

# OSHA Health & Safety Construction-related Regulations - E - 95 to 149

[Back to the main OSHA Construction Regulations Page](#)

## Subpart E - Personal Protective and Life Saving Equipment

### § 1926.95 - Criteria for personal protective equipment.

(a) *Application.* Protective equipment, including personal protective equipment for eyes, face, head, and extremities, protective clothing, respiratory devices, and protective shields and barriers, shall be provided, used, and maintained in a sanitary and reliable condition wherever it is necessary by reason of hazards of processes or clothing, respiratory devices, and protective shields and barriers, shall be provided, used, and maintained in a sanitary and reliable condition wherever it is necessary by reason of hazards of processes or environment, chemical hazards, radiological hazards, or mechanical irritants encountered in a manner capable of causing injury or impairment in the function of any part of the body through absorption, inhalation or physical contact.

(b) *Employee-owned equipment.* Where employees provide their own protective equipment, the employer shall be responsible to assure its adequacy, including proper maintenance, and sanitation of such equipment.

(c) *Design.* All personal protective equipment shall be of safe design and construction for the work to be performed.

### § 1926.96 - Occupational foot protection.

Safety-toe footwear for employees shall meet the requirements and specifications in American National Standard for Men's Safety-Toe Footwear, Z41.1-1967.

### § 1926.100 - Head protection.

(a) Employees working in areas where there is a possible danger of head injury from impact, or from falling or flying objects, or from electrical shock and burns, shall be protected by protective helmets.

(b) Helmets for the protection of employees against impact and penetration of falling and flying objects shall meet the specifications contained in American National Standards Institute, Z89.1-1969, Safety Requirements for Industrial Head Protection.

(c) Helmets for the head protection of employees exposed to high voltage electrical shock and burns shall meet the specifications contained in American National Standards Institute, Z89.2-1971.

### § 1926.101 - Hearing protection.

(a) Wherever it is not feasible to reduce the noise levels or duration of exposures to those specified in Table D-2, Permissible Noise Exposures, in 1926.52, ear protective devices shall be provided and used.

(b) Ear protective devices inserted in the ear shall be fitted or determined individually by competent persons.

(c) Plain cotton is not an acceptable protective device.

**§ 1926.102 - Eye and face protection.**

**(a) General.**

**(a)(1)** Employees shall be provided with eye and face protection equipment when machines or operations present potential eye or face injury from physical, chemical, or radiation agents.

**(a)(2)** Eye and face protection equipment required by this Part shall meet the requirements specified in American National Standards Institute, Z87.1-1968, Practice for Occupational and Educational Eye and Face Protection.

**(a)(3)** Employees whose vision requires the use of corrective lenses in spectacles, when required by this regulation to wear eye protection, shall be protected by goggles or spectacles of one of the following types:

**(a)(3)(i)** Spectacles whose protective lenses provide optical correction;

**(a)(3)(ii)** Goggles that can be worn over corrective spectacles without disturbing the adjustment of the spectacles;

**(a)(3)(iii)** Goggles that incorporate corrective lenses mounted behind the protective lenses.

**(a)(4)** Face and eye protection equipment shall be kept clean and in good repair. The use of this type equipment with structural or optical defects shall be prohibited.

**(a)(5)** Table E-1 shall be used as a guide in the selection of face and eye protection for the hazards and operations noted.

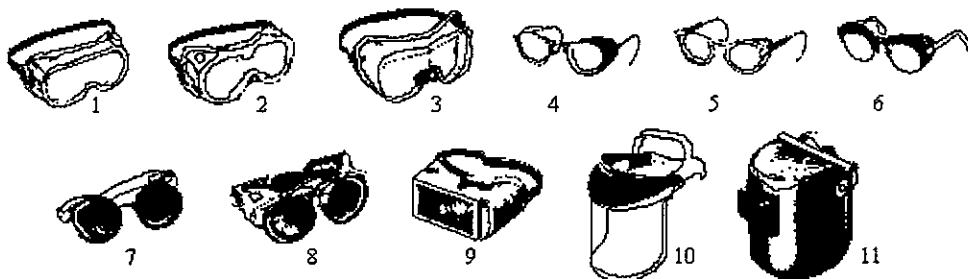
**(a)(6)** Protectors shall meet the following minimum requirements:

**(a)(6)(i)** They shall provide adequate protection against the particular hazards for which they are designed.

**(a)(6)(ii)** They shall be reasonably comfortable when worn under the designated conditions.

**(a)(6)(iii)** They shall fit snugly and shall not unduly interfere with the movements of the wearer.

**TABLE E-1 - Eye and Face Protector Selection Guide**



- 1. GOGGLES, Flexible Fitting - Regular Ventilation
- 2. GOGGLES, Flexible Fitting - Hooded Ventilation
- 3. GOGGLES, Cushioned Fitting - Rigid Body

- 4. SPECTACLES, Metal Frame, with Sideshields <sup>1</sup>
- 5. SPECTACLES, Plastic Frame - with Sideshields <sup>2</sup>
- 6. SPECTACLES, Metal-Plastic Frame - with Sideshields <sup>1</sup>
- 7. WELDING GOGGLES, Eyecup Type - Tinted Lenses <sup>2</sup>
- 7A. CHIPPING GOGGLES, Eyecup Type - Clear Safety Lenses
- 8. WELDING GOGGLES, Coverspec Type - Tinted Lenses <sup>2</sup>
- 8A. CHIPPING GOGGLES, Coverspec Type - Clear Safety Lenses
- 9. WELDING GOGGLES, Coverspec Type - Tinted Plate Lens <sup>2</sup>
- 10. FACE SHIELD (Available with Plastic or Mesh Window)
- 11. WELDING HELMETS<sup>2</sup>

<sup>1</sup> Non-side shield spectacles are available for limited hazard use requiring only frontal protection.

<sup>2</sup> See Table E-2, in paragraph (b) of this section, Filter Lens Shade Numbers for Protection Against Radiant Energy.

**Applications**

Operation	Hazards	Recommended protectors
Acetylene-Burning, Acetylene-Cutting, Acetylene-Welding	Sparks, harmful rays, molten metal, flying particles	7, 8, 9
Chemical Handling	Splash, acid burns, fumes	2, 10 (For severe exposure add 10 over 2)
Chipping	Flying particles	1, 3, 4, 5, 6, 7A, 8A
Electric (arc) welding	Sparks, intense rays, molten metal	9, 11, (11 in combination with 4, 5, 6, in tinted lenses advisable)
Furnace operations	Glare, heat, molten metal	7, 8, 9 (For severe exposure add 10)
Grinding-Light	Flying particles	1, 3, 4, 5, 6, 10
Grinding-Heavy	Flying particles	1, 3, 7A, 8A (For severe exposure add 10)
Laboratory	Chemical splash, glass breakage	2 (10 when in combination with 4, 5, 6)
Machining	Flying particles	1, 3, 4, 5, 6, 10
Molten metals	Heat, glare, sparks, splash	7, 8, (10 in combination with 4, 5, 6, in tinted lenses)
Spot welding	Flying particles, sparks	1, 3, 4, 5, 6, 10

(a)(6)(iv) They shall be durable.

(a)(6)(v) They shall be capable of being disinfected.

(a)(6)(vi) They shall be easily cleanable.

(a)(7) Every protector shall be distinctly marked to facilitate identification only of the manufacturer.

(a)(8) When limitations or precautions are indicated by the manufacturer, they shall be transmitted to the user and care taken to see that such limitations and precautions are strictly observed.

(b) Protection against radiant energy.

(b)(1) *Selection of shade numbers for welding filter.* Table E-2 shall be used as a guide for the selection of the proper shade numbers of filter lenses or plates used in welding. Shades more dense than those listed may be used to suit the individual's needs.

**§ 1926.103 - Respiratory protection.**

(a) *General.*

(a)(1) In emergencies, or when controls required by Subpart D of this part either fail or are inadequate to prevent harmful exposure to employees, appropriate respiratory protective devices shall be provided by the employer and shall be used.

(a)(2) Respiratory protective devices shall be approved by the Mine Safety and Health Administration and the National Institute for Occupational Safety and Health or acceptable to the U.S. Department of Labor for the specific contaminant to which the employee is exposed.

**TABLE E-2. - Filter Lens Shade Numbers for Protection Against Radiant Energy**

Welding operation	Shade number
Shielded metal-arc welding 1/16-, 3/32-, 1/8-, 5/32- inch diameter electrodes .....	10
Gas-shielded arc welding (nonferrous) 1/16-, 3/32-, 1/8-, 5/32-inch diameter electrodes	11
Gas-shielded arc welding (ferrous) 1/16-, 3/32-, 1/8-, 5/32-inch diameter electrodes .....	12
Shielded metal-arc welding 3/16-, 7/32-, 1/4-inch diameter electrodes .....	12
5/16-, 3/8-inch diameter electrodes .....	14
Atomic hydrogen welding .....	10-14
Carbon-arc welding .....	14
Soldering .....	2
Torch brazing .....	3 or 4
Light cutting, up to 1 inch .....	3 or 4
Medium cutting, 1 inch to 6 inches .....	4 or 5
Heavy cutting, over 6 inches .....	5 or 6
Gas welding (light), up to 1/8-inch .....	4 or 5
Gas welding (medium), 1/8-inch to 1/2-inch .....	5 or 6
Gas welding (heavy), over 1/2-inch .....	6 or 8

(b) *Respirator selection.*

(b)(1) The chemical and physical properties of the contaminant, as well as the toxicity and concentration of the hazardous material, shall be considered in selecting the proper respirators.

(b)(2) The nature and extent of the hazard, work requirements, and conditions, as well as the limitations and characteristics

of the available respirators, shall also be factors considered in making the proper selection.

(b)(3) The following table lists the types of respirators required for protection in dangerous atmospheres:

(c) *Selection, issuance, use and care of respirators.*

(c)(1) Employees required to use respiratory protective equipment approved for use in atmospheres immediately dangerous to life shall be thoroughly trained in its use. Employees required to use other types of respiratory protective equipment shall be instructed in the use and limitations of such equipment.

(c)(2) Respiratory protective equipment shall be inspected regularly and maintained in good condition. Gas mask canisters and chemical cartridges shall be replaced as necessary so as to provide complete protection. Mechanical filters shall be cleaned or replaced as necessary so as to avoid undue resistance to breathing.

(c)(3) Respiratory protective equipment which has been previously used shall be cleaned and disinfected before it is issued by the employer to another employee. Emergency rescue equipment shall be cleaned and disinfected immediately after each use.

(d) *Permissible practice.*

(d)(1) In the control of those occupational diseases caused by breathing air contaminated with harmful dusts, fogs, fumes, mists, gases, smokes, sprays, or vapors, the primary objective shall be to prevent atmospheric contamination. This shall be accomplished as far as feasible by accepted engineering control measures (for example, enclosure or confinement of the operation, general and local ventilation, and substitution of less toxic materials). When effective engineering controls are not feasible, or while they are being instituted, appropriate respirators shall be used pursuant to the following requirements.

**TABLE E-4. - Selection of Respirators**

Hazard	Respirator (See Note)
Oxygen deficiency	Self-contained breathing apparatus. Hose mask with blower. Combination air-line respirator with auxiliary self-contained air supply or an air-storage receiver with alarm.
Gas and vapor contaminants immediately dangerous to life and health	Self-contained breathing apparatus. Hose mask with blower. Air-purifying full facepiece respirator (for escape only). Combination air-line respirator with auxiliary self-contained air supply or an air-storage receiver with alarm.
Not immediately dangerous to life and health	Air-line respirator. Hose mask without blower. Air-purifying, half-mask or mouthpiece respirator with chemical cartridge.
Particulate contaminants immediately dangerous to life and health	Self contained breathing apparatus. Hose mask with blower. Air purifying, full facepiece respirator with appropriate filter. Self-rescue mouthpiece respirator (for escape only). Combination air-line respirator with auxiliary self-contained air supply or an air-storage receiver with alarm.
Not immediately dangerous to life and health	Air-purifying, half-mask or mouthpiece respirator with filter pad or cartridge. Air-line respirator. Air-line abrasive-blasting respirator. Hose-mask without blower.
Combination gas, vapor, and particulate contaminants immediately dangerous to life and health	Self-contained breathing apparatus. Hose mask with blower. Air-purifying, full facepiece respirator with chemical canister and appropriate filter (gas mask with filter). Self-rescue mouthpiece respirator (for escape only). Combination air-line respirator with auxiliary self-contained air-supply or an air-storage receiver with alarm.
Not immediately dangerous to life and health	Air-line respirator. Hose mask without blower. Air-purifying, half-mask or mouthpiece respirator with chemical cartridge and appropriate filter.

NOTE: For the purpose of this part, *immediately dangerous to life and health* is defined as a condition that either poses an immediate threat of severe exposure to contaminants such as radioactive materials, which are likely to have adverse delayed effects on health.

(d)(2) Respirators shall be provided by the employer when such equipment is necessary to protect the health of the employee. The employer shall provide the respirators which are applicable and suitable for the purpose intended. The employer shall be responsible for the establishment and maintenance of a respiratory protective program which shall include the requirements outlined in paragraph (e) of this section.

(d)(3) The employee shall use the provided respiratory protection in accordance with instructions and training received.

(e) *Requirements for a minimal acceptable program.*

(e)(1) Written standard operating procedures governing the selection and use of respirators shall be established.

(e)(2) Respirators shall be selected on the basis of hazards to which the worker is exposed.

(e)(3) The user shall be instructed and trained in the proper use of respirators and their limitations.

(e)(5) Respirators shall be regularly cleaned and disinfected. Those used by more than one worker shall be thoroughly cleaned and disinfected after each use.

(e)(6) Respirators shall be stored in a convenient, clean, and sanitary location.

(e)(7) Respirators used routinely shall be inspected during cleaning. Worn or deteriorated parts shall be replaced. Respirators for emergency use such as self-contained devices shall be thoroughly inspected at least once a month and after each use.

(e)(8) Appropriate surveillance of work area conditions and degree of employee exposure or stress shall be maintained.

(e)(9) There shall be regular inspection and evaluation to determine the continued effectiveness of the program.

(e)(10) Persons should not be assigned to tasks requiring use of respirators unless it has been determined that they are physically able to perform the work and use the equipment. The local physician shall determine what health and physical conditions are pertinent. The respirator user's medical status should be reviewed periodically (for instance, annually).

(e)(11) Respirators shall be selected from among those jointly approved by the Mine Safety and Health Administration and the National Institute for Occupational Safety and Health under the provisions of 30 CFR part 11.

*(f) Air quality.*

(f)(1) Compressed air, compressed oxy-gen, liquid air, and liquid oxygen used for respiration shall be of high purity. Oxygen shall meet the requirements of the United States Pharmacopoeia for medical or breathing oxygen. Breathing air shall meet at least the requirements of the specification for Grade D breathing air as described in Compressed Gas Association Commodity Specification G-7.1-1966. Compressed oxygen shall not be used in supplied-air respirators or in open circuit self-contained breathing apparatus that have previously used compressed air. Oxygen must never be used with air line respirators.

(f)(2) Breathing air may be supplied to respirators from cylinders or air compressors.

(f)(2)(i) Cylinders shall be tested and maintained as prescribed in the Shipping Container Specification Regulations of the Department of Transportation (49 CFR part 178).

(f)(2)(ii) The compressor for supplying air shall be equipped with necessary safety and standby devices. A breathing air-type compressor shall be used. Compressors shall be constructed and situated so as to avoid entry of contaminated air into the system and suitable in-line air purifying sorbent beds and filters installed to further assure breathing air quality. A receiver of sufficient capacity to enable the respirator wearer to escape from a contaminated atmosphere in event of compressor failure, and alarms to indicate compressor failure and overheating shall be installed in the system. If an oil-lubricated compressor is used, it shall have a high-temperature or carbon monoxide alarm, or both. If only a high-temperature alarm is used, the air from the compressor shall be frequently tested for carbon monoxide to insure that it meets the specifications in paragraph (f)(1) of this section.

(f)(3) Air line couplings shall be incompatible with outlets for other gas systems to prevent inadvertent servicing of air line respirators with nonrespirable gases or oxygen.

(f)(4) Breathing gas containers shall be marked in accordance with American National Standard Method of Marking Portable Compressed Gas Containers to Identify the Material Contained, Z48.1-1954; Federal Specification BB-A-1034a, June 21, 1968, Air, Compressed for Breathing Purposes; or Interim Federal Specification GG-B-00675b, April 27, 1965, Breathing Apparatus, Self-Contained.

*(g) Use of respirators.*

(g)(1) Standard procedures shall be developed for respirator use. These should include all information and guidance necessary for their proper selection, use, and care. Possible emergency and routine uses of respirators should be anticipated and planned for.

(g)(2) The correct respirator shall be specified for each job. The respirator type is usually specified in the work procedures by a qualified individual supervising the respiratory protective program. The individual issuing them shall be adequately instructed to insure that the correct respirator is issued.

(g)(3) Written procedures shall be prepared covering safe use of respirators in dangerous atmospheres that might be encountered in normal operations or in emergencies. Personnel shall be familiar with these procedures and the available respirators.

(g)(3)(i) In areas where the wearer, with failure of the respirator, could be overcome by a toxic or oxygen-deficient atmosphere, at least one additional man shall be present. Communications (visual, voice, or signal line) shall be maintained between both or all individuals present. Planning shall be such that one individual will be unaffected by any likely incident and have the proper rescue equipment to be able to assist the other(s) in case of emergency.

(g)(3)(ii) When self-contained breathing apparatus or hose masks with blowers are used in atmospheres immediately dangerous to life or health, standby men must be present with suitable rescue equipment.

(g)(3)(iii) Persons using air line respirators in atmospheres immediately hazardous to life or health shall be equipped with safety harnesses and safety lines for lifting or removing persons from hazardous atmospheres or other and equivalent provisions for the rescue of persons from hazardous atmospheres shall be used. A standby man or men with suitable self-contained breathing apparatus shall be at the nearest fresh air base for emergency rescue.

(g)(4) Respiratory protection is no better than the respirator in use, even though it is worn conscientiously. Frequent random inspections shall be conducted by a qualified individual to assure that respirators are properly selected, used, cleaned, and maintained.

(g)(5) For safe use of any respirator, it is essential that the user be properly instructed in its selection, use, and maintenance. Both supervisors and workers shall be so instructed by competent persons. Training shall provide the men an opportunity to handle the respirator, have it fitted properly, test its face-piece-to-face seal, wear it in normal air for a long familiarity period, and, finally, to wear it in a test atmosphere.

(g)(5)(i) Every respirator wearer shall receive fitting instructions including demonstrations and practice in how the respirator should be worn, how to adjust it, and how to determine if it fits properly. Respirators shall not be worn when conditions prevent a good face seal. Such conditions may be a growth of beard, sideburns, a skull cap that projects under the facepiece, or temple pieces on glasses. Also, the absence of one or both dentures can seriously affect the fit of a facepiece. The worker's diligence in observing these factors shall be evaluated by periodic check. To assure proper protection, the facepiece fit shall be checked by the wearer each time he puts on the respirator. This may be done by following the manufacturer's facepiece fitting instructions.

(g)(5)(ii) Providing respiratory protection for individuals wearing corrective glasses is a serious problem. A proper seal cannot be established if the temple bars of eye glasses extend through the sealing edge of the full facepiece. As a temporary measure, glasses with short temple bars or without temple bars may be taped to the wearer's head. Wearing of contact lenses in contaminated atmospheres with a respirator shall not be allowed. Systems have been developed for mounting corrective lenses inside full facepieces. When a workman must wear corrective lenses as part of the facepiece, the facepiece and lenses shall be fitted by qualified individuals to provide good vision, comfort, and a gas-tight seal.

(g)(5)(iii) If corrective spectacles or goggles are required, they shall be worn so as not to affect the fit of the facepiece. Proper selection of equipment will minimize or avoid this problem.

**(h) Maintenance and care of respirators.**

(h)(1) A program for maintenance and care of respirators shall be adjusted to the type of plant, working conditions, and hazards involved, and shall include the following basic services:

(h)(1)(i) Inspection for defects (including a leak check),

(h)(1)(ii) Cleaning and disinfecting,

(h)(1)(iii) Repair,

(h)(1)(iv) Storage Equipment shall be properly maintained to retain its original effectiveness.

(h)(2)(i) All respirators shall be inspected routinely before and after each use. A respirator that is not routinely used but is kept ready for emergency use shall be inspected after each use and at least monthly to assure that it is in satisfactory working condition.

(h)(2)(ii) Self-contained breathing apparatus shall be inspected monthly. Air and oxygen cylinders shall be fully charged according to the manufacturer's instructions. It shall be determined that the regulator and warning devices function properly.

(h)(2)(iii) Respirator inspection shall include a check of the tightness of connections and the condition of the facepiece, headbands, valves, connecting tube, and canisters. Rubber or elastomer parts shall be inspected for pliability and signs of deterioration. Stretching and manipulating rubber or elastomer parts with massaging action will keep them pliable and flexible and prevent them from taking a set during storage.

(h)(2)(iv) A record shall be kept of inspection dates and findings for respirators maintained for emergency use.

(h)(3) Routinely used respirators shall be collected, cleaned, and disinfected as frequently as necessary to insure that proper protection is provided for the wearer. Respirators maintained for emergency use shall be cleaned and disinfected after each use.

(h)(4) Replacement or repairs shall be done only by experienced persons with parts designed for the respirator. No attempt shall be made to replace components or to make adjustment or repairs beyond the manufacturer's recommendations. Reducing or admission valves or regulators shall be returned to the manufacturer or to a trained technician for adjustment or repair.

(h)(5)(i) After inspection, cleaning, and necessary repair, respirators shall be stored to protect against dust, sunlight, heat, extreme cold, excessive moisture, or damaging chemicals. Respirators placed at stations and work areas for emergency use should be quickly accessible at all times and should be stored in compartments built for the purpose. The compartments should be clearly marked. Routinely used respirators, such as dust respirators, may be placed in plastic bags. Respirators should not be stored in such places as lockers or tool boxes unless they are in carrying cases or cartons.

(h)(5)(ii) Respirators should be packed or stored so that the facepiece and exhalation valve will rest in a normal position and function will not be impaired by the elastomer setting in an abnormal position.

(h)(5)(iii) Instructions for proper storage of emergency respirators, such as gas masks and self-contained breathing apparatus, are found in "use and care" instructions usually mounted inside the carrying case lid.

(i) *Identification of gas mask canisters.*

(i)(1) The primary means of identifying a gas mask canister shall be by means of properly worded labels. The secondary means of identifying a gas mask canister shall be by a color code.

(i)(2) All who issue or use gas masks falling within the scope of this section shall see that all gas mask canisters purchased or used by them are properly labeled and colored in accordance with these requirements before they are placed in service and that the labels and colors are properly maintained at all times thereafter until the canisters have completely served their purpose.

(i)(3) On each canister shall appear in bold letters the following:

(i)(3)(i)

Canister for \_\_\_\_\_  
(Name for atmospheric contaminant)  
or  
Type N Gas Mask Canister

(i)(3)(ii) In addition, essentially the following wording shall appear beneath the appropriate phrase on the canister label:

"For respiratory protection in atmospheres containing not more than \_\_\_\_\_ percent by volume of \_\_\_\_\_." (Name of atmospheric contaminant)



(i)(4) Canisters having a special high-efficiency filter for protection against radionuclides and other highly toxic particulates shall be labeled with a statement of the type and degree of protection afforded by the filter. The label shall be affixed to the neck end of, or to the gray stripe which is around and near the top of, the canister. The degree of protection shall be marked as the percent of penetration of the canister by a 0.3 - micron-diameter dioctyl phthalate (DOP) smoke at a flow rate of 85 liters per minute.

(i)(5) Each canister shall have a label warning that gas masks should be used only in atmospheres containing sufficient oxygen to support life (at least 16 percent by volume), since gas mask canisters are only designed to neutralize or remove contaminants from the air.

TABLE E-5

Atmospheric contaminants to be protected against	Colors assigned <sup>1</sup>
Acid gases	White
Hydrocyanic acid gas	White with 1/2-inch green stripe completely around the canister near the bottom
Chlorine gas	White with 1/2-inch yellow stripe completely around the canister near the bottom
Organic vapors	Black
Ammonia gas	Green
Acid gases and ammonia gas	Green with 1/2-inch white stripe completely around the canister near the bottom
Carbon monoxide	Blue
Acid gases and organic vapors	Yellow
Hydrocyanic acid gas and chloropicrin vapor	Yellow with 1/2-inch blue stripe completely around the canister near the bottom
Acid gases, organic vapors, and ammonia gases	Brown
Radioactive materials, excepting tritium and noble gases	Purple (Magenta)
Particulates (dusts, fumes, mist, fogs, or smokes) in combination with any of the above gases or vapors	Canister color for contaminant, as designated above, with 1/2-inch gray stripe completely around the canister near the top
All or the above atmospheric contaminants	Red with 1/2-inch gray stripe completely around the canister near the top.

<sup>1</sup>Gray shall not be assigned as the main color for a canister designed to remove acids or vapors.

NOTE: Orange shall be used as a complete body, or stripe color to represent gases not included in this table. The user will need to refer to the canister label to determine the degree of protection the canister will afford.

(i)(6) Each gas mask canister shall be painted a distinctive color or combination of colors indicated in Table E-5. All colors used shall be such that they are clearly identifiable by the user and clearly

distinguishable from one another. The color coating used shall offer a high degree of resistance to chipping, scaling, peeling, blistering, fading, and the effects of the ordinary atmospheres to which they may be exposed under normal conditions of storage and use. Appropriately colored pressure sensitive tape may be used for the stripes.

**§ 1926.104 - Safety belts, lifelines, and lanyards.**

(a) Lifelines, safety belts, and lanyards shall be used only for employee safeguarding. Any lifeline, safety belt, or lanyard actually subjected to in-service loading, as distinguished from static load testing, shall be immediately removed from service and shall not be used again for employee safeguarding.

(b) Lifelines shall be secured above the point of operation to an anchorage or structural member capable of supporting a minimum dead weight of 5,400 pounds.

(c) Lifelines used on rock-scaling operations, or in areas where the lifeline may be subjected to cutting or abrasion, shall be a minimum of 7/8-inch wire core manila rope. For all other lifeline applications, a minimum of 3/4-inch manila or equivalent, with a minimum breaking strength of 5,400 pounds, shall be used.

(d) Safety belt lanyard shall be a minimum of 1/2-inch nylon, or equivalent, with a maximum length to provide for a fall of no greater than 6 feet. The rope shall have a nominal breaking strength of 5,400 pounds.

(e) All safety belt and lanyard hardware shall be drop forged or pressed steel, cadmium plated in accordance with type 1, Class B plating specified in Federal Specification QQ-P-416. Surface shall be smooth and free of sharp edges.

(f) All safety belt and lanyard hardware, except rivets, shall be capable of withstanding a tensile loading of 4,000 pounds without cracking, breaking, or taking a permanent deformation.

Last updated on 01/21/05

**Contact information:**

**Environmental Health & Safety Online**

EHSO, Inc., 8400 Roswell Rd., Atlanta, GA 30350

**Download fall protection** Download Fall Protection Standards international fall safety standards [webstore.ansi.org/](http://webstore.ansi.org/)

**3M™ Respirator Filters** Provide Particulate Protection. Watch Online Video To Learn More. [www.3m.com/OccSafety](http://www.3m.com/OccSafety)

**Construction safety** Construction Hazard Perception Preview & Order Training OnLine [www.JJKeller.com](http://www.JJKeller.com)

Ads by Google

Table of Contents for Environmental Health & Safety Online for EHS Professionals

<http://www.ehso.com/contents.php>

Environmental and safety services for business - training, consulting, assessments, ISO14000, report and permit preparations and expert testimony.

<http://www.ehso.com/EHSServices/enviserv.htm>

EHSO is looking for environmental and safety service providers, such as trainers, consultants, CIH's, etc., anywhere in the United States to provide their services to our site visitors. [Write us for more information.](#)

Email: [EHSO2010@EHSO.COM](mailto:EHSO2010@EHSO.COM) or click on [feedback](#)

**How to get help on your questions**

Copyright © 1998, 1999, 2000, 2001, 2002, 2003, 2004, 2005, 2006, 2007, 2008, 2009 Benivia, LLC (dba EHSO)