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**SPECIAL ADOPTIONS**

**LABOR AND WORKFORCE DEVELOPMENT  
PUBLIC SAFETY AND OCCUPATIONAL SAFETY AND HEALTH**

*48 N.J.R. 2450(a)*

**Special Adopted Amendment: *N.J.A.C. 12:100-4.2***

**Safety and Health Standards for Public Employees**

**Updating OSHA Standards Based on National Consensus Standards; Eye and Face Protection**

Adopted: October 20, 2016, by Aaron R. Fichtner, Ph.D., Acting Commissioner, Department of Labor and Workforce Development.

Filed: October 20, 2016, as R.2016 d.154.

Authority: *N.J.S.A. 34:1-20, 34:1A-3(c)*, and *34:6A-25* et seq.

Effective Date: November 21, 2016.

Expiration Date: May 25, 2017.

**Take notice** that the Department of Labor and Workforce Development is adopting a final rule issued by the Federal Occupational Safety and Health Administration (OSHA) with regard to eye and face protection standards for general industry, shipyard employment, marine terminals, longshoring, and construction. Specifically, OSHA explains that the final rule updates the references in OSHA's eye and face standards to reflect the most recent edition of the ANSI/International Safety Equipment Association (ISEA) eye and face protection standard. It removes the oldest-referenced edition of the same ANSI standard. It also amends other provisions of the construction eye and face protection standard to bring them into alignment with OSHA's general industry and maritime standards.

Adoption of the final rule discussed above is necessary in order to comply with *N.J.S.A. 34:6A-30*, which requires that the Commissioner of Labor and Workforce Development adopt all OSHA standards by reference upon adoption of those standards by the United States Secretary of Labor. The statutory requirement ensures that the State's Public Employees Occupational Safety and Health (PEOSH) program is at least as effective as OSHA, thereby making the State program eligible for Federal approval and funding under the 1970 Federal Occupational Safety and Health Act.

*N.J.S.A. 34:6A-30* provides that the adoption of Federal standards are not subject to the formal rulemaking requirements of *N.J.S.A. 52:14B-4*, but shall be duly adopted upon publication in the New Jersey Register. As a result, the De-

partment has not held a public hearing, nor has it requested formal written comments on its adoption of the amended Federal standards.

### **Federal Standards Statement**

The adopted final rule does not contain any standards or requirements that exceed standards or requirements imposed by Federal law. The final rule fulfills the State Legislature's mandate that the Department of Labor and Workforce Development adopt OSHA standards for its PEOSH program.

**Full text** of the adopted amendments follows:

### **PART 1910--[AMENDED]**

#### **Subpart A--[Amended]**

-- 1. The authority citation for subpart A of part 1910 continues to read as follows:

**Authority:** 29 U.S.C. 653, 655, 657; Secretary of Labor's Order Numbers 12-71 (36 FR 8754), 8-76 (41 FR 25059), 9-83 (48 FR 35736), 1-90 (55 FR 9033), 6-96 (62 FR 111), 3-2000 (65 FR 50017), 5-2002 (67 FR 65008), 5-2007 (72 FR 31159), 4-2010 (75 FR 55355), or 1-2012 (77 FR 3912), as applicable.

Sections 1910.6, 1910.7, 1910.8 and 1910.9 also issued under 29 CFR 1911. Section 1910.7(f) also issued under 31 U.S.C. 9701, 29 U.S.C. 9a, 5 U.S.C. 553; Public Law 106-113 (113 Stat. 1501A-222); Pub. L. 11-8 and 111-317; and OMB Circular A-25 (dated July 8, 1993) (58 FR 38142, July 15, 1993).

-- 2. Amend § 1910.6 by revising paragraphs (e)(69) through (71) to read as follows:

#### **Incorporation by reference.**

\* \* \* \* \*

(e) \* \* \*

(69) ANSI/ISEA Z87.1-2010, Occupational and Educational Personal Eye and Face Protection Devices, Approved April 13, 2010; IBR approved for § 1910.133(b). Copies are available for purchase from:

(i) American National Standards Institute's e-Standards Store, 25 W 43rd Street, 4th Floor, New York, NY 10036; telephone: (212) 642-4980; Web site: <http://webstore.ansi.org/>;

(ii) IHS Standards Store, 15 Inverness Way East, Englewood, CO 80112; telephone: (877) 413-5184; Web site: <http://global.ihs.com>; or

(iii) TechStreet Store, 3916 Ranchero Dr., Ann Arbor, MI 48108; telephone: (877) 699-9277; Web site: <http://techstreet.com>.

(70) ANSI Z87.1-2003, Occupational and Educational Eye and Face Personal Protection Devices Approved June 19, 2003; IBR approved for §§ 1910.133(b). Copies available for purchase from the:

(i) American National Standards Institute's e-Standards Store, 25 W 43rd Street, 4th Floor, New York, NY 10036; telephone: (212) 642-4980; Web site: <http://webstore.ansi.org/>;

(ii) IHS Standards Store, 15 Inverness Way East, Englewood, CO 80112; telephone: (877) 413-5184; Web site: <http://global.ihs.com>; or

(iii) TechStreet Store, 3916 Ranchero Dr., Ann Arbor, MI 48108; telephone: (877) 699-9277; Web site: <http://techstreet.com>.

(71) ANSI Z87.1-1989 (R-1998), Practice for Occupational and Educational Eye and Face Protection, Reaffirmation approved January 4, 1999; IBR approved for § 1910.133(b). Copies are available for purchase from:

(i) American National Standards Institute's e-Standards Store, 25 W 43rd Street, 4th Floor, New York, NY 10036; telephone: (212) 642-4980; Web site: <http://webstore.ansi.org/>;

(ii) IHS Standards Store, 15 Inverness Way East, Englewood, CO 80112; telephone: (877) 413-5184; Web site: <http://global.ihs.com/>; or

(iii) TechStreet Store, 3916 Ranchero Dr., Ann Arbor, MI 48108; telephone: (877) 699-9277; Web site: <http://techstreet.com>.

\* \* \* \* \*

### **Subpart I--[AMENDED]**

-- 3. The authority citation for subpart I of part 1910 continues to read as follows:

**Authority:** Sections 4, 6, and 8 of the Occupational Safety and Health Act of 1970 (*29 U.S.C. 653, 655, 657*); Secretary of Labor's Order No. 12-71 (*36 FR 8754*), 8-76 (*41 FR 25059*), 9-83 (*48 FR 35736*), 1-90 (*55 FR 9033*), 6-96 (*62 FR 111*), 3-2000 (*65 FR 50017*), 5-2002 (*67 FR 65008*), 5-2007 (*72 FR 31160*), 4-2010 (*75 FR 55355*), or 1-2012 (*77 FR 3912*), as applicable, and 29 CFR part 1911; Sections 1910.132, 1910.134, and 1910.138 of 29 CFR also issued under 29 CFR 1911; Sections 1910.133, 1910.135, and 1910.136 of 29 CFR also issued under 29 CFR 1911 and *5 U.S.C. 553*.

-- 4. Amend § 1910.133 by revising paragraph (b)(1) to read as follows:

#### **§ 1910.133 Eye and face protection.**

\* \* \* \* \*

(b) *Criteria for protective eye and face protection.* (1) Protective eye and face protection devices must comply with any of the following consensus standards:

(i) ANSI/ISEA Z87.1-2010, Occupational and Educational Personal Eye and Face Protection Devices, incorporated by reference in § 1910.6;

[page=2451] (ii) ANSI Z87.1-2003, Occupational and Educational Personal Eye and Face Protection Devices, incorporated by reference in § 1910.6; or

(iii) ANSI Z87.1-1989 (R-1998), Practice for Occupational and Educational Eye and Face Protection, incorporated by reference in § 1910.6;

\* \* \* \* \*

### **PART 1915--[AMENDED]**

-- 5. The authority citation for part 1915 continues to read as follows:

**Authority:** Section 41, Longshore and Harbor Workers' Compensation Act (*33 U.S.C. 941*); Sections. 4, 6, and 8 of the Occupational Safety and Health Act of 1970 (*29 U.S.C. 653, 655, 657*); Secretary of Labor's Order No. 12-71 (*36 FR 8754*), 8-76 (*41 FR 25059*), 9-83 (*48 FR 35736*), 1-90 (*55 FR 9033*), 6-96 (*62 FR 111*), 3-2000 (*65 FR 50017*), 5-2002 (*67 FR 65008*), 5-2007 (*72 FR 31160*), 4-2010 (*75 FR 55355*), or 1-2012 (*77 FR 3912*), as applicable; 29 CFR part 1911.

Section 1915.11 also issued under 49 U.S.C. 1801-1819 and 5 U.S.C. 553.

Sections 1915.120 and 1915.152 of 29 CFR also issued under 29 CFR part 1911.

-- 6. Amend § 1915.5 by revising paragraphs (d)(1)(vi) through (viii) to read as follows:

**§1915.5 Incorporation by reference.**

\* \* \* \* \*

(d)(1) \* \* \*

(vi) ANSI/ISEA Z87.1-2010, Occupational and Educational Personal Eye and Face Protection Devices, Approved April 13, 2010; IBR approved for § 1915.153(b). Copies are available for purchase from:

(A) American National Standards Institute's e-Standards Store, 25 W 43rd Street, 4th Floor, New York, NY 10036; telephone: (212) 642-4980; Web site: <http://webstore.ansi.org/>;

(B) IHS Standards Store, 15 Inverness Way East, Englewood, CO 80112; telephone: (877) 413-5184; Web site: <http://global.ihs.com/>; or

(C) TechStreet Store, 3916 Ranchero Dr., Ann Arbor, MI 48108; telephone: (877) 699-9277; Web site: <http://techstreet.com>.

(vii) ANSI Z87.1-2003, Occupational and Educational Personal Eye and Face Protection Devices, approved June 19, 2003; IBR approved for § 1910.153(b). Copies available for purchase from the:

(A) American National Standards Institute's e-Standards Store, 25 W 43rd Street, 4th Floor, New York, NY 10036; telephone: (212) 642-4980; Web site: <http://webstore.ansi.org/>;

(B) IHS Standards Store, 15 Inverness Way East, Englewood, CO 80112; telephone: (877) 413-5184; Web site: <http://global.ihs.com/>; or

(C) TechStreet Store, 3916 Ranchero Dr., Ann Arbor, MI 48108; telephone: (877) 699-9277; Web site: <http://techstreet.com>.

(viii) ANSI Z87.1-1989 (R-1998), Practice for Occupational and Educational Eye and Face Protection, Reaffirmation approved January 4, 1999; IBR approved for § 1910.153(b). Copies are available for purchase from:

(A) American National Standards Institute's e-Standards Store, 25 W 43rd Street, 4th Floor, New York, NY 10036; telephone: (212) 642-4980; Web site: <http://webstore.ansi.org/>;

(B) IHS Standards Store, 15 Inverness Way East, Englewood, CO 80112; telephone: (877) 413-5184; Web site: <http://global.ihs.com/>; or

(C) TechStreet Store, 3916 Ranchero Dr., Ann Arbor, MI 48108; telephone: (877) 699-9277; Web site: <http://techstreet.com>.

\* \* \* \* \*

**Subpart I--[Amended]**

-- 7. Amend § 1915.153 by revising paragraph (b)(1) to read as follows:

**§ 1915.153 Eye and face protection.**

\* \* \* \* \*

(b) *Criteria for Protective eye and face protection devices.* (1) Protective eye and face protection devices must comply with any of the following consensus standards:

(i) ANSI/ISEA Z87.1-2010, Occupational and Educational Personal Eye and Face Protection Devices, incorporated by reference in § 1915.5;

(ii) ANSI Z87.1-2003, Occupational and Educational Personal Eye and Face Protection Devices, incorporated by reference in § 1915.5; or

(iii) ANSI Z87.1-1989 (R-1998), Practice for Occupational and Educational Eye and Face Protection, incorporated by reference in § 1915.5;

\* \* \* \* \*

**PART 1917--[AMENDED]**

-- 8. The authority citation for part 1917 continues to read as follows:

**Authority:** *33 U.S.C. 941; 29 U.S.C. 653, 655, 657; Secretary of Labor's Order No. 12-71 (36 FR 8754), 8-76 (41 FR 25059), 9-83 (48 FR 35736), 1-90 (55 FR 9033), 6-96 (62 FR 111), 3-2000 (65 FR 50017), 5-2002 (67 FR 65008), 5-2007 (72 FR 31160), 4-2010 (75 FR 55355), or 1-2012 (77 FR 3912), as applicable; and 29 CFR 1911.*

Section 1917.29 also issued under *49 U.S.C. 1801-1819* and *5 U.S.C. 553*.

\* \* \* \* \*

-- 9. Amend § 1917.3 by revising paragraphs (b)(6) through (8) to read as follows:

**§ 1917.3 Incorporation by reference.**

\* \* \* \* \*

(b) \* \* \*

(6) ANSI/ISEA Z87.1-2010, Occupational and Educational Personal Eye and Face Protection Devices, Approved April 13, 2010; IBR approved for § 1917.91(a). Copies are available for purchase from:

(i) American National Standards Institute's e-Standards Store, 25 W 43rd Street, 4th Floor, New York, NY 10036; telephone: (212) 642-4980; Web site: <http://webstore.ansi.org/>;

(ii) IHS Standards Store, 15 Inverness Way East, Englewood, CO 80112; telephone: (877) 413-5184; Web site: <http://global.ihs.com/>; or

(iii) TechStreet Store, 3916 Ranchero Dr., Ann Arbor, MI 48108; telephone: (877) 699-9277; Web site: <http://techstreet.com>.

(7) ANSI Z87.1-2003, Occupational and Educational Personal Eye and Face Protection Devices, Approved April 13, 2010; IBR approved for § 1917.91(a). Copies available for purchase from the:

(i) American National Standards Institute's e-Standards Store, 25 W 43rd Street, 4th Floor, New York, NY 10036; telephone: (212) 642-4980; Web site: <http://webstore.ansi.org/>;

(ii) IHS Standards Store, 15 Inverness Way East, Englewood, CO 80112; telephone: (877) 413-5184; Web site: <http://global.ihs.com>; or

(iii) TechStreet Store, 3916 Ranchero Dr., Ann Arbor, MI 48108; telephone: (877) 699-9277; Web site: <http://techstreet.com>.

(8) ANSI Z87.1-1989 (R-1998), Practice for Occupational and Educational Eye and Face Protection, Reaffirmation approved January 4, 1999; IBR approved for § 1917.91(a). Copies are available for purchase from:

(i) American National Standards Institute's e-Standards Store, 25 W 43rd Street, 4th Floor, New York, NY 10036; telephone: (212) 642-4980; Web site: <http://webstore.ansi.org/>;

(ii) IHS Standards Store, 15 Inverness Way East, Englewood, CO 80112; telephone: (877) 413-5184; Web site: <http://global.ihs.com>; or

(iii) TechStreet Store, 3916 Ranchero Dr., Ann Arbor, MI 48108; telephone: (877) 699-9277; Web site: <http://techstreet.com>.

\* \* \* \* \*

#### **Subpart E--[Amended]**

-- 10. Amend § 1917.91 by revising paragraph (a)(1)(i) to read as follows:

#### **§1917.91 eye and face protection.**

(a)(1)(i)The employer shall ensure that each affected employee uses protective eye and face protection devices that comply with any of the following consensus standards:

(A) ANSI/ISEA Z87.1-2010, Occupational and Educational Personal Eye and Face Protection Devices, incorporated by reference in § 1917.3;

(B) ANSI Z87.1-2003, Occupational and Educational Personal Eye and Face Protection Devices, incorporated by reference in § 1917.3;

or

(C) ANSI Z87.1-1989 (R-1998), Practice for Occupational and Educational Eye and Face Protection, incorporated by reference in § 1917.3;

\* \* \* \* \*

#### **[page=2452] PART 1918--[AMENDED]**

-- 11. The authority citation for part 1918 is revised to read as follows:

**Authority:** 33 U.S.C. 941; 29 U.S.C. 653, 655, 657; Secretary of Labor's Order No. 12-71 (36 FR 8754), 8-76 (41 FR 25059), 9-83 (48 FR 35736), 1-90 (55 FR 9033), 6-96 (62 FR 111), 3-2000 (65 FR 50017), 5-2002 (67 FR 65008), 5-2007 (72 FR 31160), 4-2010 (75 FR 55355), or 1-2012 (77 FR 3912), as applicable; and 29 CFR 1911.

Section 1918.90 also issued under 5 U.S.C. 553.

Section 1918.100 also issued under 49 U.S.C. 1801-1819 and 5 U.S.C. 553.

-- 12. Amend § 1918.3 by revising paragraphs (b)(6) through (8) to read as follows:

**§1918.3 Incorporation by reference.**

\* \* \* \* \*

(b) \* \* \*

(6) ANSI/ISEA Z87.1-2010, Occupational and Educational Personal Eye and Face Protection Devices, Approved April 13, 2010; IBR approved for § 1918.101(a). Copies are available for purchase from:

(i) American National Standards Institute's e-Standards Store, 25 W 43rd Street, 4th Floor, New York, NY 10036; telephone: (212) 642-4980; Web site: <http://webstore.ansi.org/>;

(ii) IHS Standards Store, 15 Inverness Way East, Englewood, CO 80112; telephone: (877) 413-5184; Web site: <http://global.ihs.com>; or

(iii) TechStreet Store, 3916 Ranchero Dr., Ann Arbor, MI 48108; telephone: (877) 699-9277; Web site: <http://techstreet.com>.

(7) ANSI Z87.1-2003, Occupational and Educational Personal Eye and Face Protection Devices, Approved June 19, 2003; IBR approved for § 1918.101(a). Copies available for purchase from the:

(i) American National Standards Institute's e-Standards Store, 25 W 43rd Street, 4th Floor, New York, NY 10036; telephone: (212) 642-4980; Web site: <http://webstore.ansi.org/>;

(ii) IHS Standards Store, 15 Inverness Way East, Englewood, CO 80112; telephone: (877) 413-5184; Web site: <http://global.ihs.com>; or

(iii) TechStreet Store, 3916 Ranchero Dr., Ann Arbor, MI 48108; telephone: (877) 699-9277; Web site: <http://techstreet.com>.

(8) ANSI Z87.1-1989 (R-1998), Practice for Occupational and Educational Eye and Face Protection, Reaffirmation approved January 4, 1999; IBR approved for § 1918.101(a). Copies are available for purchase from:

(i) American National Standards Institute's e-Standards Store, 25 W 43rd Street, 4th Floor, New York, NY 10036; telephone: (212) 642-4980; Web site: <http://webstore.ansi.org/>;

(ii) IHS Standards Store, 15 Inverness Way East, Englewood, CO 80112; telephone: (877) 413-5184; Web site: <http://global.ihs.com>; or

(iii) TechStreet Store, 3916 Ranchero Dr., Ann Arbor, MI 48108; telephone: (877) 699-9277; Web site: <http://techstreet.com>.

\* \* \* \* \*

**Subpart J--[Amended]**

-- 13. Amend § 1918.101 by revising paragraph (a)(1)(i) to read as follows:

**§ 1918.101 Eye and face protection.**

(a) \* \* \*

(1)(i) Employers must ensure that each employee uses appropriate eye and/or face protection when the employee is exposed to an eye or face hazards, and that protective eye and face devices comply with any of the following consensus standards:

(A) ANSI/ISEA Z87.1-2010, Occupational and Educational Personal Eye and Face Protection Devices, incorporated by reference in § 1918.3;

(B) ANSI Z87.1-2003, Occupational and Educational Personal Eye and Face Protection Devices, incorporated by reference in § 1918.3; or

(C) ANSI Z87.1-1989 (R-1998), Practice for Occupational and Educational Eye and Face Protection, incorporated by reference in § 1918.3

\* \* \* \* \*

## **PART 1926--[AMENDED]**

### **Subpart a--General [Amended]**

-- 14. The authority citation for subpart A of part 1926 continues to read as follows:

**Authority:** *40 U.S.C. 3701 et seq.; 29 U.S.C. 653, 655, 657; Secretary of Labor's Order No. 12-71 (36 FR 8754), 8-76 (41 FR 25059), 9-83 (48 FR 35736), 1-90 (55 FR 9033), 6-96 (62 FR 111), 5-2002 (67 FR 65008), 5-2007 (72 FR 31160), 4-2010 (75 FR 55355), or 1-2012 (77 FR 3912), as applicable; and 29 CFR part 1911.*

-- 15. Amend § 1926.6 as follows:

-- a. Revise paragraph (h)(31);

-- b. Redesignate paragraphs (h)(32) thru (34) as (h)(34) thru (36);

-- c. Add new paragraphs (h)(32) and (h)(33).

The revisions and additions read as follows:

#### **§ 1926.6 Incorporation by reference.**

\* \* \* \* \*

(h) \* \* \*

(31) ANSI/ISEA Z87.1-2010, Occupational and Educational Personal Eye and Face Protection Devices, Approved April 3, 2010; IBR approved for § 1926.102(b). Copies are available for purchase from:

(i) American National Standards Institute's e-Standards Store, 25 W 43rd Street, 4th Floor, New York, NY 10036; telephone: (212) 642-4980; Web site: <http://webstore.ansi.org/>;

(ii) IHS Standards Store, 15 Inverness Way East, Englewood, CO 80112; telephone: (877) 413-5184; Web site: <http://global.ihs.com>; or

(iii) TechStreet Store, 3916 Ranchero Dr., Ann Arbor, MI 48108; telephone: (877) 699-9277; Web site: <http://techstreet.com>.

(32) ANSI Z87.1-2003, Occupational and Educational Personal Eye and Face Protection Devices, Approved June 19, 2003; IBR approved for § 1926.102(b). Copies available for purchase from the:



(i) American National Standards Institute's e-Standards Store, 25 W 43rd Street, 4th Floor, New York, NY 10036; telephone: (212) 642-4980; Web site: <http://webstore.ansi.org/>;

(ii) IHS Standards Store, 15 Inverness Way East, Englewood, CO 80112; telephone: (877) 413-5184; Web site: <http://global.ihs.com>; or

(iii) TechStreet Store, 3916 Ranchero Dr., Ann Arbor, MI 48108; telephone: (877) 699-9277; Web site: <http://techstreet.com>.

(33) ANSI Z87.1-1989 (R-1998), Practice for Occupational and Educational Eye and Face Protection, Reaffirmation approved January 4, 1999; IBR approved for § 1926.102(b). Copies are available for purchase from:

(i) American National Standards Institute's e-Standards Store, 25 W 43rd Street, 4th Floor, New York, NY 10036; telephone: (212) 642-4980; Web site: <http://webstore.ansi.org/>;

(ii) IHS Standards Store, 15 Inverness Way East, Englewood, CO 80112; telephone: (877) 413-5184; Web site: <http://global.ihs.com>; or

(iii) TechStreet Store, 3916 Ranchero Dr., Ann Arbor, MI 48108; telephone: (877) 699-9277; Web site: <http://techstreet.com>.

\* \* \* \* \*

#### **Subpart E--[Amended]**

-- 16. Revise the authority citation for subpart E of part 1926 to read as follows:

**Authority:** *40 U.S.C. 3701 et seq.; 29 U.S.C. 653, 655, 657; Secretary of Labor's Order No. 12-71 (36 FR 8754), 8-76 (41 FR 25059), 9-83 (48 FR 35736), 1-90 (55 FR 9033), 6-96 (62 FR 111), 5-2002 (67 FR 65008), 5-2007 (72 FR 31160), 4-2010 (75 FR 55355), or 1-2012 (77 FR 3912), as applicable; and 29 CFR part 1911.*

-- 17. Amend § 1926.102 as follows:

-- a. Revise paragraphs (a)(1) thru (4).

-- b. Remove paragraphs (a)(5), (a)(7), (a)(8), and Tables E-1, E-2, and E-3.

-- c. Redesignate paragraph (a)(6) as (a)(5).

-- d. Revise paragraph (b).

-- e. Add paragraph (c).

The additions and revisions read as follows:

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

(a) *General requirements* (1) The employer shall ensure that each affected employee uses appropriate eye or face protection when exposed [page=2453] to eye or face hazards from flying particles, molten metal, liquid chemicals, acids or caustic liquids, chemical gases or vapors, or potentially injurious light radiation.

(2) The employer shall ensure that each affected employee uses eye protection that provides side protection when there is a hazard from flying objects. Detachable side protectors (e.g. clip-on or slide-on side shields) meeting the pertinent requirements of this section are acceptable.

(3) The employer shall ensure that each affected employee who wears prescription lenses while engaged in operations that involve eye hazards wears eye protection that incorporates the prescription in its design, or wears eye protection that can be worn over the prescription lenses without disturbing the proper position of the prescription lenses or the protective lenses.

(4) Eye and face PPE shall be distinctly marked to facilitate identification of the manufacturer.

\* \* \* \* \*

(b) *Criteria for protective eye and face protection.* (1) Protective eye and face protection devices must comply with any of the following consensus standards:

(i) ANSI/ISEA Z87.1-2010, Occupational and Educational Personal Eye and Face Protection Devices, incorporated by reference in § 1926.6;

(ii) ANSI Z87.1-2003, Occupational and Educational Personal Eye and Face Protection Devices, incorporated by reference in § 1926.6; or

(iii) ANSI Z87.1-1989 (R-1998), Practice for Occupational and Educational Eye and Face Protection, incorporated by reference in § 1926.6;

(2) Protective eye and face protection devices that the employer demonstrates are at least as effective as protective eye and face protection devices that are constructed in accordance with one of the above consensus standards will be deemed to be in compliance with the requirements of this section.

(c) *Protection against radiant energy--(1) Selection of shade numbers for welding filter.* Table E-1 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.

Table E-1--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

(2) *Laser protection.* (i) Employees whose occupation or assignment requires exposure to laser beams shall be furnished suitable laser safety goggles which will protect for the specific wavelength of the laser and be of optical density (O.D.) adequate for the energy involved. Table E-2 lists the maximum power or energy density for which adequate protection is afforded by glasses of optical densities from 5 through 8. Output levels falling between lines in this table shall require the higher optical density.

Table E-2--Selecting Laser Safety Glass

Attenuation

Intensity, CW maximum power density (watts/cm <sup>2</sup> )	Optical density (O.D.)	Attenuation factor
10 <sup>[yen 2]</sup> .....	5.....	10 <sup>[5]</sup>
10 <sup>[yen 1]</sup> .....	6.....	10 <sup>[6]</sup>
1.0.....	7.....	10 <sup>[7]</sup>
10.0.....	8.....	10 <sup>[8]</sup>

(ii) All protective goggles shall bear a label identifying the following data:

- (A) The laser wavelengths for which use is intended;
- (B) The optical density of those wavelengths;
- (C) The visible light transmission.