



Eye Protection



Eye Protection

Premium Safety Eye Protection



Fuel™ X2 Safety Eyewear

- 90877 – Clear lenses, gunmetal gray frame
- 90878 – Gray lenses, glossy black frame

- Grooved temple design
- Adjustable nosepiece
- Anti-fog coating
- Includes microfiber storage bag and lanyard
- Meets ANSI Z87.1-2010 standards



Fuel™ Classic Safety Eyewear

- 92228 – Brown lenses, light bronze frame
- 92229 – Gray mirror lenses, dark bronze frame

- Contoured temples
- Anti-scratch lens coating
- Impact-resistant lenses absorb up to 99.9% UV
- Includes microfiber storage bag and lanyard
- Meets requirements of ANSI Z87.1-2003

WARNING! See use applications and warnings on inside back cover.

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Eye Protection

Premium Safety Eye Protection



Fuel™ Sport Safety Eyewear

- 92224 — Gray mirror lenses, silver/black frame
- 90988 — Blue mirror lenses, platinum frame
- 90987 — Red mirror lenses, titanium frame
- 92227 — Gray lenses, brushed gunmetal frame
- 92226 — Gray lenses, pearlized dark blue frame
- Durable vented temples
- Anti-scratch coating
- Impact-resistant lenses that absorb up to 99.9% UV, UVA & UVB
- Includes hard shell storage case
- Meets requirements of ANSI Z87.1-2003 (92224, 90988, 90987)
- Meets requirements of ANSI Z87.1-2010 (92227, 92226)

Eye Protection

Premium Safety Eye Protection



ForceFlex™ Plus Safety Eyewear

- 92235 — Gray lenses, glossy black frame
- Innovative combination of strength, comfort and performance, without sacrificing style
- Flexible and resilient frames for a customizable fit
- Soft rubber accents for all-day comfort
- Multi-injection technology fuses lens to frame
- Designed with the latest technology to keep vision clear, with impact-resistant lenses that absorb 99.9% UV
- Anti-scratch lens coating
- Includes microfiber storage bag and lanyard
- Meets ANSI Z87.1-2010 standards



ForceFlex™ Flexible Safety Eyewear

- 92232 — Clear lenses, glossy black frame
- 90897 — Gray lenses, dark blue frame
- 92231 — Gray lenses, glossy black frame
- Innovative flexible design and resilient frames
- Multi-injection technology fuses lens to the frame
- Soft features for a comfortable fit
- Anti-scratch coating
- Impact-resistant lenses absorb up to 99.9% UV
- Includes microfiber storage bag and lanyard
- Meets requirements of ANSI Z87.1-2003 (92231)
- Meets requirements of ANSI Z87.1-2010 (92232, 90897)



Metallic Safety Eyewear

- 90788 — Indoor/outdoor mirror lens, silver frame
- Single-lens design
- Soft nosepiece
- Anti-scratch coating
- Includes microfiber storage bag and lanyard
- Meets the requirements of ANSI Z87.1-2010 and CSA Z94.3-2007

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Eye Protection

Holmes Workwear™ Eye Protection



3M and Mike Holmes have partnered to create an innovative and durable new line of eyewear that helps professionals and homeowners protect themselves.

The Holmes Workwear™ Safety Glasses line includes a variety of indoor and outdoor eyewear that features impact-resistant lenses that absorb up to 99.9 percent of UV rays. Additionally, the eyewear boasts a dual-lens contoured frame for a protective, wraparound fit, soft nosepieces and temple inserts to keep eye protection comfortably in place.

Mike Holmes, host and creator of Holmes on Homes®, is a contractor whose mission is to Make It Right®. Mike has more than 30 years of hard work on job site after job site and is an advocate for the unheard homeowner. He continues to help desperate homeowners in hopeless situations through his new series, Holmes Makes It Right.



Eye Protection

Holmes Workwear™ Eye Protection



Holmes Workwear™ Safety Glasses

90204 – Outdoor tinted lenses, black frame

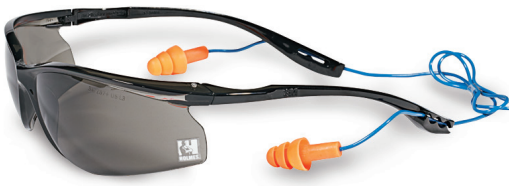
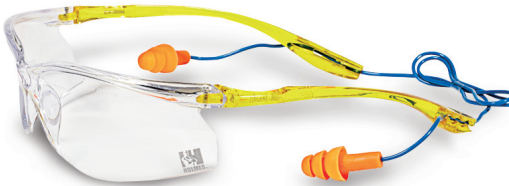
- Premium, high-quality eye protection with a modern yet tough frame design
- Designed for use outdoors
- Molded from impact-resistant polycarbonate which results in a durable yet lightweight frame
- Built with smart comfort features
- Dual-lens contoured frame for a protective, wraparound fit
- Impact-resistant lenses absorb up to 99.9% UV, protecting your eyes while you work
- Wide temples for side protection
- Anti-scratch coating
- Soft nosepieces and temple inserts for additional comfort and to help keep eye protection in place
- Includes microfiber bag, carabiner and lanyard
- Meets ANSI Z87.1-2010 Standards

Holmes Workwear™ Safety Glasses with Cord Management System

90205 – Clear lenses, yellow/clear frame

90206 – Outdoor tinted lenses, black frame

- Sleek, wraparound frame design
- Includes 3M Corded Reusable Earplugs
- Corded hearing protection acts as a lanyard helping keep eye protection conveniently located around the neck
- Contoured frame for a protective, wraparound fit
- Impact-resistant lenses absorb up to 99.9% UV, protecting your eyes while you work
- Anti-scratch coating
- Meets requirements of ANSI Z87.1-2010 and CSA Z94.3-2007



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Eye Protection

Performance Eye Protection — By Features and Functions



Flat Temple Safety Eyewear

- 47010 — Clear lenses, black/red frame
- 47011 — Gray lenses, black/red frame

- Flat temples provide comfortable fit with earmuffs
- Soft, comfortable nosepiece
- High-impact-resistant lenses absorb 99.9% UV
- Meets the requirements of ANSI Z87.1-2010



Active Safety Eyewear

- 47020 — Gray lenses, black/red frame
- Aerodynamic design goes effortlessly from work to play
- Sport-grip temples and comfort nosepiece
- High-impact- and scratch-resistant lenses absorb 99.9% UV
- Meets the requirements of ANSI Z87.1-2010



Adjustable Safety Eyewear

- 47000 — Clear lenses, black/gray frame
- Designed with five adjustable temple positions and adjustable nosepieces for a customizable fit
- Anti-fog lens coating
- High-impact-resistant lenses absorb 99.9% UV
- Meets the requirements of ANSI Z87.1-2010

Eye Protection

Performance Eye Protection — By Features and Functions



Sports-inspired Safety Eyewear Dual-lens Design

- 90703 — Clear lenses, green frame, carded
- 90596 — Clear lenses, blue frame, hang-tag

- Contoured frame design
- Soft temple inserts
- Anti-scratch coating
- Meets the requirements of ANSI Z87.1-2010



Sports-inspired Safety Eyewear Rimless Design

- 90965 — Blue lenses, chrome frame
- Rimless, winged style with comfort temples
- Soft nosepiece
- Anti-scratch coating
- Meets the requirements of ANSI Z87.1-2003 and CSA Z94.3-2007

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Eye Protection

Classic Eye Protection — By Style



Wide Temple Design

- 90190** — Indoor/outdoor mirror lenses, shiny black frame
- 90191** — Gray lenses, shiny black frame

- Wide temples for side coverage
- Durable frame construction
- Impact-resistant lenses absorb up to 99.9% UV
- Available carded or with hang-tag
- Meets requirements of ANSI Z87.1-2003 (90190)
- Meets requirements of ANSI Z87.1-2010 (90191)



Dual-lens Design

- 90763** — Blue mirror lenses, glossy black frame

- Anti-scratch coating
- Mirrored lenses
- Available carded or with hang-tag
- Meets the requirements of ANSI Z87.1-2003



Semi-rimless Design

- 90958** — Light silver mirror lenses, black frame, hang-tag
- 90974** — Light silver mirror lenses, black frame, carded
- 90959** — Yellow lenses, black frame, hang-tag
- 90966** — Yellow lenses, black frame, carded

- Semi-rimless design
- Soft nosepiece and adjustable temples
- Anti-scratch coating
- Meets the requirements of ANSI Z87.1-2010 and CSA Z94.3-2007



Wraparound Design

- 90950** — Clear lenses, black frame, hang-tag
- 90970** — Clear lenses, black frame, carded
- 90969** — Gray lenses, black frame, carded

- Wraparound design
- Adjustable temples with soft comfort accents
- DX™ anti-fog hard coat helps protect lens from fog, scratching and most chemicals
- Meets the requirements of ANSI Z87.1-2010 and CSA Z94.3-2007

Eye Protection

Value Eye Protection



SecureFit™ Safety Eyewear

- SF200** — Clear lenses
- SF201** — Gray lenses

- Features 3M Pressure Diffusion Temple Technology – a scientific advancement that helps diffuse pressure over the ear, enhancing comfort while ensuring a secure fit
- Automatically self-adjust for a customizable fit
- Anti-fog lens coating
- High-impact-resistant lenses absorb 99.9% UV
- Meets the requirements of ANSI Z87.1-2010



Virtua™ AP Safety Eyewear

- 47040** — Clear lenses, clear frame
- 47041** — Gray lenses, gray frame

- Weighs less than 1 ounce
- Stylish, high-wrap lenses
- High-impact- and scratch-resistant lenses absorb 99.9% UV
- Meets the requirements of ANSI Z87.1-2010

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Eye Protection

Value Eye Protection



Indoor and Outdoor Safety Eyewear

90551 – Indoor, clear lenses

90552 – Outdoor, gray lenses

- Lightweight – weighs less than 1 oz.
- Anti-scratch coating
- Available in 6-count and 20-count boxes
- Meets the requirements of ANSI Z87.1-2010

x6 Contractor 6-Pack

x20 Contractor 20-Pack



General Purpose Safety Eyewear

90780 – Clear lenses

90781 – Gray lenses

- Anti-scratch coating
- One-piece wraparound construction provides front and side protection
- Built-in sideshields
- Meets the requirements of ANSI Z87.1-2010 and CSA Z94.3-2007

Eye Protection

Specialty Eye Protection



Fuel™ X2P Polarized Eyewear

90879 – Gray lenses, two-tone black frame

- Polarized lenses with anti-scratch coating
- Grooved temple design
- Adjustable nosepiece
- Includes microfiber storage bag and lanyard
- Meets the requirements of ANSI Z87.1-2003



Light Vision™ II LED Safety Eyewear

97490 – Clear lenses, gray frame

- Two side-mounted, ultra-bright adjustable LEDs
- Anti-scratch coating
- Meets the requirements of ANSI Z87.1-2010 and CSA Z94.3-2007



Readers Safety Eyewear

91191 – Clear lenses, black frame, +1.5 Diopter Strength

91192 – Clear lenses, black frame, +2.0 Diopter Strength

91193 – Clear lenses, black frame, +2.5 Diopter Strength

- Designed for those who need reading glasses and the protection of safety glasses
- Eliminates the need to switch between safety glasses and non-protective reading glasses to read or see fine details
- Anti-scratch coating
- Adjustable temple lengths
- Meets the requirements of ANSI Z87.1-2010 and CSA Z94.3-2007



Eyeglass Protectors

47030 – Clear lens, clear frame

- Excellent protection for those who wear prescription eyewear
- Designed to be worn over prescription glasses
- Built-in side shields provide front and side protection
- High-impact- and scratch-resistant lenses absorb 99.9% UV
- Meets the requirements of ANSI Z87.1-2010

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Eye Protection

Goggles



Professional Chemical Splash/Impact Goggle

91264

- Helps protect eyes from certain airborne particulates and chemical splash
- Meets the requirements of ANSI Z87.1-2010



Chemical Splash/Impact Goggle

91252

- Vents help reduce fogging
- Helps protect eyes from certain airborne particulates and chemical splash
- Anti-scratch coating
- Chemical-resistant headband
- Meets the requirements of ANSI Z87.1-2010

 **Clip-strip available 90519**

Eye Protection

Reference

Eye Protection

In the United States, eye injuries are the second-leading cause of visual impairment¹ after cataracts. According to the epidemiology of serious eye injuries from the United States Eye Injury Registry, an estimated 1,400 of every 100,000 U.S. citizens will sustain an eye injury in their lifetime.²



According to the American Academy of Ophthalmology (AAO) and the American Society of Ocular Trauma, there are 2.5 million eye injuries in the United States annually, more than half of which (1.5 million) happen at home, usually during work around the home. Despite the fact that 90 percent³ of these injuries could be prevented by using appropriate eyewear, a survey by AAO showed that only 35 percent of people wear protective eyewear when working at home.

¹ "Eye Trauma Epidemiology and Prevention." Welcome to USEIR Online. United States Eye Injury Registry, 2007. Web. 24 June 2010. <http://www.useironline.org/Prevention.htm>
² The epidemiology of serious eye injuries from the United States Eye Injury Registry. Graefes Arch Clin Exp Ophthalmol. 2000 Feb; 238(2):153-7
³ "Eye Injuries at Home: EyeSmart." American Academy of Ophthalmology. Feb. 2009. Web. 24 June 2010. <http://www.aao.org/eyesmart/injuries/home.cfm>

Lenses

Lens Materials

3M non-prescription or plano safety eyewear use polycarbonate lenses — the strongest, most impact-resistant eyewear lens material available. Polycarbonate lenses are lightweight and provide 99.9% UV protection. In addition, polycarbonate material used in conjunction with anti-fog coatings is less likely to fog than other lens materials.

Lens selection



For some, a choice in lens simply reflects a personal preference. However, a lens color can denote suitability for a particular task or application. Lenses come in different tints and colors including UV or IR exposure, vision enhancement or glare reduction.

Clear

Clear lenses are best suited for indoor applications and for outdoors when a tinted lens is not desired or glare is not a factor.

- Provides the highest Visible Light Transmission (VLT)
- Most commonly used lens for indoor use

Yellow/Amber

Yellow/amber lenses filter out hazy light. They have excellent UV absorption and increase contrast. They are good for detail work, inspections and electronic work. Use for dawn/dusk applications or for hazy, overcast or foggy days. Do NOT use yellow lenses for night driving.

- Filters out hazy light
- Excellent UV absorption
- Increases contrast
- Do NOT use yellow lenses for night driving

Gray

Gray lenses help protect against glare and bright light (such as sunlight), and they transmit colors evenly without distortion.

- Helps protect against glare and bright light (such as sunlight)
- Transmits colors evenly without distortion

Silver Color Mirror/Blue Mirror/Red Mirror

These mirrored lens colors help reduce glare and decrease visual brightness. They are ideal for most outdoor daytime applications. Mirror coatings reflect light and reduce the amount of light passing through the lens.

- Help reduce glare and decrease visual brightness
- Reflects light
- Reduces the amount of light passing through the lens

Indoor-Outdoor

Indoor-outdoor lenses provide excellent vision in both outdoor and normal indoor lighting. Plan on using these types of lenses for tasks that require frequent movement from indoors to outdoors and vice versa (cutting outside but installing the trim inside).

- Provides excellent vision in both outdoor and normal indoor lighting
- Ideal for tasks that require frequent movement from indoors to outdoors and vice versa
- Useful when trying to reduce excessively bright or glaring light without significant dimming, as a gray lens might cause

Photochromatic

Photochromatic lenses help reduce brightness and glare from the sun and indoor lighting. Keep in mind that this type of lens will darken when outside and lighten when inside, so do not use them for projects where you have to move from indoors to outdoors, as the lenses may not transition quickly enough for you to safely see what you are working on.

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Eye Protection

Reference

- Helps reduce brightness and glare from the sun and indoor lighting
- Darkens when outside and lightens when inside, reducing the number of safety glasses needed for a single project
- Typically changes from dark to clear in about 35 seconds (clear state allows 77.5% light transmission)
- Typically changes from clear to gray in 8 seconds (reduces sun glare allowing just 22% light transmission)

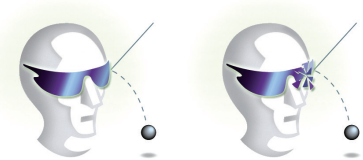
Polarized

Polarized lenses are designed to help reduce brightness and glare from the sun. Horizontally polarized light is blocked by the vertically oriented polarizers in the lenses. The result: a reduction in annoying and sometimes dangerous glare. The principle of polarized light reduction is best illustrated by thinking of a polarized lens as a Venetian blind. The blind blocks light at certain angles while allowing light to transmit through selected angles. Polarizing filters are aligned 90° to the angle of the polarized light.

- Reduces eyestrain, greater comfort
- Improves visual acuity, provides safety
- Realistic perception
- Reduces reflections and enhances visual clarity

Levels of Eye Protection

There are two levels of eye protection as defined by the ANSI Z87.1 Standards that apply to frames and lenses – Basic and High Impact.



[†] Canadian Eyewear Standards are addressed in CSA Z94.3

Basic Impact Lens Requirements:

Must pass the ball drop test. A 1" diameter steel ball is dropped on the lens from a height of 50".

High Impact Lens Requirements:

Must pass high-velocity testing, where 1/4" steel balls are shot at different velocities.

- Eyewear: 150 ft./sec.
- Goggles: 250 ft./sec.
- Face Shields: 300 ft./sec.

In addition, lenses must pass a high-mass impact test, where a 1.1 lb. pointed projectile is dropped onto the lens from a height of 50".

Frames

All eyewear (spectacles, goggles, faceshields and welding helmets) frames/housings must comply with the high-impact requirement while retaining the lens.

UV Protection

Ultraviolet light is a form of radiation invisible to the human eye. Exposure to UVA and UVB light — components of UV light — has been linked to eye cataracts and other eye disorders, such as macular degeneration. 3M safety eyewear provides protection from 99.9% of UV rays.

Additional Information

Product Markings

All spectacles, goggles and faceshields must be marked with appropriate level of protection.

Eyewear Lenses

- Basic Impact :: Manufacturer's Mark and ANSI Standard = 3MZ87
- High Impact :: Mfr's Mark, ANSI Standard and Plus Sign = 3MZ87+
- Specialty Lens :: Mfr's Mark, ANSI Standard and "S" = 3MZ87+S

Goggle & Faceshield Lenses

- Basic Impact :: Manufacturer's Mark and ANSI Standard = 3MZ87
- High Impact :: Mfr's Mark, ANSI Standard and Plus Sign = 3MZ87+

Note: 3M highly recommends wearing eye protection when wearing headgear/faceshields.

Maintenance & Care

Safety eyewear should be inspected prior to use since excessive scratching, pitting and cracking will reduce the eyewear integrity. Any eyewear with cracks or other defects should be replaced immediately. Also, any eyewear worn during an eye accident should be replaced. Eyewear should be put on and removed with two hands to prevent bowing or misalignment of the temples and should not be stored in sunlight.

Maintenance Tips

- Never wipe or clean eyewear lenses when they are dirty. Wash or blow off dust or grit
- Never use paper products, such as facial tissues, on eyewear lenses since wood fibers may scratch the lenses
- Wash lenses in warm water and let air dry or pat with soft cloth
- Keep eyewear in protective case or storage bag
- Don't rest the eyewear face down (on lenses) on a flat surface



Hearing Protection



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