

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)

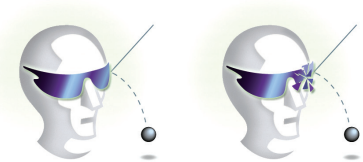
Polarized

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



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

3M products shown in this brochure must be used in accordance with OSHA regulations or other applicable standards, the user instructions, warnings and limitations accompanying each product.

Hearing Protection

Earmuffs



Professional Hearing Protector

90561

- Excellent fit and comfort while providing protection
- Fully adjustable, steel-wire padded headband
- Patented twin-cup design
- NRR 30 dB



Low-profile Earmuff

90560

- Folding headband for easy storage
- Low-profile cup design
- Foam cushions
- NRR 21 dB

Hearing Protection

Earmuffs



Folding Earmuff

90559 – Blue cups

91248 – Black cups

- Folds away for easy storage
- Adjustable
- NRR 23 dB



WorkTunes™ Hearing Protector featuring Voice Assist

90541

- AM/FM radio and hearing protector all-in-one
- Voice Assist makes product easier to use
- Bass Boost options enhance users listening experience
- MP3 or scanner compatible
- Lightweight and comfortable
- Soft foam ear cushions
- Fully adjustable
- NRR 24 dB

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Hearing Protection

Disposable and Reusable Earplugs



Disposable Earplugs

92050 – 4 pair/pack
92077 – 7 pair/pack

- Smooth and soft foam formulation
- Expands slowly to fit most ear canals
- NRR 32 dB

x4 4 pair/pack

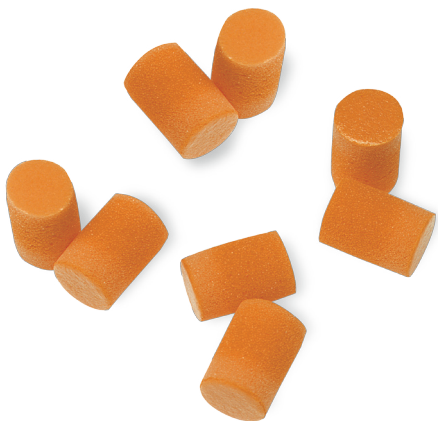
x7 7 pair/pack



Disposable Earplugs

92059

- Ultra-soft foam for comfortable all-day wear
- Expands slowly to fit most ear canals
- Packaged in 80-pair box
- NRR 32 dB



Disposable Classic™ Earplugs

90580 – 4 pair/pack
90579 – 50 pair/box
90581 – 200 pair/box

- Soft foam comfortable to wear over extended time
- Expands slowly to fit most ear canals
- NRR 29 dB

x4 4 pair/pack

x50 1 pair dispenser box (50 count)

x200 1 pair dispenser box (200 count)

Hearing Protection

Disposable and Reusable Earplugs

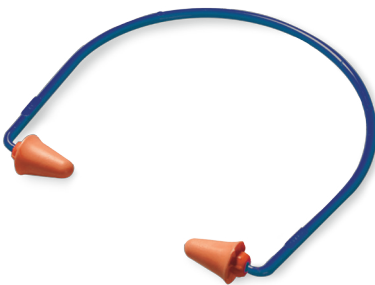


Corded Reusable Earplugs

90586 – 1 pair with case

- Triple-flange design for a comfortable, snug fit
- Cord reduces the chance of losing earplugs
- NRR 25 dB

x3 3 pair/pack



Banded Hearing Protector

90537

- Lightweight and adjustable
- Store around neck when not being used
- Pods are washable, detachable and replaceable
- NRR 28 dB



Replacement Pods for 90537

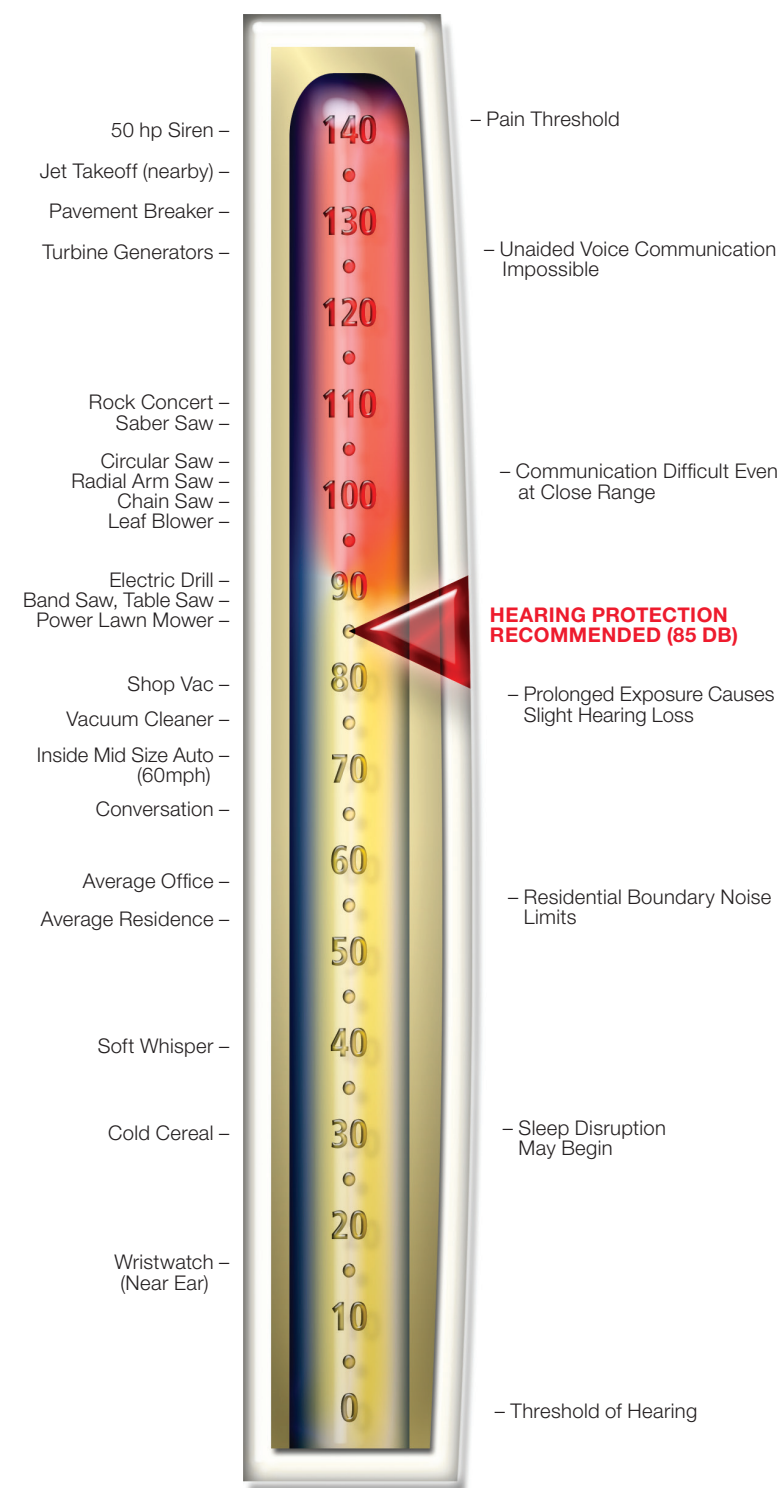
90538 – 2 pair/pack

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Hearing Protection

Decibels Chart*



* Source: Life Can Be Loud 2007, Elliott H. Berger, M.S., 3M Senior Scientist, Auditory Research



General Safety Protection



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