for the industry, as in subpart B or subpart R of this part, to the extent that none of such particular standards applies. To illustrate, the general standard regarding noise exposure in §1910.95 applies to employments and places of employment in pulp, paper, and paperboard mills covered by §1910.261.

d) In the event a standard protects on its face a class of persons larger than employees, the standard shall be applicable under this part only to employees and their employment and places of employment.

e) [Reserved]

(f) An employer who is in compliance with any standard in this part shall be deemed to be in compliance with the requirement of section 5(a)(1) of the Act, but only to the extent of the condition, practice, means, method, operation, or process covered by the standard.

[39 FR 23502, June 27, 1974, as amended at 58 FR 35308, June 30, 1993]

§ 1910.6 Incorporation by reference.

(a)(1) The standards of agencies of the U.S. Government, and organizations which are not agencies of the U.S. Government which are incorporated by reference in this part, have the same force and effect as other standards in this part. Only the mandatory provisions (i.e., provisions containing the word “shall” or other mandatory language) of standards incorporated by reference are adopted as standards under the Occupational Safety and Health Act.

(2) Any changes in the standards incorporated by reference in this part and an official historic file of such changes are available for inspection in the Docket Office at the national office of the Occupational Safety and Health Administration, U.S. Department of Labor, Washington, DC 20910; telephone: 202–693–2350 (TTY number: 877–889–5627).

(3) The materials listed in paragraphs (b) through (w) of this section are incorporated by reference in the corresponding sections noted as they exist on the date of the approval, and a notice of any change in these materials will be published in the Federal Register. These incorporations by reference were approved by the Director of the Federal Register in accordance with 5 U.S.C. 552(a) and 1 CFR part 51.

(4) Copies of standards listed in this section and issued by private standards organizations are available for purchase from the issuing organizations at the addresses or through the other contact information listed below for these private standards organizations. In addition, these standards are available for inspection at any Regional Office of the Occupational Safety and Health Administration (OSHA), or at the OSHA Docket Office, U.S. Department of Labor, 200 Constitution Avenue NW., Room N–2635, Washington, DC 20210; telephone: 202–693–2350 (TTY number: 877–889–5627). They are also available for inspection at the National Archives and Records Administration (NARA). For information on the availability of these standards at NARA, telephone: 202–741–6030, or go to http://www.archives.gov/federal_register/code_of_federal_regulations/ibr_locations.html.

(b) The following material is available for purchase from the American Conference of Governmental Industrial Hygienists (ACGIH), 1014 Broadway, Cincinnati OH 45202:


(2) Threshold Limit Values and Biological Exposure Indices for 1986–87 (1986), IBR approved for §1910.120, PEL definition.

(c) The following material is available for purchase from the American Society of Agricultural Engineers (ASAE), 2950 Niles Road, Post Office Box 229, St. Joseph, MI 49085:

(1) ASAE Emblem for Identifying Slow Moving Vehicles, ASAE S276.2 (1968), IBR approved for §1910.145(d)(10).

(2) [Reserved]

(d) The following material is available for purchase from the Agriculture Ammonia Institute-Rubber Manufacturers (AAI-RMA) Association, 1400 K St. NW, Washington DC 20005:

(1) AAI-RMA Specifications for Anhydrous Ammonia Hose, IBR approved for §1910.145(b)(8)(i).

(2) [Reserved]
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(e) Except as noted, copies of the standards listed below in this paragraph are available for purchase from the American National Standards Institute (ANSI), 25 West 43rd Street, 4th Floor, New York, NY 10036; telephone: 212–642–4900; fax: 212–398–0023; Web site: http://www.ansi.org.

(1)–(2) [Reserved]

(3) ANSI A11.1–65 (R 70) Practice for Industrial Lighting, IBR approved for §§1910.219(c)(5)(iii); 1910.261 (a)(3)(1), (c)(10), and (k)(21); and 1910.265(c)(2).


(5) [Reserved]


(9) ANSI A14.3–56 Safety Code for Fixed Ladders, IBR approved for §§1910.68(b) (4) and (12); 1910.179(c)(2); and 1910.261 (a)(3)(vi) and (c)(3)(i).


(12) ANSI A90.1–69 Safety Standard for Manlifts, IBR approved for §1910.68(b)(3).

(13) ANSI A92.2–69 Standard for Vehicle Mounted Elevating and Rotating Work Platforms, IBR approved for §1910.67 (b)(1), (2), (c)(3), and (4) and 1910.268(a)(1)(v).

(14) ANSI A120.1–70 Safety Code for Powered Platforms for Exterior Building Maintenance, IBR approved for §1910.66 app. D (b) through (d).


(18) ANSI B30.2–43 (R 52) Safety Code for Cranes, Derricks, and Hoists, IBR approved for §1910.261 (a)(3)(xii), (c)(2)(xii), and (c)(8) (i) and (iv).

(19) ANSI B30.2.0–67 Safety Code for Overhead and Gantry Cranes, IBR approved for §§1910.179(b)(2); 1910.261 (a)(3)(xii), (c)(2)(v), and (c)(8) (i) and (iv).


(21) ANSI B30.6–69 Safety Code for Derricks, IBR approved for §§1910.181(b)(2) and 1910.268(j)(4)(iv) (E) and (H).

(22) ANSI B31.1–55 Code for Pressure Piping, IBR approved for §1910.261(g)(18)(ii).


(29) ANSI B56.1–69 Safety Standard for Powered Industrial Trucks, IBR approved for §§1910.178(a) (2) and (3) and 1910.261 (a)(3)(xv), (b)(6), (m)(2), and (m)(5)(iii).
(30) ANSI B57.1–65 Compressed Gas Cylinder Valve Outlet and Inlet Connections, IBR approved for §1910.253(b)(1)(iii).
(31) [Reserved]
(32) ANSI B75.1–1991, Safety Requirements for Gasoline-Powered Chain Saws 1910.266(e)(2). (33) [Reserved]
(35) [Reserved]
(36) ANSI H23.1–70 Seamless Copper Water Tube Specification, IBR approved for §1910.110(b)(8)(ii) and (13)(i)(b)(1).
(51) ANSI Z9.2–60 Fundamentals Governing the Design and Operation of Local Exhaust Systems, IBR approved for §§1910.94(a)(4)(i) introductory text, (a)(6) introductory text, (b)(3)(ix), (b)(4)(i) and (ii), (c)(3)(i) introductory text, (c)(5)(ii)(b), and (c)(7)(iv)(a); 1910.261(a)(3)(xx), (g)(1)(i) and (iii), and (h)(2)(i).
(57) ANSI Z33.1–61 Installation of Blower and Exhaust Systems for Dust, Stock, and Vapor Removal or Conveying, IBR approved for §§1910.94(a)(4)(i); 1910.261(a)(3)(xxiii) and (f)(5); and 1910.265(c)(20)(i).
(58) ANSI Z33.1–66 Installation of Blower and Exhaust Systems for Dust, Stock, and Vapor Removal or Conveying, IBR approved for §1910.94(a)(2)(i).


(62)–(63) [Reserved]

(64) ANSI Z49.1–67 Safety in Welding and Cutting, IBR approved for §1910.252(c)(1)(iv) (A) and (B).


(66) ANSI Z535.1–2006 (R2011), Safety Colors, reaffirmed July 19, 2011; IBR approved for §§1910.97(a) and 1910.145(d). Copies available for purchase from the:


(ii) IHS Standards Store, 15 Inverness Way East, Englewood, CO 80112; telephone: 877–413–5184; Web site: www.global.ihs.com;


(67) ANSI Z535.2–2011, Environmental and Facility Safety Signs, published September 15, 2011; IBR approved for §1910.261(c). Copies available for purchase from the:


(ii) IHS Standards Store, 15 Inverness Way East, Englewood, CO 80112; telephone: 877–413–5184; Web site: www.global.ihs.com;


(68) ANSI Z54.1–63 Safety Standard for Non-Medical X-Ray and Sealed Gamma Ray Sources, IBR approved for §1910.252(d) (1)(vii) and (2)(ii).


(76) ANSI Z41.1–1967 Men’s Safety Toe Footwear; IBR approved for §1910.261(i)(4).

(77) ANSI Z87.1–1968 Practice of Occupational and Educational Eye and Face Protection; IBR approved for §1910.261(a)(3)(xxv), (d)(1)(i), (f)(5), (g)(1), (g)(15)(v), (g)(18)(i)(ii), and (i)(4).

(78) ANSI Z89.1–1969 Safety Requirements for Industrial Head Protection; IBR approved for §1910.261(a)(3)(xxvii), (b)(2), (g)(15)(v), and (i)(4).

(79) ANSI Z89.2–1971 Safety Requirements for Industrial Protective Helmets for Electrical Workers, Class B; IBR approved for §1910.268(i)(1).

(f) The following material is available for purchase from the American Petroleum Institute (API), 1220 L Street NW, Washington DC 20005:

(1) [Reserved]


(g) The following material is available for purchase from the American Society of Mechanical Engineers (ASME), United Engineering Center, 345 East 47th Street, New York, NY 10017:

(1) ASME Boiler and Pressure Vessel Code, Sec. VIII, 1949, 1950, 1952, 1956, 1959, and 1962 Ed., IBR approved for §§1910.110(b)(10)(iii) (Table H–26), (d)(2) (Table H–31); (e)(3)(i) (Table H–32), (h)(2) (Table H–34); and 1910.111(b)(2)(vi);

(2) ASME Code for Pressure Vessels, 1968 Ed., IBR approved for §§1910.106(1)(3)(1); 1910.110(g)(2)(ii)(b)(2); and 1910.217(b)(12);

(3) ASME Boiler and Pressure Vessel Code, Sec. VIII, 1968, IBR approved for §§1910.103; 1910.104(b)(4)(ii); 1910.106(b)(1)(iv)(b)(2) and (i)(3)(ii); 1910.107; 1910.110(b)(11) (i)(b) and (iii)(a)(7); 1910.111(b)(2) (i), (ii), and (iv); and 1910.168(a)(2) (i) and (ii);

(4) ASME Boiler and Pressure Vessel Code, Sec. VIII, Paragraph UG–84, 1968, IBR approved for §1910.104 (b)(4)(ii) and (b)(5)(iii);

(5) ASME Boiler and Pressure Vessel Code, Sec. VIII, Unfired Pressure Vessels, Including Addenda (1969), IBR approved for §§1910.261; 1910.262; 1910.263(i)(24)(i)(i);
(6) Code for Unfired Pressure Vessels for Petroleum Liquids and Gases of the API and the ASME, 1951 Ed., IBR approved for §1910.110(b)(3)(iii); and

(h) Copies of the standards listed below in this paragraph (h) are available for purchase from ASTM International, 100 Barr Harbor Drive, P.O. Box C700, West Conshohocken, PA 19428–2959; Telephone: 610–832–9585; Fax: 610–832–9555; Email: service@astm.org; Web site: http://www.astm.org. Copies of historical standards or standards that ASTM does not have may be purchased from Information Handling Services, Global Engineering Documents, 15 Inverness Way East, Englewood, CO 80112; Telephone: 1–800–854–7179; Email: global@ihs.com; Web sites: http://global.ihs.com or http://www.store.ihs.com.

(2) ASTM A 53–69, Welded and Seamless Steel Pipe, IBR approved for §§1910.110 and 1910.111.
(6) ASTM B 88–66A, Seamless Copper Water Tube, IBR approved for §1910.252.
(7) ASTM B 88–69, Seamless Copper Water Tube, IBR approved for §1910.110.
(11) ASTM D 5–65, Test for Penetration by Bituminous Materials, IBR approved for §1910.106.
(12) ASTM D 56–70, Test for Flash Point by Tag Closed Tester, IBR approved for §1910.106.
(17) ASTM D 93–71, Test for Flash Point by Pensky Martens, IBR approved for §1910.106.
(21) ASTM D 445–65, Test for Viscosity of Transparent and Opaque Liquids, IBR approved for §1910.106.
(23) ASTM D 1692–68, Test for Flammability of Plastic Sheeting and Cellular Plastics, IBR approved for §1910.103.
29 CFR Ch. XVII (7–1–15 Edition)

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(i) The following material is available for purchase from the American Welding Society (AWS), 550 NW, LeJeune Road, P.O. Box 351040, Miami FL, 33135:

(1)–(2) [Reserved]

(3) AWS B3.0–41 Standard Qualification Procedure, IBR approved for §1910.67(c)(5)(i).

(4) AWS D1.0–1966 Code for Welding in Building Construction, IBR approved for §1910.27(b)(6).

(5) AWS D2.0–69 Specifications for Welding Highway and Railway Bridges, IBR approved for §1910.67(c)(5)(iv).


(7) AWS D10.9–69 Standard Qualification of Welding Procedures and Welders for Piping and Tubing, IBR approved for §1910.67(c)(5)(iii).

(j) The following material is available for purchase from the Department of Commerce:


(k) The following material is available for purchase from the Compressed Gas Association (CGA), 1235 Jefferson Davis Highway, Arlington, VA 22202:


(11) CGA 1967 Standard Hose Connection Standard, IBR approved for §1910.253(e)(4)(v) and (5)(iii).

(12) CGA and RMA (Rubber Manufacturer’s Association) Specification for Rubber Welding Hose (1958), IBR approved for §1910.253(e)(5)(i).

(13) CGA 1958 Regulator Connection Standard, IBR approved for §1910.253(e)(4)(iv) and (6).

(l) The following material is available for purchase from the Crane Manufacturer’s Association of America, Inc. (CMAA), 1 Thomas Circle NW, Washington DC 20005:

(1) CMAA Specification 1B61, Specifications for Electric Overhead Traveling Cranes, IBR approved for §1910.179(b)(6)(i).

(2) [Reserved]

(m) The following material is available for purchase from the General Services Administration:


(2) [Reserved]

(n) The following material is available for purchase from the Department of Health and Human Services:
(1) Publication No. 76-120 (1975), List of Personal Hearing Protectors and Attenuation Data, IBR approved for §1910.95 App. B.

(2) [Reserved]

(o) The following material is available for purchase from the Institute of Makers of Explosives (IME), 420 Lexington Avenue, New York, NY 10017:

(1) IME Pamphlet No. 17, 1960, Safety in the Handling and Use of Explosives, IBR approved for §§1910.261 (a)(4)(iii) and (c)(14)(ii).

(2) [Reserved]

(p) The following material is available for purchase from the National Electrical Manufacturer’s Association (NEMA):


(2) [Reserved]

(q) The following material is available for purchase from the National Fire Protection Association (NFPA), 1 Batterymarch Park, Quincy, MA 02269; Telephone: 800-344-3555 or 617–770–3000; Fax: 1–800–593–6372 or 1–508–895–8301; Email: custserv@nfpa.org; Web site: http://www.nfpa.org.


(16) [Reserved]


(20) NFPA 86A–1969 Standard for Oven and Furnaces Design, Location and Equipment, IBR approved for §§1910.107 (j)(1) and (i)(3) and 1910.108 (b)(2) and (d)(2).


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(31) NFPA 505–1969 Standard for Type Designations, Areas of Use, Maintenance, and Operation of Powered Industrial Trucks, IBR approved for § 1910.110(c)(2)(iv).


(35) NFPA 51A (2001) Standard for Acetylene Cylinder Charging Plants, IBR approved for § 1910.102(b) and (c). Copies of NFPA 51A–2001 are available for purchase from the National Fire Protection Association, 1 Batterymarch Park, Quincy, MA 02169-7471; telephone: 1-800-344-3557; e-mail: custserv@nfpa.org.

(36) NFPA 51A (2006) Standard for Acetylene Cylinder Charging Plants, IBR approved for § 1910.102(b) and (c). Copies of NFPA 51A–2006 are available for purchase from the: National Fire Protection Association, 1 Batterymarch Park, Quincy, MA 02169-7471; telephone: 1-800-344-3557; e-mail: custserv@nfpa.org.


(r) The following material is available for purchase from the National Food Plant Institute, 1700 K St. NW., Washington, DC 20006:

(1) Definition and Test Procedures for Ammonium Nitrate Fertilizer (Nov. 1964), IBR approved for § 1910.109 Table H-22, fn. 3.

(2) [Reserved]

(s) The following material is available for purchase from the National Institute for Occupational Safety and Health (NIOSH):

(1) Registry of Toxic Effects of Chemical Substances, 1978, IBR approved for § 1910.20(c)(13)(i) and appendix B.


(3) NIOSH Recommendations for Occupational Safety and Health Standards (Sept. 1987), IBR approved for § 1910.120 PEL definition.

(t) The following material is available for purchase from the Public Health Service:

(1) U.S. Pharmacopeia, IBR approved for § 1910.134(d)(1).


(u) The following material is available for purchase from the Society of Automotive Engineers (SAE), 485 Lexington Avenue, New York, NY 10017:

(1) SAE J185, June 1988, Recommended Practice for Access Systems for Off-Road Machines, IBR approved for § 1910.266(f)(5)(i).


(5) SAE 765 (1961) SAE Recommended Practice: Crane Loading Stability Test Code, IBR approved for §1910.180 (c)(1)(iii) and (e)(2)(iii)(a).


(v) The following material is available for purchase from the Fertilizer Institute, 1015 18th Street NW, Washington, DC 20036:


(2) [Reserved]

(w) The following material is available for purchase from Underwriters Laboratories (UL), 207 East Ohio Street, Chicago, IL 60611:


(2) UL 80–63 Steel Inside Tanks for Oil-Burner Fuel, IBR approved for §1910.106(b)(1)(iii)(a)(7).


(x) The following material is available for purchase from the: International Code Council, Chicago District Office, 4051 W. Flossmoor Rd., Country Club Hills, IL 60478; telephone: 708–799–2200; x3–3801; facsimile: 001–708–799–4981; e-mail: order@iccsafe.org.


(2) [Reserved]

(y)(1) The following materials are available for purchase from the International Standards Organization (ISO) through ANSI, 25 West 43rd Street, Fourth Floor, New York, NY 10036–7417; Telephone: 212–642–4980; Fax: 212–302–1286; Email: info@ansi.org; Web site: http://www.ansi.org.

(2) Documents not available in the ANSI store may be purchased from:

(i) Document Center Inc., 111 Industrial Road, Suite 9, Belmont, 94002; Telephone: 650–591–7600; Fax: 650–591–7617; Email: info@document-center.com; Web site: www.document-center.com.


(iii) Global Engineering Documents, 15 Inverness Way East, Englewood, CO 80112; Telephone: 1–800–854–7179 or 303–397–7956; Fax: 303–397–2740; Email: global@ihs.com; Web sites: http://global.ihs.com or http://www.store.ihs.com.

(iv) ILI Infodisk, Inc., 610 Winters Avenue, Paramus, NJ 07652; Telephone: 201–986–1131; Fax: 201–986–7886; Email: sales@ili-info.com; Web site: www.ili-info.com.

(v) Techstreet, a business of Thomson Reuters, 3918 Ranchero Drive, Ann Arbor, MI 48108; Telephone: 800–699–9277 or 734–780–8000; Fax: 734–780–2046; Email: techstreet.service@thomsonreuters.com; Web site: www.Techstreet.com.


(z)(1) The following document is available for purchase from United Nations Publications, Customer Service, c/o National Book Network, 15200 NBN Way, PO Box 190, Blue Ridge Summit, PA 17214; telephone: 1–888–254–4286; fax:
§ 1910.7 Definition and requirements for a nationally recognized testing laboratory.

(a) Application. This section shall apply only when the term nationally recognized testing laboratory is used in other sections of this part.

(b) Laboratory requirements. The term nationally recognized testing laboratory (NRTL) means an organization which tests for safety, and lists or labels or accepts, equipment or materials and which meets all of the following criteria:

(1) For each specified item of equipment or material to be listed, labeled or accepted, the NRTL has the capability (including proper testing equipment and facilities, trained staff, written testing procedures, and calibration and quality control programs) to perform:

(i) Testing and examining of equipment and materials for workplace safety purposes to determine conformance with appropriate test standards; or

(ii) Experimental testing and examining of equipment and materials for workplace safety purposes to determine conformance with appropriate test standards or performance in a specified manner.

(2) The NRTL shall provide, to the extent needed for the particular equipment or materials listed, labeled, or accepted, the following controls or services:

(i) Implements control procedures for identifying the listed and labeled equipment or materials;

(ii) Inspects the run of production of such items at factories for product evaluation purposes to assure conformance with the test standards; and

(iii) Conducts field inspections to monitor and to assure the proper use of its identifying mark or labels on products;

(3) The NRTL is completely independent of employers subject to the tested equipment requirements, and of any manufacturers or vendors of equipment or materials being tested for these purposes; and,

(4) The NRTL maintains effective procedures for:

(i) Producing creditable findings or reports that are objective and without bias; and

(ii) Handling complaints and disputes under a fair and reasonable system.

(c) Test standards. An appropriate test standard referred to in § 1910.7(b)(1) (i) and (ii) is a document which specifies the safety requirements for specific equipment or class of equipment and is:

(1) Recognized in the United States as a safety standard providing an adequate level of safety, and

(2) Compatible with and maintained current with periodic revisions of applicable national codes and installation standards, and

(3) Developed by a standards developing organization under a method providing for input and consideration of views of industry groups, experts, users, consumers, governmental authorities, and others having broad experience in the safety field involved, or

(4) In lieu of paragraphs (c) (1), (2), and (3), the standard is currently designated as an American National Standards Institute (ANSI) safety-designated product standard or an American Society for Testing and Materials (ASTM) test standard used for evaluation of products or materials.