Spray painting requirements for indoor and outdoor spraying areas and booths. (1) Shut-off valves, containers or piping with attached hoses or flexible connections shall have shut-off valves closed at the connection when not in use.

(2) Pumps used to transfer paint supplies shall have automatic pressure-relieving devices.

(3) Hoses and couplings shall be inspected before use. Hoses showing deterioration, leakage or weakness in the carcass or at the couplings shall be removed from service.

(4)(i) No open flame or spark-producing equipment shall be within 20 feet (6.1 m) of a spraying area unless it is separated from the spraying area by a fire-retardant partition.

(ii) Hot surfaces shall not be located in spraying areas.

(iii) Whenever combustible residues may accumulate on electrical installations, wiring shall be in rigid conduit or in boxes containing no taps, splices or connections.

(iv) Portable electric lights shall not be used during spraying operations. Lights used during cleaning or repairing operations shall be approved for the location in which they are used.

(5) When flammable or combustible liquids are being transferred between containers, both containers shall be bonded and grounded.

(6)(i) Spraying shall be performed only in designated spray booths or spraying areas.
(ii) Spraying areas shall be kept as free from combustible residue accumulations as practicable.

(iii) Residue scrapings, debris, rags, and waste shall be removed from the spraying area as they accumulate.

(7) Spraying with organic peroxides and other dual-component coatings shall only be conducted in sprinkler-equipped spray booths.

(8) Only the quantity of flammable or combustible liquids required for the operation shall be allowed in the spraying area, and in no case shall the amount exceed a one-day supply.

(9) Smoking shall be prohibited and “No Smoking” signs shall be posted in spraying and paint storage areas.

(d) Additional requirements for spraying areas and spray booths. (1) Distribution or baffle plates shall be of noncombustible material and shall be removable or accessible for cleaning. They shall not be located in exhaust ducts.

(2) Any discarded filter shall be removed from the work area or placed in water.

(3) Filters shall not be used when the material being sprayed is highly susceptible to spontaneous heating and ignition.

(4) Filters shall be noncombustible or of an approved type. The same filter shall not be used when spraying with different coating materials if the combination of materials may spontaneously ignite.

(5) Spraying areas shall be mechanically ventilated for removal of flammable and combustible vapor and mist.

(6) Mechanical ventilation shall be in operation during spraying operations and long enough thereafter to exhaust hazardous vapor concentrations.

(7) Rotating fan elements shall be nonsparking or the casing shall consist of or be lined with nonsparking material.

(8) Piping systems conveying flammable or combustible liquids to the spraying booth or area shall be made of metal and be both bonded and grounded.

(9) Air exhausted from spray operations shall not contaminate makeup air or other ventilation intakes. Exhausted air shall not be recirculated unless it is first cleaned of any hazardous contaminants.

(10) Original closed containers, approved portable tanks, approved safety cans or a piping system shall be used to bring flammable or combustible liquids into spraying areas.

(11) If flammable or combustible liquids are supplied to spray nozzles by positive displacement pumps, the pump discharge line shall have a relief valve discharging either to a pump section or detached location, or the line shall be equipped with a device to stop the prime mover when discharge pressure exceeds the system’s safe operating pressure.

(12) Wiring, motors and equipment in a spray booth shall be of approved explosion-proof type for Class I, Group D locations and conform to subpart S of Part 1910 of this chapter for Class I, Division 1, Hazardous Locations. Wiring, motors and equipment within 20 feet (6.1m) of any interior spraying area and not separated by vapor-tight partitions shall not produce sparks during operation and shall conform to the requirements of subpart S of Part 1910 of this chapter for Class I, Division 2, Hazardous Locations.

(13) Outside electrical lights within 10 feet (3.05m) of spraying areas and not separated from the areas by partitions shall be enclosed and protected from damage.

(e) Additional requirements for spray booths. (1) Spray booths shall be substantially constructed of noncombustible material and have smooth interior surfaces. Spray booth floors shall be covered with noncombustible material. As an aid to cleaning, paper may be used to cover the floor during painting operations if it is removed after the painting is completed.

(2) Spray booths shall be separated from other operations by at least 3 feet (0.91m) or by fire-retardant partitions or walls.

(3) A space of at least 3 feet (0.91m) on all sides of the spray booth shall be maintained free of storage or combustible materials.

(4) Metal parts of spray booths, exhaust ducts, piping and airless high-pressure spray guns and conductive objects being sprayed shall be grounded.

(5) Electric motors driving exhaust fans shall not be located inside booths or ducts.
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(6) Belts shall not enter ducts or booths unless the belts are completely enclosed.

(7) Exhaust ducts shall be made of steel, shall have sufficient access doors to permit cleaning, and shall have a minimum clearance of 18 inches (0.46m) from combustible materials. Any installed dampers shall be fully opened when the ventilating system is operating.

(8) Spray booths shall not be alternately used to spray different types of coating materials if the combination of the materials may spontaneously ignite unless deposits of the first material are removed from the booth and from exhaust ducts before spraying of the second material begins.

(2) In case of spillage, filler caps shall be replaced and spillage disposed of before engines are started.

(3) Engines shall be stopped and operators shall not be on the equipment during refueling operations.

(4) Smoking and open flames shall be prohibited in areas used for fueling, fuel storage or enclosed storage of equipment containing fuel.

(5) Equipment shall be refueled only at designated locations.

(6) Liquid fuels not handled by pump shall be handled and transported only in portable containers or equivalent means designed for that purpose. Portable containers shall be metal, have tight closures with screw or spring covers and shall be equipped with spouts or other means to allow pouring without spilling. Leaking containers shall not be used.

(7) Flammable liquids may be dispensed in the open from a tank or from other vehicles equipped for delivering fuel to another vehicle only if:

(i) Dispensing hoses do not exceed 50 feet (15.24 m) in length; and

(ii) Any powered dispensing nozzles used are of the automatic-closing type.

(8) Liquid fuel dispensing devices shall be provided with an easily accessible and clearly identified shut-off device, such as a switch or circuit breaker, to shut off the power in an emergency.

(9) Liquid fuel dispensing devices, such as pumps, shall be mounted either on a concrete island or be otherwise protected against collision damage.

(b) Liquefied gas fuels—(1) Fueling locations.

(i) Liquefied gas powered equipment shall be fueled only at designated locations.

(ii) Equipment with permanently mounted fuel containers shall be charged outdoors.

(iii) Equipment shall not be fueled or stored near underground entrances, elevator shafts or other places where gas or fumes might accumulate.

(2) Fuel containers. (i) When removable fuel containers are used, the escape of fuel when containers are exchanged shall be minimized by:

(A) Automatic quick-closing couplings (closing in both directions when uncoupled) in fuel lines; or