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Eye Protection Information

INFORMATION FOR YOUR SAFETY

FYS ANSI American National Standards Institute

The American National Standards Institute (ANSI) is dedicated to the safety and health of consumers, workers and the protection of the environment. To do this on a large level, the institute approves and issues testing standards and guidelines to protect consumers and workers from real life hazards.

ANSI cannot set their standards as law because it is not a governmental organization and has no power to force employers to follow their standards. However, the standards can become mandatory by law if a governmental agency like OSHA (Occupational Safety and Health Administration) writes ANSI standards into occupational law.

OSHA® Occupational Safety and Health Administration

The United States Federal Government has legislated, through its agency called OSHA, an extensive system of guidelines designed to keep its citizens safe and healthy at work. OSHA regulations are the basis for the product selection in our catalog.

The standard for Occupational and Educational Personal Eye and Face Protection Devices is known as the ANSI Z87.1 standard, and is an OSHA law.

Why You Need to Purchase Eye Protection

OSHA estimates that over three million workers are at risk for job-related eye injuries, and more than 2,000 are actually injured every business day. Of these injuries, 10 to 20% result in temporary or permanent vision loss. Approximately 90% of these injuries are preventable with proper eye protection. OSHA requires employers to ensure that all employees use appropriate eye protection. It's an investment worth making.

ANSI Z87.1-2015 prescribes the design, performance specifications, and markings of safety eye and face products, including safety goggles, spectacles, face-shields, and welding helmets. An updated standard, ANSI Z87+, incorporates new impact standards for protection, including chemical splash and dust protection.

Our mission is to enable customers to comply with federal regulations most efficiently by offering a wide selection of the most popular safety products at competitive prices.

For more information on the latest national and international standards-related activities, visit ansi.org or osha.gov.

Things to Consider When Choosing Safety Eyewear

When it comes to safety eyewear, the right fit is essential for comfort, performance and most importantly, protection. If your safety glasses do not fit securely or there are large gaps in coverage, you risk a serious eye injury. Workers will be more likely to wear their safety eyewear if it fits them comfortably.

- Multiple frame sizes allow for the best fit
- Soft, flexible fingers or adjustable nose pads conform to fit almost any nasal profile
- An adjustable temple length feature or bendable wire core temple help provide a secure fit and more behind the ear comfort
- Ratcheting temples adjust the lens inclination to fit any cheek profile

Clear

- 90% of light is transmitted — remainder of light is blocked by coating on the lens
- Provides excellent optics for general applications
- Most popular lens
- Allows the majority of light to pass through the lens while not distorting the visible color spectrum
- General purpose providing maximum impact protection and maximum visibility

Gray

- 13% of light transmitted
- Reduces the amount of light that passes through the lens
- Commonly used in construction or outdoors where sunlight and glare cause eyestrain and fatigue

Indoor/Outdoor Clear Mirror

- 36% of light is transmitted — allows more light through than other tinted lenses
- Clear lens with a mirrored coating on the outside

Amber

- 80% of light transmitted
- Excellent for maximum contrast enhancement, particularly in low light situations
- The amber lens color blocks virtually all blue light to reduce haze and glare making all blue look black or gray
- The disadvantage is that when you eliminate blue light, you distort color recognition

Mirror — Silver, Blue

- 9% to13% of light is transmitted
- Gray lens with mirrored coating on the outside
- Commonly used in construction or outdoors where sunlight and glare cause eyestrain and fatigue
- The "mirror" coating reflects light reducing the amount of light that passes through the lens

Polarized

- 13% of light transmitted
- Reduction of reflected light (glare)
- Improves optical clarity and enhances contrast and depth perception
- Minimizes eye fatigue

Filter Shade

- Protects against ultraviolet and infrared radiation that is generated when working with molten metal and in welding, cutting, soldering and brazing operations
- Marked with a number on the lens indicating the shade number
- Gray Infrared (IR) filters for true color recognition
- Gray Filter 3.0 lens: 12% of transmitted light
- Gray Filter 5.0 lens: 2% of transmitted light
- Green Filter 2.0 lens: 30% of transmitted light
- Green Filter 3.0 lens: 12% of transmitted light
- Green Filter 5.0 lens: 2% of transmitted light

Welding Filter Shade Section

Operation*	Recommended Filter Shade
Torch Soldering	2
Torch Brazing, Soldering	3
Light Cutting up to 1"	3
Medium Cutting 1" to 6"	5
Heavy Cutting more than 6"	5
Gas Welding, light, up to ⅛"	5
Gas Welding, medium, ⅛" to ½"	5

*Indicates thickness of material to be cut

Eyewash Information

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Eyewash and Showers

The following are highlights from OSHA's 29 CFR 1910.151 and the ANSI Z358.1 standard for emergency eyewash and shower equipment

Medical Services and First Aid: 29 CFR 1910.151

1910.151(c) states … "Where the eyes or body of any person may be exposed to injurious corrosive materials, suitable facilities for quick drenching or flushing of the eyes and body shall be provided within the work area for immediate emergency use."

ANSI Z358.1-2014

ANSI Z358.1 is a voluntary standard that further clarifies what the minimum requirements for suitable facilities are since the Code of Federal Regulations does not offer further documentation.

This is meant to summarize key points within the standard, but not act as a substitute for it. It is recommended the ANSI Z358.1-2014 be consulted directly for further detail. For additional information, go to ansi.org.

- Emergency fixtures must take no more than 10 seconds to reach (approx. 55 feet) and the path to the fixture must not be hindered with obstructions.
- Flush both eyes simultaneously.
- **Minimum flushing rates**
  - **Eyewash Equipment Minimum** 0.4 gallons per minute (GPM) for 15 minutes
  - **Eye/Face Wash Equipment Minimum** 3 GPM at 30 psi for 15 minutes
  - **Plumbed and Self Contained Emergency Showers Minimum** 20 GPM at 30 psi for 15 minutes
- Valve should easily activate in a second or less and remain open on its own until intentionally turned off, keeping hands free to open eyelids.
- Plumbed valves must be locked-out to prevent unauthorized shut off.
- Tepid flushing fluid must be supplied in all types of emergency equipment applications (temperature between 60˚F and 100˚F). A safety/health advisor is the designated professional to determine the best temperature parameters on a case-by-case basis.
- Components of combination units shall operate individually and simultaneously in accordance with the appropriate performance requirements in the standard.
- Each part of the combination unit shall be certified when activated individually and simultaneously in accordance with the procedures outlines in the standard.
- If there is a potential for freezing conditions, product specifically designed to avoid freezing should be utilized.
- Plumbed units should be activated on a weekly basis long enough to be sure flushing fluid is provided. This helps clear sedimentation and flushes stagnant water reducing the chance of microbial hazards.
- Emergency equipment shall be inspected annually to confirm that the equipment is installed and operating in accordance with requirements.
- Emergency equipment must be easily identified by use of a highly visible sign.
- Adequate lighting must be provided in the area surrounding emergency equipment.

Types of Emergency Devices

Self-Contained Portable Units
An ANSI-compliant portable gravity-fed eyewash flushes eyes for 15 minutes at a minimum of 0.4 GPM. Unit is ideal anywhere water supply is not available.
In cold environments where freezing is a concern, heated units are available.

Self-Contained Pressurized Units
These units are pressurized during installation and may be provided with a cart for mobility.
10 and 15 gallon models meet the ANSI standard for eyewash of 0.4 GPM for 15 minutes.

Plumbed Units
A plumbed eyewash unit is permanently connected to a source of potable (tap) water that is delivered from the plant supply of a separate supply source.

Personal Wash Units
Personal eyewashes are considered supplemental equipment under the ANSI standard.

Intended for immediate use, this product must be followed up by the usage of emergency product that can provide a minimum of 15 minutes of flushing fluid continuously, as required by the ANSI standard.

Inverted Stream Eyewash
Provides a medically superior way to irrigate the eyes as the inverted stream directs the hazard away from the punctum (drains) of the eyes and nasal cavity.