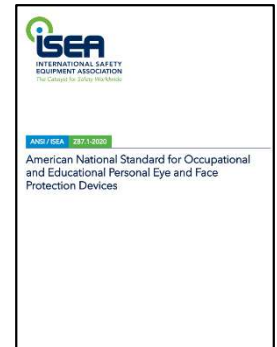


## What is ANSI Z87.1?

The American National Standards Institute (ANSI) is a private, non-profit organization that administers and coordinates voluntary standards in the United States. It partners with other organizations to develop these standards. The ANSI Z87.1 standard is a benchmark for eye and facial safety equipment in the occupational & educational settings and was developed with the International Safety Equipment Association, ISEA. This document outlines ANSI Z87.1 markings on safety eyewear and what those markings mean.



### Example of markings on safety glasses



Impact-rated safety glasses are marked with "Z87+". Source: Bolle Safety

1 <sup>st</sup> Category is <b>Impact Protection</b>	3 <sup>rd</sup> category is <b>Chemical Splash and Dust Protection</b> , which is marked with a code beginning with the letter "D."
<b>Z87</b> marking indicates safety glasses with no impact protection	<b>D3</b> glasses are designed to protect against large droplets
<b>Z87+</b> marking indicates safety glasses with impact protection	<b>D4</b> glasses offer protection against dust particles
<b>Z87+H</b> marking indicates safety glasses with high impact protection	<b>D5</b> glasses are designed to protect against fine dust particles
2 <sup>nd</sup> Category is for <b>Prescriptions (Rx)</b>	3 <sup>rd</sup> category is <b>Optical Radiation Protection</b> , marked with a letter designation and a rating number
<b>Z87-2</b> marking indicates safety glasses with Rx	<b>W</b> followed by shade # for Welding (1.3 – 14)
<b>Z87-2+</b> marking indicates safety glasses with Rx and impact rated	<b>U</b> followed by shade # for UV (ultraviolet) protection (2 - 6)
<i>Note: readers &amp; magnifiers will not have these markings</i>	<b>R</b> followed by shade # for IR (infrared) protection (1.3 - 10)
3 <sup>rd</sup> Category is <b>Anti-Fog, Sizing, Relaxed Optics</b>	<b>L</b> followed by shade # for visible light (glare) protection (1.3 - 10) ≥ L4 are not suitable for driving; Ameren recommends staying below 2.0 for indoor use
<b>X</b> indicates safety glasses have anti-fog feature	<b>V</b> indicates variable tint lenses
<b>H</b> indicates safety glasses are made for smaller head sizes	<b>S</b> indicates special purpose lenses

**Relaxed Optics: O2 or O2 with a + (+ can be located inside the circle)** Certain job tasks and applications may be performed when wearing eye protection that has relaxed optics requirements for refractive power, astigmatism, and resolving power for lenses and replacement lenses. These may include but are not limited to first responders or military personnel engaged in tasks such as general on-site logistics, victim extraction, general fire-fighting activities not requiring self-contained breathing apparatus, facility tear down, and tactical situations. Such relaxed optics may not be suitable for machinery operation, laboratory environments, or precision work and therefore should be evaluated based upon the end use and hazards involved.