



GLOVES: CUT LEVEL RATINGS

There are many kinds of cut hazards, and each one requires a different level of protection. Use the table below to help determine the cut level rating necessary for your work environment.





LIGHT CUT HAZARDS:

material handling, assembly, maintenance, packaging, warehouse, general purpose, construction

200 - 499 grams



LIGHT/MEDIUM CUT HAZARDS:

material handling, assembly, maintenance, packaging, warehouse, general purpose, construction, metal handling, appliance manufacturing

500 - 999 grams



LIGHT/MEDIUM CUT HAZARDS:

material handling, assembly, maintenance, packaging, warehouse, general purpose, construction, metal handling, appliance manufacturing

1000 - 1499 grams



MEDIUM CUT HAZARDS:

bottle and light glass handling, canning, dry walling, electrical, carpet installation, HVAC, paper production, automotive assembly, metal handling, metal stamping, packaging, warehouse, appliance manufacturing

1500 - 2199 grams



MEDIUM CUT HAZARDS:

bottle and light glass handling, canning, dry walling, electrical, carpet installation, HVAC, paper production, automotive assembly, metal handling, metal stamping, packaging, warehouse, appliance manufacturing

2200 - 2999 grams



MEDIUM/HEAVY CUT HAZARDS:

bottle and light glass handling, canning, dry walling, electrical, carpet installation, HVAC, paper production, automotive assembly, metal handling, metal stamping, packaging, warehouse, appliance manufacturing

3000 - 3999 grams



MEDIUM/HEAVY CUT HAZARDS:

bottle and light glass handling, canning, dry walling, electrical, carpet installation, HVAC, paper production, automotive assembly, metal handling, metal stamping, packaging, warehouse, appliance manufacturing, meat processing

4000 - 4999 grams



HEAVY CUT HAZARDS:

bottle and light glass handling, canning, dry walling, electrical, carpet installation, HVAC, paper production, automotive assembly, metal handling, metal stamping, packaging, warehouse, appliance manufacturing, meat processing

5000 - 5999 grams



HEAVY CUT HAZARDS:

bottle and light glass handling, canning, dry walling, electrical, carpet installation, HVAC, paper production, automotive assembly, metal handling, metal stamping, packaging, warehouse, appliance manufacturing, meat processing

6000+ grams

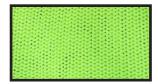




HAND PROTECTION QUICK FACTS

GLOVE SHELLS

Glove shells are knitted on a flat head knitting machine and are measured by the gauge (ga) of the shell. The gauge of the shell identifies how many needles are used per linear inch on a knitting machine. A 15-gauge shell, for example, is knitted on a machine with 15 needles per linear inch. The smaller the gauge, the thicker the shell. 7 ga is the thickest shell and 18 ga is the thinnest, lightest weight shell.



POLYESTER:

- Monofilament Yarn
- . Single Fiber, Not Twisted



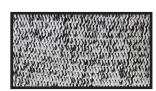
NYLON:

- Man-Made Yarn
- Durable
- Excellent Abrasion Resistant
- Varying Luster



HPPE:

- High Performance Polyethylene
- Same as HDPE or UHMwPE
- Offers Cut Levels A2-A3



HPPE WITH FIBERGLASS &/OR STAINLESS STEEL :

- Reinforced HPPE
- The addition of fiberglass can increase to A3 cut level
- The addition of stainless steel can increase to A5 or higher cut level

GLOVE COATINGS

To address specific work-related hand protection issues, Radians uses several different types of palm coatings: smooth nitrile, foam nitrile, sandy foam nitrile, foam latex, sandy foam latex, crinkle latex, PU (polyurethane), and FDGTM. Palm coatings allow for better gripping capabilities and tactile sensation without losing dexterity.



SMOOTH NITRILE

- Excellent Abrasion Resistance
- Synthetic Rubber, Latex Free
- Excellent Puncture Resistance
- Tactile Sensitivity and Flexible Grip



FOAM LATEX

- Micro Texture
- Better Breathability and Comfort
- Excellent Flexibility
- Resistant to Tears and Cuts



FOAM NITRILE

- Lightweight Micro Texture
- Good Grip in Wet or Dry Applications
- Breathable, Flexible and Porous
- Excellent Abrasion Resistance



SANDY FOAM LATEX

- Micro-Roughened Texture
- Better Breathability and Comfort
- Excellent Flexibility
- Resistant to Tears and Cuts



SANDY FOAM NITRILE

- Micro-Roughened Texture
- Excellent Grip in Wet or Dry Applications
- Breathable, Flexible and Porous
- Excellent Abrasion Resistance



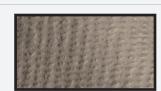
CRINKLE LATEX

- Rough Texture for Better Grip and Abrasion
- Better Breathability and Comfort
- Excellent Flexibility
- Resistant to Tears and Cuts



MICROFOAM NITRILE

- Micro Textured
- Excellent Abrasion Resistance
- Good Grip in Wet or Dry Applications
- Breathable, Flexible and Porous



PU (POLYURETHANE)

- Semi-Smooth Texture
- Extremely Flexible
- Superior Dexterity
- Not as Durable as Nitrile or Latex



When dealing with Foam, Micro Foam or Sandy Foam Nitrile to get the best grip you must give up some abrasion resistance and to get the best abrasion resistance you have to give up some grip.

With Flexible Durable Grip, you no longer must give up any of these. You get the **BEST OF BOTH WORLDS.**





Good: Micro Foam Nitrile Better: Foam Nitrile Best: Sandy Foam Nitrile Exceptional: *Flexible Durable Grip*

Good: Sandy Foam Nitrile
Better: Foam Nitrile
Best: Micro Foam Nitrile
Exceptional: *Flexible Durable Grip*

HIGH VISIBILITY QUICK FACTS

ANSI/ISEA 107-2020 OVERVIEW: STANDARD FOR ALL HIGH VISIBILITY SAFETY APPAREL

6.1 ERGONOMICS

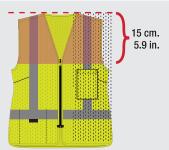
The garment should be designed for correct fit and positioning on the user and should be designed to ensure that it remains in place for the expected period of use, anticipating environmental factors as well as movements the wearer could adopt during the course of work.

DESIGN REQUIREMENTS 8	APPAREL CONFIGURATIO	NS		
GARMENT TYPE	PERFORMANCE CLASS	BACKGROUND MATERIAL*	RETROREFLECTIVE OR COMBINED-PERFORMANCE MATERIALS	MINIMUM REFLECTIVE MATERIAL
TYPE O Off Road & Non-roadway use	1	0.14 sq. m. ———————————————————————————————————	0.10 sq. m. ———————————————————————————————————	25 mm ———————————————————————————————————
TYPE R Roadway & TTC Zones	2	0.35 sq. m.	0.13 sq. m. ———————————————————————————————————	35 mm ———————————————————————————————————
TYPE R Roadway & TTC Zones	3	0.65 sq. m.	0.20 sq. m. ———————————————————————————————————	50 mm ———————————————————————————————————

^{*}Balanced between front and back. No less than 40% of the minimum required amount of retroreflective or combined performance and background materials is present on both the front and the back when laid flat.

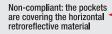
SHOULDER AREA

HVSA without retroreflective or combined-performance material that encircles the arm shall have a minimum of 150 sq. cm. (23.3 sq. in.) of retroreflective material or combined-performance material in the shoulder area to provide 180-degree visibility of the wearer. When folded flat, the shoulder area of the HVSA measures 15 cm. (5.9 in.) down from the high point of the shoulder, front and back.



POCKETS

Pockets of matching or contrasting compliant high-visibility materials shall not create any gaps in retroreflective or combinedperformance material of more than 50 mm (1.97 in.) horizontally.





REFLECTIVE MATERIAL • TYPE R, CLASS 1

Shall fully encircle the torso and shall be a minimum of 25 mm (1 in.) wide.

REFLECTIVE MATERIAL • TYPE R, CLASS 2

Shall use at least one horizontal band of retroreflective or combined-performance material around the torso, and shall include at least the minimum of 150 sq. cm. (23.3 sq. in.) of retroreflective material or combined performance material in the shoulder area to provide 180-degree visibility of the wearer.

REFLECTIVE MATERIAL • TYPE R, CLASS 3

Shall use one or more horizontal bands of retroreflective or combined-performance material around the torso, and shall include one or more encircling bands on the sleeves, with a minimum band of 50 mm (2 in.) wide.

GAPS (6.3.3)

Gaps in retroreflective or combined-performance materials shall not be more than 50mm (2 in.) horizontally to enable fastening or for seam allowance.

HIGH VISIBILITY QUICK FACTS

ANSI/ISEA 107-2020 TYPES + CLASSES

TYPE 0 ("OFF-ROAD")

OCCUPATIONAL HVSA FOR NON-ROAD USE

Provides daytime & nighttime visual conspicuity enhancements for workers in occupational environments which pose struck-by hazards from moving vehicles, equipment and machinery, but which will not include exposure to traffic on public access highway rights-of-way or roadway temporary traffic control (TTC) zones.

PERFORMANCE CLASS 1 (TYPE 0)

Provides the minimum amount of high-visibility materials required to differentiate the wearer visually from non-complex work environments, in scenarios in which the struck-by hazards will not be approaching at roadway speeds, and therefore operative detection and identification distances in the work environment can be shorter than in other situations without compromising safety.

TYPE R ("ROADWAY")

OCCUPATIONAL HVSA FOR ROADWAY USE

Provides daytime & nighttime visual conspicuity enhancements for workers in occupational environments which include exposure to traffic (vehicles using the highway for purposes of travel) from public access higheway rights-of-way, or roadway TTC zones or from work vehicles and construction equipment within a roadway TTC zone.

PERFORMANCE CLASS 2 (TYPE R)

Provides for the use of additional amounts of high-visibility materials, which may allow design opportunities to define the human form more effectively. Performance Class 2 HVSA have the potential to provide longer detection and identification distances and increased conspicuity performance compared to the Class 1 HVSA.

PERFORMANCE CLASS 3 (TYPE R)

Can offer greater visibility to the wearer in both complex backgrounds and through a full range of body movements by mandatory placement of background, retroreflective and combined-performance materials on sleeves and pant legs (if present). Regardless of the area of materials used, a sleeveless garment or vest alone shall not be considered Class 3.



COMPLIANT Type O, Class 1



COMPLIANT Type R, Class 2



COMPLIANT Type R, Class 3





DEFINITIONS

BACKGROUND MATERIAL- Colored fluorescent material intended to be highly conspicuous, but not intended to comply with the requirements of this standard for retroreflective material.

BAND- A strip or stripe that contrasts with the adjacent material in color, texture, material and function.

FLUORESCENT MATERIAL- Material that instantaneously emits optical radiation within the visible range at wavelengths longer than absorbed and for which emission ceases upon removal of the source of irradiation. These materials enhance daytime visibility, especially during dawn and dusk. HIGH VISIBILITY SAFETY APPAREL (HVSA)- Personal protective safety clothing intended to provide conspicuity during both daytime, nighttime and other low-light condition usage.

RETROREFLECTIVE MATERIAL- Material that reflects and returns a relatively high proportion of light in a direction close to the direction from which it came. SHOULDER AREA- The area of an item of apparel that lies above a horizontal plane located 15 cm. (5.9 inches) below the shoulder high point as measured along the HVSA.

WHY TYPE II HEAD PROTECTION?

DEWALT Type II Safety Helmets offer unparalleled protection in diverse scenarios involving climbing and possible head impact. The DEWALT Type II helmet offers a brimless design for a greater field of vision, a lower profile for enhanced mobility, and a 4pt chin strap to help keep the helmet securely in place when climbing, looking around or in the event of a fall.

Whether it's ascending ladders, navigating scaffolding, working on power or telecom poles, or engaging in tasks that demand fall protection, DEWALT Type II helmets prove indispensable protection. In contrast to Type I helmets, Type II helmets offer comprehensive protection against impacts from various angles and rotations, making them essential in industries with a heightened risk of lateral impacts.



HEAD PROTECTION QUICK FACTS

OSHA REGULATIONS

EMPLOYER REQUIREMENTS

OSHA requires that employers provide a workplace free of recognized hazards. Step 1 of that is they must conduct a hazard analysis, and if a hazard is present, they must follow the hierarchy of controls:

1 Elimination 2 Substitution 3 Engineering Controls 4 Admin Controls

If unable to feasibly remove the hazard, employers must provide employees with proper PPE and training

OSHA HAS TWO REGULATIONS THAT REGULATE SAFETY HELMET REQUIREMENTS:

- 1. 29 CFR 1910.135: Governs safety helmet requirements for general industry workers
- 2. 29 CFR 1926.100: Refers to head protection requirements for construction, demolition, and renovation workers

Both standards require workers to wear safety helmets if they are at risk of being struck by falling objects, bumping their heads on fixed objects, or coming in contact with electrical hazards.

OSHA REQUIRES SELECTION CRITERIA FOR HEAD PROTECTION THAT MUST COMPLY WITH ANSI/ISEA Z89.1

HEAD PROTECTION: ANSI/ISEA Z89.1-2014 (R19)

- American National Standard for Industrial Head Protection
- Provides (1) performance (2) testing and (3) labeling requirements for industrial hard hats.
- It establishes the types and classes of protective helmets, depending on the type of hazard encountered

SAFETY HELMET TYPES

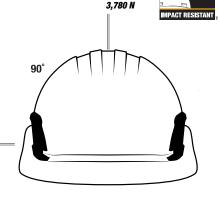
TOP IMPACT (TYPE I)

Helmets designed to reduce the force of impact resulting from a blow to the top of the head.

TOP AND LATERAL IMPACT (TYPE II)

Provides impact to (90 degrees from vertical). Type 2 helmets require a larger foam interior and increased side coverage.





MAX FORCE

*Some climbing style helmets reference the off-center impact requirements of EN12492. Please note ANSI/ISEA Z89.1–2014 (R19) Type II requirements exceed those of EN12492.

HEAD PROTECTION QUICK FACTS

ANSI SAFETY HELMET ELECTRICAL CLASSES

To improve comprehension and usefulness, there are electrical-protective classifications for helmets as follows:

GENERAL



- Intended to reduce the danger of exposure to low voltage electrical conductors
- Proof tested at 2,200 volts @ 1 minute

ELECTRICAL



- Intended to reduce the danger of exposure to high voltage electrical conductors
- Proof tested at 20,000 volts @ 3 minutes
 And no burn through @ 30,000 volts
- Class E supersedes class G

CONDUCTIVE



Helmets NOT intended to provide protection from electrical conductors.

LABELING REQUIREMENTS

Each helmet shall bear permanent marking stating:

- 1. Name or Mark of MFG
- 2. Date of MFG
- 3. ANSI/ISEA Z89.1-2014
- 4. Applicable Types & Class Designations
- 5. Applicable Optional Criteria
 - Reverse Donning
 - Lower Temperature LT
 - Higher Temperature HT
- 6. Approximate Head Size Range

HEAD PROTECTION CATEGORIES

TRADITIONAL

- Z89.1 Type I
- Z89.1 Class E & G (non-vented)/ class C (vented)
- Reverse Donning (RD) & Low Temperature (LT)
- Full Brim Or Cap Style (Full brim provides added protection from dropped objects and sunburns)
- 6pt Ratchet Suspensions
- Standard or Vented (venting for warmer climates where electrical protection is not a requirement)

APPLICATIONS

- Construction
- Manufacturing
- Mining
- General Industry
- Temporary Workers / Visitors



TYPE II HELMET

- Z89.1 Type II
- Z89.1 Class E & G (non-vented)/ class C (vented)
- High Temperature (HT)
- Brimless for Increased field of vision especially when looking up
- Lower profile for Increased mobility and reduced snag hazard
- 4pt chin strap to prevent roll off and securely fasten the hard hat to you when climbing or looking around
- Increased comfort with foam, added padding &
- removable brow pad
- High initial cost compared to traditional hard hats Standard or Vented (venting for warmer climates where electrical protection is not a requirement)

APPLICATIONS

- Any task that requires a Hard Hat and climbing: Ladders, scaffolding, power & telecom poles
- If you need to wear fall protection
- Any task that requires a greater field of vision
- Any task that could use a lower profile helmet to reduce snag hazards and increase mobility: Miners, rescue workers
- Industrial/Construction: Iron Workers
- Utilities: Linesmen, gas/water/sewer workers

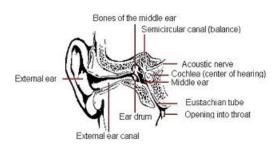


HEARING PROTECTION QUICK FACTS

HEARING LOSS IS 100% PREVENTABLE

NIHL EXPLAINED

Permanent hearing loss can occur when exposed to high levels of noise. This is possible with just ONE instance of over-exposure. Exposure to high levels of noise can also cause tinnitus (ringing in the ears). Other issues related to loud noise at work are physical and psychological stress, reduction in concentration and communication, loss of productivity, and increased probability of work-related accidents.



Damage occurs when sound energy from high noise levels enters your ear. Damage does not affect the eardrum or bones, but instead the receptor cells deep in your ear. Unlike other cells in your body that can regenerate, these receptor cells, once damaged, are gone forever. Noise-induced hearing loss can most easily be diagnosed through an audiogram. Unlike age-related hearing loss which affects mainly high frequencies, NIHL causes a visible "notch" affecting certain frequencies. It is usually bilateral (affects both ears equally) and progresses gradually. Ear pain or drainage is probably not due to noise exposure.

Basically, if you experience a ringing or humming in the ears after work, inability to communicate with a co-worker when only an arm's length away, and/or temporary hearing loss at any time, then the noise level is most likely hazardous.

PROTECTION REQUIREMENTS

OSHA's noise standards require that a personal hearing protection device (HPD) be worn to attenuate the occupational high noise exposure of employees, and NIOSH recommends that all workers exposures to noise should be controlled below a level equivalent to 85dBA for eight hours to minimize occupational NIHL.

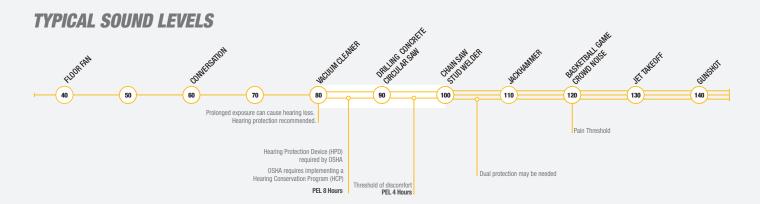
A dB (Decibel) is the unit used to express the intensity of sound. The threshold of discomfort is between 85 and 95dB, while the threshold for pain is between 120 and 140dB. The level of sound energy doubles for every 3 decibels, so small dB increases represent enormous changes in sound energy.

Hearing damage from noise exposure depends on the loudness, length of exposure, and the person. Habitual exposure to noise above 85dB will cause hearing loss in most people. OSHA requires HPD be provided when noise exposure is 85dB or more, with average exposure level of no more than 90dB for 8 hours. For each increase of 5dB, the maximum exposure limit is cut in half.

TIME WEIGHTED AVG.	PERMISSIBLE EXP	OSURE LIMIT
90 dB	8 Hours	
95 dB	4 Hours	
100 dB	2 Hours	
105 dB	1 Hour	
110 dB	30 Minutes	
115 dB	15 Minutes	

FOR EXAMPLE:

The two most common methods for monitoring noise levels are area sampling with a sound level meter or personal sampling with a noise dosimeter. Whereas a sound level meter reads the instantaneous noise level for continuous noises, a dosimeter takes measurements over time to provide a time weighted average. The time weighted average is a much better estimation of exposure in most cases. There are several noise and dosimeter apps available for tablets and smartphones which can give you an idea of the noise level, but they are not suitable for compliance purposes. The NIOSH SLM (Sound Level Meter) app is a good starting point.



HEARING PROTECTION QUICK FACTS

NRR (NOISE REDUCTION RATING)

The Environmental Protection Agency (EPA) specifies ANSI S3.19 as the test method for all hearing protection sold in the US. This method measures the attenuation for the hearing protector using a minimum of 10 human test subjects. The NRR is then calculated from the test results. While the NRR is calculated to indicate at least 98% of wearers will achieve the rated NRR, actual attenuation varies greatly based upon user anatomy and training. The NRR can range from 1 to 33 depending on the effectiveness of the protector. Values greater than 33 are not achievable due to different paths the noise can take entering the human ear. The NRR will be published in an EPA label on the packaging of any complaint protector.

HEARING CONSERVATION PROGRAM

OSHA requires a Hearing Conservation program when noise exposure exceeds 85dB. This requires:

- 1. Making at least 3 styles of hearing protection available to exposed employees
- 2. Limiting employee exposure to no more than 90dB / 8 hours (Time Weighted Average) by:
 - A Engineering controls to reduce noise levels,
 - **B** Limiting employee exposure time to elevated noise levels, or
 - **C** Providing suitable hearing protection
- 3. Annual testing of hearing levels for exposed workers.

HPD SELECTION

HPD selection should be based on several factors, including the type of noise, continuous vs. intermittent exposure, cost, and worker preference. Keep in mind that worker compliance is one of the most important factors when considering the effectiveness of any HPD. If employees refuse to wear a given HPD because it is uncomfortable, cumbersome, or ineffective, then they are at risk for NIHL.

Make sure you choose a HPD that is appropriate for the working environment. Over protection is just as potentially harmful as under protection. Simply choosing the highest NRR regardless of the decibel level of the environment can have hazardous consequences. For example, if noise levels while using a HPD are brought below 70dB then some workers may be unable to hear verbal communication or warning alarms.

HEARING PROTECTION TYPES



Active earmuffs use microphones and electronic circuitry to amplify sound around the listener and cut or compress amplification when louder noises occur. This allows the user to hear communication when noise levels are low, while still receiving the full protection of the passive earmuff when needed. Active earmuffs are tested with the electronics off, as the electronics do not contribute to the attenuation. With the electronics on, sounds may be louder than without protection.





FOAM EARPLUGS

DEWALT foam earplugs are made in the USA from polyurethane foam for long-term comfort. They are designed for a single use.







EARMUFFS (PASSIVE)

Earmuffs are easy to fit properly and great for intermittent use. They come in a variety of shapes, sizes and styles with NRRs around 23 for slimmer, lighter models to as high as 29 for larger muffs. They are also available with features such as padded, compact folding and adjustable headbands. Because earmuffs are very visible, it is easy to ensure compliance.

EYE/FACE PROTECTION QUICK FACTS

ANSI/ISEA Z87.1

The ANSI/ISEA Z87.1 is a national standard that is referenced by OSHA for eye and face protective devices, including safety glasses, goggles, and face shields.

Z87.1+



It sets out the necessary requirements and criteria for eye and face protective devices, including:

- Fundamental design requirements such as optical and physical requirements and markings
- Optional characteristics like anti-fog performance (X marking)
- Optional hazard-specific requirements such as impact, liquid splash and droplet, and dust protection.

Additionally, it covers test methods, instructions for use and maintenance, and selection of the appropriate protective device.

IMPACT RATED

In order to obtain the Z87+ marking and meet the ANSI Z87.1-2020 standards for eye and face protection against impact, a protective device must pass three major impact tests: high velocity impact, high mass impact, and penetration, as well as offer adequate lateral coverage at a minimum.

TE	ST	CALIBER	IMF	PACT	PASS CRITERIA
HIGH VELOCITY	Shall be capabale of resisting an impact from	0.25" Diameter Steel Ball (25 caliber)	Projectile traveling at a velocity of • Glasses: 150' / second • Goggles: 250' / second • Faceshields: 300' / second		No contact with the eye of the head form is permitted as a result of impact. No piece shall be detached from the spectacle and the test lens shall be retained in the frame. In addition, the lens shall not fracture.
HIGH MASS	Shall be capabale of resisting an impact from	17.6 oz (500 g) Projectile	- Projectile dropped from a height of 50"	127 cm 50 in	No piece shall be detached from the inner surface of any spectacle component and the lens shall be retained in the frame. In addition, the lens shall not fracture.
PENETRATION	Shall be capable of resisting penetration from	Low Mass Weighted Needle (>1.56 oz.)			The lens shall not be penetrated as a result of this test.

OPTIONAL RATINGS OF ANSI/ISEA Z87.1-2020



LIQUID SPLASH RATED

Devices rated D3 are tested to determine the capability of preventing liquid splash & droplets from penetrating the protector.

When selecting a protective device, consider the seal integrity, how it fits and the wearability.

DUST RATED

Devices rated D4 are tested to determine the capability of **preventing dust and debris from penetrating the protector**.

Some examples of tasks where D4 rated glasses would be applicable include grinding, drywall installation, landscaping and demolition.



ANTI-FOG RATED

Devices rated X are tested to determine the capability and effectiveness of **preventing fogging**.

Users who work in humid or variable temperature environments should select a device with this designation. DPG84, DPG22-13, DPG22-23

EYE/FACE PROTECTION QUICK FACTS

FACTORS TO CONSIDER WHEN SELECTING THE PROPER PROTECTIVE DEVICE

PROPER FIT

Properly fitting PPE is crucial to avoid potential accidents/injuries, as well as discomfort and distractions that could lead to decreased productivity.

Choose from a variety of features:

- Comfort: Added Rubber to Temples, Nose Pieces, and Brows
- Adjustability: Adjustable Nose Pieces + Telescoping, Ratcheting, and Wire-Core Temples
- Size: Smaller and Larger Frames Available

WHY POLYCARBONATE?

Most eye & face protective devices are made from polycarbonate because:

- · Highly Impact Resistant
- Lightweight
- Flexible
- Economical
- Naturally Filters 99.9% UV A, B, & C



FOGGING

Fogging is a major issue to consider when selecting the proper safety eyewear because it can impair vision, causing workers to decide between either working blind or removing the very PPE protecting them.

How does fogging occur?

Fogging occurs when the temperature inside the eyewear is warmer than the temperature outside, causing moisture to condense on the lenses.

This can be a common occurrence in high humidity environments or when workers transition between hot and cold areas.

COMMON ENVIRONMENTS AND APPLICATIONS FOGGING OCCURS			
ENVIRONMENT	REASON	EXAMPLE Application	
COLD	Safety glasses can fog up due to the temperature difference between the warm air inside the glasses and the cold air outside.	Food Freezers, Cold Storage, Food Processing, Winter Outdoors	
HOT & HUMID	Safety glasses can fog up due to the buildup of moisture on the lenses.	Forging, Metal Working, Farming, Agriculture, Forestry, Landscaping, DPW's, Manufacturing , Construction, Summer Outdoors	
MOVING BETWEEN DRASTIC TEMP CHANGES	Workers who move between areas that are kept at very cold temperatures and areas that are at room temperature or higher cause toggy glasses due to the sudden temperature changes.	Cold Storage Facilities, Refrigeration, Food Processing	
LOW AIR FLOW / VENTILATION	Low air flow and/or poor ventilation can create a humid environment that traps moisture and heat, causing safety glasses to fog, which can persist if there is not enough air flow or ventilation to remove the moisture. This can be a problem in situations where safety glasses are needed for extended periods, such as in manufacturing or construction settings.	Working in Confined Spaces, Manufacturing, Construction, Maintenance	
FACE COVERINGS / RESPIRATORS	Wearing a face covering or respirator can cause moisture to condense on safety glasses due to diverted airflow and increased humidity, leading to fogging.	Healthcare, Pharmaceutical, Construction, Painters, Welders, Food Processing	

EYE/FACE PROTECTION TYPES

PLANO GENERAL USE

Many feature options:

- Rubber Temples
 - One-Piece Design
- Neck Cords • Full Frame
- Lightweight

MAJOR HAZARDS

Features:

- Provides additional protection around lens
- NOT recommended for splash protection
- Smaller and typically more comfortable than a goggle
- · Strap options

FOAM LINED/HYBRID

GOGGLES EXTREME HAZARDS

Features:

- Maximum protection from liquids and dust
- Indirect venting maintains seal while improving comfort
- · Wide range of comfort and value

MAGNIFIERS AND OTG (OVER THE GLASS) VISION IMPAIRMENT

Magnifier Features:

- Convenience
- Improved Vision
- OTG Features:
- Cost-Effective Convenience

FACE SHIELDS FULL FACE COVERAGE

Features depending on material:

- · Impact protection
- · Chemical resistance
- · Economical solution
- Ventilation



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