

Personal Protective Equipment

Fundamentals of Face Shields

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You know about the importance of wearing **safety glasses** to protect your eyes while you're working on a job site. Whether it's the potential for sparks, blowing debris, or flying bits of metal, there are numerous reasons why protective eyewear is a must.

Never overlook the importance of protecting your entire face. For example, if you are a welder, you need to worry about flying metal and sparks hitting your face. If you are working around splashing chemicals, you need your face fully protected. A proper face shield can mitigate potential dangers.

In this blog, MCR Safety is going to highlight all the fundamentals for face shields that users should consider before making a purchase: **standards, hazards, industries, types of materials, and some of their top-selling styles.**

ANSI Standard Z87.1-2015

The American National Standards Institute (ANSI) has written a standard defining criteria for face shields: **ANSI Z87.1-2015**, the "American National Standard For Occupational And Educational Personal Eye And Face Protection Devices". **Safety+Health Magazine** explains, "Two sections of this standard, 9 and 10, include specific guidelines for impact resistance, lens clarity, lens thickness and penetration resistance in regard to projectiles. In order to be compliant as eye and/or face protection, the device must be marked with 'Z87.1.'" The standard requires that face shields be properly marked to indicate the hazards that they can protect against.

Safety+Health further describes the standard's categorization of primary and secondary protection, as well as face shields:

- **Primary protection** – A device that may be worn alone or in conjunction with a secondary protector
- **Secondary protection** – A device that shall be worn only in conjunction with a primary protector
- **Face shield** – A protective device commonly worn to shield the wearer's face, or portions thereof in addition to the eyes, from certain hazards. Face shields are secondary protection and shall be used only in conjunction with primary protection.

Again, it is important to note that according to the current ANSI standards, face shields are considered "secondary" protection, requiring the use of protective eyewear or goggles as well. Its status as "secondary" protection doesn't mean that you should skip wearing a face shield, though. Face shields protect your face from flying debris. Together with safety eyewear, a face shield can provide comprehensive protection for your entire face.

Purpose of Face Shields - Hazards

Face shields cover the facial area from the eyebrows to below the chin and the entire width of the wearer's head. They are typically secured over or around the head with an adjustable band. Workers need face shields across a multitude of industries to ensure reliable protection from **numerous hazards**.

Here are some:

- Hazardous liquids
- Flying particles, flying debris, and flying wood chips
- High temperatures
- Hot molten metal
- Hot sparks
- Metal chips, projectiles, and shavings hitting the face

When they are worn for protection against UV light, face shields must be specifically designed to protect the face and eyes from hazardous radiation. When face shields are used for chemical protection or UV protection, they must comply with ANSI standard Z87.1.

It's important to remember that face shield visors ARE NOT shatterproof. When large objects and/or objects traveling at high rates of speed strike face shields, the visor may break or be compromised and cause injury to the wearer's face or eyes. Workers should avoid areas where such hazards exist or use extreme caution if they can't be avoided entirely. Routinely check face shields for damage, and do not wear a face shield that has sustained damage

Face Shield Industries and Applications

MCR wants to share with you some of the most common industries and applications for which face shields can be worn to protect workers from potential hazards:

- **Automotive:** Workers grinding out metal is an everyday occurrence when *manufacturing trailers and vehicles*.
- **Chemical Handling and Chemical Manufacturing:** Workers who handle any number of specific chemicals need to worry about liquids and highly reactive materials splashing into their face.
- **Construction:** Anyone exposed to *impact hazards*, flying jobsite debris, or dust should consider wearing a face shield.
- **Railroads:** *Maintenance workers* in service, repair, and mechanical facilities require face shields from flying projectiles.
- **Refineries:** Working during turnarounds involves cutting metal and painting with solvents. Face shield protection is a must.
- **Shipyards:** *Shipyard work* is traditionally dangerous. Workers are on constant guard from contact with flying particles, molten metal, chemicals.
- **Laboratory:** Workers who handle potentially hazardous biological materials need their face fully covered.
- **Landscaping:** Dust, flying rocks, sticks, and tree branches are always close by, meaning workers need the entire face protected.
- **Metal Fabrication:** Individuals who work with machines and around other physical hazards including furnaces, molten metal or glass, or heat, sparks, and glare should protect their faces by wearing a face shield.
- **Welding:** Welders engaged in any welding-related activity, like cutting and grinding metal, should wear face shields. Face shields provide protection from the intense heat, optical radiation, and sparks from arc-welding equipment.
- **Woodworking:** Flying pieces of wood and wood dust are constant concerns in this industry.

Continue reading this *blog* in its entirety to learn about the different materials that face shields are made of and the options that MCR offers.

Previously Featured on MCR Safety's blog.

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