

ANSI/ISEA Z87.1-2020

American National Standard for Occupational and Educational Personal Eye and Face Protection Devices



On March 11, 2020, American National Standards Institute (ANSI) issued approval for ANSI/ISEA Z87.1-2015, American National Standard for Occupational and Educational Personal Eye and Face Protection Devices. This standard represents the sixth revision of the voluntary industry consensus standard for eye and face protection, which is also codified in regulatory text by the U.S. Occupational Safety and Health Administration obliging employers to provide employees with appropriate safety eyewear and face protection that conforms to the industry standard.

What is ANSI/ISEA Z87.1-2020?

ANSI/ISEA Z87.1-2020 Standard provides the design, performance specifications and marking of safety eye and face protection products. The Standard offers employers options for choosing the appropriate level of protection for eye and face hazards in a given workplace environment. The standard addresses the following:

- Impact, Optical, Droplet, Splash, Dust and Fine Dust Requirements
- Test Methods for evaluating all requirements
- Instructions, Use and Maintenance
- Selection Guide
- Protector Marking Guideline Tool
- Optional Design Characteristics

Why was a new revision developed?

Voluntary industry consensus standards recognized by ANSI are required to be reviewed every five years; the previous edition was ANSI/ISEA Z87.1-2015. This standard continues to develop and evolve by adapting the content in accordance with global standards.

The document continues to focus on product performance and harmonization with global standards in an effort to allow new and innovative designs responsive to workplace hazards and end-user needs. The 2020 version also includes testing, performance, and marking criteria for lenses with anti-fog properties. Other notable updates include the emergence of innovative product designs.

What updates have been made to ANSI/ISEA Z87.1-2020?

1 Section 6: Optional Design Characteristics

This new section describes optional features that, while not protective themselves, are important to many users.

2 Section 6.1: Relaxed Optics Levels

This section includes:

Section 6.1.1, regarding the requirements for prism and prism imbalance, as well as refractive power, astigmatism and resolving power for protectors marked as having relaxed optics.

Section 6.1.2, regarding the luminous transmittance of protectors with relaxed optics.

3 Section 6.2: Anti-Fog Properties

This section notes that the lenses of protectors marked as having anti-fog properties must remain free from fogging for a minimum of 8 seconds.

4 Section 7: Optional Hazard-Specific Requirements

Section 7, which includes Impact Protector Requirements, Optical Radiation Protector Requirements, Droplet and Splash, Dust, and Fine Dust Protection Requirements, Dust Hazard, and Fine Dust Hazard, now falls under the title Optional Hazard-Specific Requirements.

5 Table 7: Transmittance Requirements for Welding Filters and Table 12: Switching Index Requirements for Automatic Darkening Welding Filter Lenses

These tables include two additional shades, W15 and W16.

6 Annex K. 14: Optical Levels

This new section notes that certain job tasks and applications may be performed while wearing eye protection with relaxed optics requirements for refractive power, astigmatism, and resolving power for lenses and replacement lenses. However, such relaxed optics may not be suitable for machinery operation, laboratory environments, or precision work, so should be evaluated based on the end use and hazards involved.

The new Standard and Product Compliance

ANSI/ISEA Z87.1-2020 does not require users to discontinue using products labeled as compliant with the 2015 Standard. However, if your occupation requires compliance with new optional certifications, older product will not be marked and may not be compliant.

Conclusion

Worker safety is always the highest job-site priority. Eye and face protection is an essential element in providing workers with protection from impact hazards, liquid splash, debris and electrical hazards. A Standard-compliant, properly marked eye and face protector should be worn in all situations where eye and face hazards exist.

A copy of ANSI/ISEA Z87.1-2020 can be purchased from International Safety Equipment Association (ISEA): visit <https://safetyequipment.org/>