

Regulations Update

OH&ESD

#24 – Eye and Face Protection

Published: January, 2004

ANSI Z87.1-2003

The American National Standards Institute (ANSI) issued a new edition of ANSI Z87.1-2003 American National Standard Practice for Occupational and Educational Personal Eye and Face Protective Devices, replacing Z87.1-1989.

This summary of the eye and face protection standard was prepared by 3M OH&ESD and focuses primarily on specific changes to the standard. It does not represent an official, legal nor complete interpretation of the standard. If questions arise, the standard itself should be reviewed and relied on, rather than this summary. For a copy of the new ANSI Z87.1-2003 Standard, go to www.ansi.org.

Summary

This standard replaces the ANSI Z87.1-1989 that was incorporated, by reference, into the federal regulations. At this time, there is no indication whether the revised standard will be adopted by the Occupational Safety and Health Administration (OSHA), and no official reference has been published in the Federal Register. However, OSHA has typically allowed newer standards that are at least as protective as those referenced in the OSHA standard to be followed without the employer being cited.

The major changes to the eye and face protection standard include:

- Previous standard used terms “primary” and “secondary” eye protection. Current standard no longer uses these terms but does address which devices must be used in conjunction with safety spectacles or goggles.
- Respiratory protective equipment that offers eye and face protection has been added to the standard. These include tight-fitting full facepiece respirators and loose fitting respirators.
- Performance of products is now based on impact resistance levels and is classified as “Basic” or “High”:
 - Safety spectacles and goggles, welding shields and faceshields may meet either basic or high impact level.
 - Respirators that also provide eye protection, such as tight-fitting full facepieces, loose fitting facepieces and helmets, must meet high impact level.
- Marking requirements:
 - The basic impact level marking is “Z87”.
 - The high impact level marking is “Z87+”.
 - The manufacturer’s identifying mark or symbol plus the basic or high impact level marking must be included on the following devices:

- Spectacles must bear the appropriate marking on the front or one of the temples.
- Goggles with non-removable lenses must bear the appropriate marking on the lens housing or the lens.
- Faceshields must bear the marking “Z87” on the frame or crown, and the window of the faceshield must bear the appropriate marking.
- Lenses of affected respirators must also bear the marking “Z87+”.
- Frames of affected respirators must also bear the marking “Z87”.
- When faceshields and welding shields on respirators can be raised from the normal position, ANSI states the respirator must be used in conjunction with spectacles or goggles.

Safety Spectacles and Goggles

The complete line of 3M™ Protective Eyewear is classified as either safety spectacles or goggles, according to this new standard. The current line of 3M™ Protective Eyewear meets the new optical and physical requirements of the ANSI Z87.1-2003 Standard as High Impact Protectors/Lenses in all lenses and frame colors offered. Product bearing the new marking requirements will be phased-in as

Regulations Update #24 – Eye and Face Protection

the current inventory is exhausted. Spectacles will bear the appropriate marking “Z87+” on the front or on one of the temples. Goggles with non-removable lenses will bear the marking “Z87+” on the top of the lens housing.

Faceshields

Faceshields include protective devices designed to shield the wearer’s face, or portions thereof, in addition to the eyes, from certain hazards. The 3M™ Faceshield Kit 1631 meets the requirements of ANSI Z87.1-2003 for high impact. The 3M™ Faceshield Kit 1631 will bear the marking “Z87” on the frame or crown, and the window of the faceshield will bear the marking “Z87+”. Movable faceshields, including the 3M™ Faceshield Kit 1631, must be used in conjunction with safety spectacles or goggles where protective eyewear is required, according to ANSI Z87.1-2003.

Tight-Fitting Full Facepiece Respirators (with or without welding attachments)

The tight fitting full facepiece classification includes the 6000 and 7000 Series full facepiece respirators. These devices will meet the requirements of ANSI Z87.1-2003 for high impact. See the lists of products below for the status of the 6000 and 7000 Series full facepiece respirators. Full facepiece respirators must be tested as a complete goggle with a removable lens and will bear markings on the lens housing/frame “Z87.1-2003” and on the lens “Z87+ 2003”, and will include the manufacturer’s identifying mark or symbol.

Loose fitting respirators (with or without welding attachments)

For this update, loose fitting respirators include loose fitting facepieces (L-500 and L-700 Series, Air Crown, R-Series and AS-Series), and helmet style respirators (L-900 Series and Whitecap Helmets).

These will meet the requirements of ANSI Z87.1-2003 high impact level. Because the faceshields and welding shields of certain 3M respirators can be raised from the normal position (i.e., down), ANSI states that safety spectacles or goggles must be worn in conjunction with these respirators. 3M recommends that safety spectacles or goggles be worn in conjunction with all loose fitting respirators.

Dates

As with any standard, there will be a time lag before products with the new markings appear in the marketplace. 3M will provide updated information on products as it becomes available.

The following summarizes the current situation for 3M products that provide eye and face protection.

3M Products that currently comply with the optical and physical requirements of ANSI Z87.1-2003 High Impact Level:

The appropriate markings will be added to the following products.

- 3M™ Protective Eyewear: all spectacles and goggles
- 3M™ Faceshield Kit 1631
- Whitecap™ Abrasive Blasting Helmet Assembly, W-8100 & W-8100B

- Whitecap™ General Purpose and Welding Helmets, W-8000 & W-8200 (W-8000 and W-8200 were discontinued and will not bear the markings)
- 6000 Full facepiece Respirator
- L-Series Headgear Models: L-501, L-503, L-505, L-701, L-703, L-705, L-901, L-905
(Note: If the High Temp Wide View Lens L-132 is used, the lens must bear the marking “Z87+” or be replaced. These new lenses are on the market.)

Per ANSI Z87.1-2003, the following 3M products must be used in conjunction with safety spectacles or goggles:

- L-Series Headgear
- AS and R-Series Headgear
- Air Crown

3M also recommends use of safety spectacles or goggles with all loose fitting respirators

3M Products requiring modification to comply with ANSI Z87.1-2003 High Impact Level:

- AS and R-Series Headgear
- 7000 Series Full facepiece respirators
- L-132 High Temp Wide View Lens

If you have questions regarding 3M products, please call our Tech line at **1-800-243-4630**.

Regulations Update #24 – Eye and Face Protection



Occupational Health and Environmental Safety Division
3M Center, Building 235-2E-91
St. Paul, MN 55144-1000

For more information, please contact:

3M Occupational Health and Environmental Safety Division (OH&ESD)

In the U.S., contact:

Sales Assistance

1-800-896-4223

Technical Assistance

1-800-243-4630

Fax On Demand

1-800-646-1655

Internet

<http://www.3M.com/occsafety>

For other 3M products

1-800-3M HELPS

In Canada, contact:

3M Canada Company, OH&ESD

P.O. Box 5757

London, Ontario N6A 4T1

Sales Assistance

1-800-265-1840, ext. 6137

Technical Assistance (Canada only)

1-800-267-4414

Fax On Demand

1-800-646-1655

Internet

<http://www.3M.com/CA/occsafety>

Technical Assistance In Mexico

01-800-712-0646

5270-2255, 5270-2119 (Mexico City only)

Technical Assistance In Brazil

0800-132333

Fax On Demand O.U.S. Locations

1-651-732-6530