



Personal Protective Equipment

Eye Protection Guide: Picking the Right Safety Glasses

Don Sears | Apr 01, 2025

Eyewear PPE technology has become incredibly specific to the workplace environment. It's also become more comfortable and stylish than ever before. See the variety of anti-fogging options and tints in today's glasses and goggles.

Safety glasses and safety goggles protect your eyes from impact, debris, dust, electrical sparks, fire, molten metal, splash, light, and other on-the-job dangers—especially in manufacturing and material-handling plants. But when it comes to helping ensure workers wear eyewear protection every day, it pays to have employees find a fit that is comfortable and designed for their working environment.

Are workers mostly outside or inside? Do they use prescription glasses? Can lenses be added to goggles or glasses—or can they fit over existing glasses? What kind of lighting are they exposed to? Are workers going from different temperatures within the workplace? The last thing you want is for goggles to fog up.

All these factors are crucial to making sure workers' eyes are as protected as possible. The goal is to get workers to wear them as much as needed—and never feel they can take them off when hazards are present. Working with chemicals is not the same as welding. Cutting and grinding metal is not the same as handling materials on an assembly line. Luckily, there is enough variety in today's eyewear protection technology to account for comfort, fit and workplace setting.

Whatever the environment, make sure to protect their vision. View this eye protection infographic to get an overview of some of the latest technology in eyewear protection.

Want to learn more about eyewear? See the infographic below:

Eye Protection Guide: Picking the Right Safety Glasses and Goggles

Safety managers are often challenged by which PPE to use for eye and face protection. Eyewear compliance can be complex to navigate between OSHA and ANSI standards. Workers often ignore wearing glasses and goggles because of fit and comfort issues—leading to thousands of people blinded each year on the job. We're here to help.

1 Protect for Your Specific Environment

Know the Standard
ANSI/ISEA Z87.1-2015



Know Your Hazards

- Flying particles
- Molten metal
- Liquid chemicals
- Acids or caustic liquids
- Chemical gases or vapors
- Light radiation

Don't Forget

Side protection
Prescription lenses



2 Make It Comfortable, Give Flexible Options

The goal: **Keep glasses on workers**

Heavy glasses or goggles are doomed

Workers won't wear them unless:

- Lightweight
- Fit their face

Options Exist

- Adjustable parts for temples and nosepieces
- Prescription inserts
- Coatings
- Scratch resistance
- Foam lined
- Frameless
- Nonslip



3 Adapting to Your Needs

Tech for Any Situation
Temperature changes?
Light variation?

Two types of anti-fogging glasses:

Hydrophobic = water beads away
Hydrophilic = absorbs condensation

Lens tinting blocks harmful rays indoor or outdoor

Visible Light Transmission
Higher VLT lens % = the lighter the lens

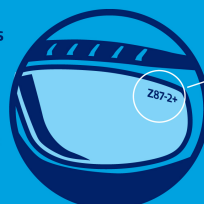
 VLT CLEAR Impact protection 85% VLT	 GRADIENT Outdoor overhead glare 18% VLT	 GRAY Outdoor eye strain and fatigue 12% VLT
 AMBER Maximum contrast in low light 85% VLT	 DARK GREEN General purpose ultraviolet radiation blocker 12% VLT	 MIRRORED WITH COLOR Reflects and reduces outdoor light 9% VLT
 VERMILLION Ultimate indoor inspection contrast 55% VLT	 LIGHT BLUE Indoor/outdoor reduces artificial light glare 70% VLT	 FILTER SHADES Infrared blockers for welding, molten metal, cutting, soldering

4 Look for the ANSI Marking

Flying Debris Is Not the Same as a Chemical Splash

Use the glasses or goggles for the right application

Markings should be right on the side



Look For
Z87-2+ (Rx frame)*
D3 (Splash/droplet)
D4 (Dust)
D5 (Fine dust)
R and scale number (IR radiation)
L and scale number (Visible light)
U and scale number (UV radiation)
W and shade number (Welding)
V (Variable tint)
S (Special purpose)

*The + sign = impact-rated protector

Spotlight on Safety

Here are the top articles on eyewear and other important safety topics:

How to Find the Right Protective Eyewear

I Can See Clearly Now, the Speck Is Gone: Preventing Workplace Eye Injuries

Eye Protection Basics

10 Ways Having the Wrong Industrial Supplies Can Waste Money

Q&A: A Certified Workplace Safety Pro Talks PPE in Manufacturing

Can a Burst of Color Boost Compliance? We Think So

Engineered for Safety, Designed for Style - Protective Eyewear

4 Essential Workplace Safety Tips for CNC Machinists

For the entire PRO-SAFE® safety glasses offering, please visit MSCDirect.com.

What kind of glasses or goggles do you use regularly? Share in the comments.

Don Sears is a senior editor for Better MRO. A former technology journalist and a research writer at Gartner, Sears covers metalworking, safety, technology and financial services topics for Manifest.

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