Hearing Protection

Decibles Chart*

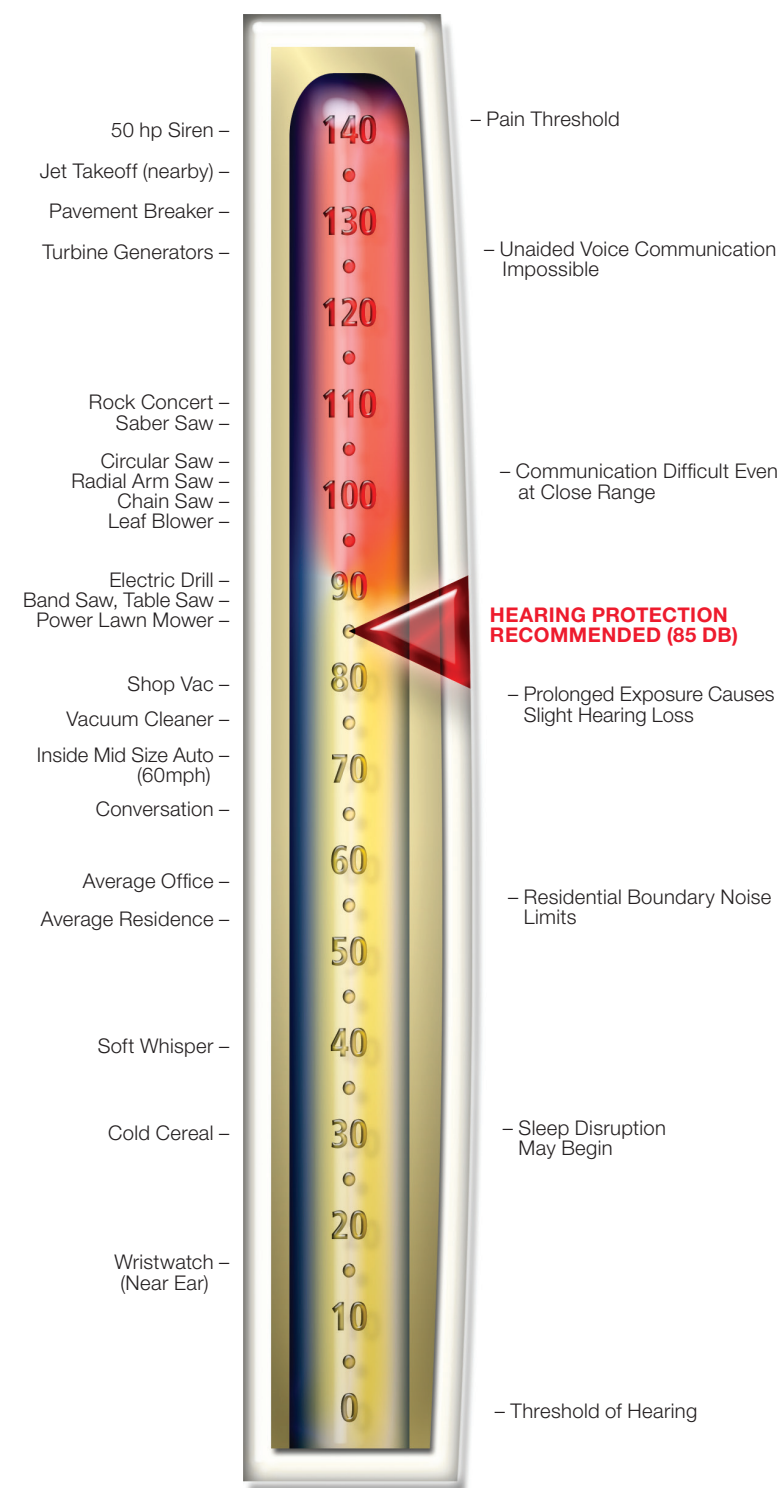|	
50 hp Siren –	**140** – Pain Threshold
Jet Takeoff (nearby) –	
Pavement Breaker –	**130**
Turbine Generators –	– Unaided Voice Communication Impossible
	120
Rock Concert – Saber Saw –	**110**
Circular Saw – Radial Arm Saw – Chain Saw – Leaf Blower –	**100** – Communication Difficult Even at Close Range
Electric Drill – Band Saw, Table Saw – Power Lawn Mower –	**90**
	HEARING PROTECTION RECOMMENDED (85 DB)
Shop Vac –	**80** – Prolonged Exposure Causes Slight Hearing Loss
Vacuum Cleaner –	
Inside Mid Size Auto – (60mph)	**70**
Conversation –	
Average Office –	**60**
Average Residence –	– Residential Boundary Noise Limits
	50
Soft Whisper –	**40**
Cold Cereal –	**30** – Sleep Disruption May Begin
	20
Wristwatch – (Near Ear)	**10**
	0 – Threshold of Hearing

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

3M

General Safety Protection

3M™ Vented UV Indicator Hard Hat with Ratchet Adjustment

92000 – White
92001 – Yellow

- Sun-Smart Sensor for increased hard hat safety: UV indicator lets wearers know when to replace hard hat due to UV exposure
- Comfortable suspension sits lower on head to reduce pressure points and increase security
- Optimized comfort with 3 levels of height adjustment
- Includes a replaceable, ventilated foam brow pad that includes a cover for comfort and ventilation between the forehead and the foam
- Improved smaller, smoother turning 4-point ratchet suspension system
- Made in the USA with globally sourced materials
- ANSI/ISEA compliant when worn in the forward and reverse donning positions
- Meets the requirements of ANSI/ISEA Z89.1-2009 Type 1, Class C
- Meets CSA Z94.1-2005 Type 1, Class C requirements

UV Indicator Shows Hard Hat Status

Red — New
Fading to white — Worn
White — Replace

3M™ Vented Hard Hat with Ratchet Adjustment

91270 – White

- Comfortable suspension sits lower on head to reduce pressure points and increase security
- Optimized comfort with 3 levels of height adjustment
- Includes a replaceable, ventilated foam brow pad that includes a cover for comfort and ventilation between the forehead and the foam
- Smooth-turning 4-point ratchet suspension system.
- ANSI/ISEA compliant when worn in the forward and reverse donning positions
- Meets the requirements of ANSI/ISEA Z89.1-2009 Type 1, Class C
- Meets CSA Z94.1-2005 Type 1, Class C requirements

3M™ Non-Vented Hard Hat with Ratchet Adjustment

91297 – White
91298 – Yellow

- Comfortable suspension sits lower on head to reduce pressure points and increase security
- Optimized comfort with 3 levels of height adjustment
- Includes a replaceable, ventilated foam brow pad that includes a cover for comfort and ventilation between the forehead and the foam
- Smooth-turning 4-point ratchet suspension system
- ANSI/ISEA compliant when worn in the forward and reverse donning positions
- Meets the requirements of ANSI/ISEA Z89.1-2009 Type 1, Dielectric Class C, G and E
- Meets CSA Z94.1-2005 Type 1, Dielectric Class C, G and E requirements

3M™ Full-Brim Non-Vented Hard Hat with Ratchet Adjustment

91280 – White

- Comfortable suspension sits lower on head to reduce pressure points and increase security
- Optimized comfort with 3 levels of height adjustment
- Includes a replaceable, ventilated foam brow pad that includes a cover for comfort and ventilation between the forehead and the foam
- Smooth-turning 4-point ratchet suspension system
- Full brim helps protect ears and neck from UV rays
- ANSI/ISEA compliant when worn in the forward and reverse donning positions
- Meets requirements of ANSI/ISEA Z89.1-2009 Type 1, Dielectric Class C, G and E
- Meets CSA Z94.1-2005 Type 1, Dielectric Class C, G and E requirements

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.

General Safety Protection

Head Protection

3M™ Non-Vented Hard Hat with Pinlock Adjustment

91295 – White
91296 – Yellow

- Comfortable suspension sits lower on head to reduce pressure points and increase security
- Optimized comfort with 3 levels of height adjustment
- Replaceable standard brow pad
- Pinlock suspension system
- ANSI/ISEA compliant when worn in the forward and reverse donning positions
- Meets requirements of ANSI/ISEA Z89.1-2009 Type 1, Dielectric Class C, G and E.
- Meets CSA Z94.1-2005 Type I, Dielectric Class C, G and E requirements

General Safety Protection

Face Protection

Professional Faceshield

90028

- Helps protect the eyes and face against certain impact and chemical hazards
- Crown protector is made of a high-strength thermoplastic material
- Window is made of polycarbonate
- Proprietary window attachment system is easy to replace
- Easy to adjust pinlock for a custom, secure fit
- Meets the requirements of ANSI Z87.1-2003

Clear Replacement Polycarbonate Window

90030

- Meets the requirements of ANSI Z87.1 2003

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

General Safety Protection

Reflective Clothing

ANSI Class 3 Safety Vest with Sleeves

94900-80030 – Yellow

- Meets ANSI/ISEA 107-2010 Class 3 and Federal Highway Mandate-2009 Manual of Uniform and Traffic Control Devices to help meet the retro-reflective performance needed for most worksites
- Provides the highest level of visibility during extreme weather conditions and around traffic going more than 50mph
- Designed for high risk: traffic teams working on freeways & highways, construction, utility, emergency personnel and during intense weather conditions such as hurricanes and blizzards
- Knit polyester shirt available in fluorescent yellow with 360 degree 2" 3M™ Scotchlite™ Reflective Material

ANSI Class 2, Two-Tone Safety Vests

94620-80030 – Yellow
94621-80030 – Orange

- Meets ANSI/ISEA 107-2010 Class 2 and Federal Highway Mandate-2009 Manual of Uniform and Traffic Control Devices to help meet the retro-reflective performance needed for most worksites
- Required for workers on sites around traffic going 25mph or higher and workers around heavy equipment
- Designed for moderate risk: construction, utility, school crossing, parking lots, traffic direction
- Available in fluorescent yellow and orange with contrasting trim and 360 degree 2" 3M™ Scotchlite™ Reflective Material
- Made of lightweight, breathable mesh for air circulation and faster drying times

ANSI Class 2, Adjustable Tear Away Safety Vests

94625-80030T – Orange

94617-80030T – Yellow

- Meets ANSI/ISEA 107-2010 Class 2 and Federal Highway Mandate-2009 Manual of Uniform and Traffic Control Devices to help meet the retro-reflective performance needed for most worksites
- Required for workers on sites around traffic going 25mph or higher and workers around heavy equipment
- Designed for moderate risk: construction, utility, school crossing, parking lots, traffic direction
- Made of lightweight, breathable mesh for increased air circulation and faster drying times
- Five-point tear away system using hook and loop closures for increased safety
- Two large interior pockets
- Provides 360 degree reflective material using 2" 3M™ Scotchlite™ Reflective Material

ANSI Class 2 Safety Vest

94618-80030T – Yellow

- Meets ANSI/ISEA 107-2010 Class 2 and Federal Highway Mandate-2009 Manual of Uniform and Traffic Control Devices to help meet the retro-reflective performance needed for most worksites
- Required for workers on sites around traffic going 25mph or higher and workers around heavy equipment
- Designed for moderate risk: construction, utility, school crossing, parking lots, traffic direction
- Knit polyester vest that provides 360 degree reflective material using 2" 3M™ Scotchlite™ Reflective Material
- Front radio pocket with flap and shoulder mic tab
- Three additional pockets including two larger interior and one pencil pocket

Class 1 Safety Vest

94601-80030T – Yellow

- Use for recreational purposes only
- Fluorescent yellow with 1" 3M™ Scotchlite™ Reflective Material – 8906 Silver Fabric Trim
- Lightweight design made with breathable mesh
- Adjustable side straps
- Cell phone pocket

ANSI Hard Hat Sun Shade

94800-80030 – Yellow

- Provides sun protection for neck and ears
- Available in fluorescent yellow with orange trim and ½" 3M™ Scotchlite™ Reflective Material
- Made of lightweight, breathable mesh for increased air circulation and faster drying times
- Includes 3 clips to secure sun shade to hard hat
- Meets the requirements of ANSI/ISEA 107-210 Certified Headwear

General Safety Protection

Reflective Traffic Safety Cone
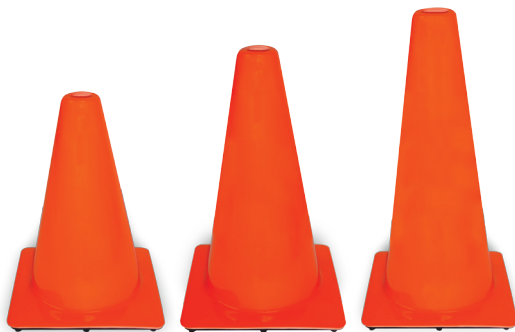
90128-R — 18 inch, orange

- High visibility orange safety cone
- Durable with weighted base
- Made in the USA

Reflective Traffic Safety Cone

90129-R — 28 inch, orange

- High visibility orange safety cone
- Durable with weighted base
- Made in the USA

Safety Cones

90127 — 12"
90128 — 18"
90129 — 28"

- PVC safety cone
- Durable with weighted base
- Made in the USA

General Safety Protection

118 Piece Industrial/Construction First Aid Kit

94118

- Meets ANSI/OSHA Requirements
- Includes 45 assorted adhesive bandages, gauze, towelettes, assorted pads, cold compress, scissors, tweezers and more
- Portable carrying case for easy transport to and from the jobsite

Renovation Coverall

94565

- Helps provide particulate protection against lead dust, certain liquid sprays and biological contaminants
- White with red taped seams provide protection from liquids leaking onto clothing
- Three-panel hood design offers compatibility with complementary PPE
- Two-way zipper makes it easy to put on and remove quickly
- Extra material included in the arms and legs for increased comfort
- Sealable storm flaps, seamless shoulders and sleeve tops help reduce liquid entry points, helping to keep clothing clean
- Knit cuff for additional comfort
- Elastic ankle helps prevent dirt and dust from getting under pant legs and helps keep clothing clean

General Purpose Coverall

94520

- Provides a basic barrier against dust, dirt and grime
- Breathable back panel helps improve air ventilation and comfort
- Two-way zipper
- Elastic waist, ankles and wrist

Paint Spray Coverall

94540

- Helps provide barrier protection against paint overspray and hazardous dust
- Breathable back panel helps improve air ventilation and comfort
- Three panel hood design
- Knit cuffs with elastic waist and ankles increase comfort and freedom of movement
- Two-way zipper with sealable storm flap

Paint Coverall

94510

- Helps provide barrier protection against paint or stain, liquids that may splash and non-hazardous dust
- Elastic waist and ankles offer a snug seal and greater comfort
- Two-way zipper with sealable storm flap
- Durable laminated material

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General Safety Protection

Gloves

Nitrile Gloves

90011T – Medium
90012T – Large

- Helps protect hands from many solvents
- Puncture resistant
- Not made with natural rubber latex

Refinishing Gloves

90016T – Large
90017T – X-Large

- Helps protect hands from polishes and stains
- Flocked cotton lining
- Textured palm for gripping

Household Cleaning Gloves

90018T – Medium
90019T – Large

- Use for most common cleaning projects*

Heavy-duty Chemical Gloves

90021T – Large

- Helps protect hands from many chemicals*
- Heavy-duty cotton flocked lined for comfort
- Anti-slip pattern and textured grip
- Extended cuff

Tested Chemicals	Household Chemical	Nitrile Solvent Resistant	Heavy Duty Chemical	Refinishing
Acetic acid glacial		Good	Best	
Acetic acid, 25%	Best		Best	
Acetone	Not Recommended		Good	Good
Aniline				
Auto-diesel		Best		
Butanol, pure		Best		
Cutting oil		Best		
Dimethylformamide			Best	
Ethanol, 98%	Good			
Ethanol, absolute			Best	
Ethyl acetate				Good
Ethyl ether				
Ethylene glycol		Best		
Formaldehyde, 37%	Not Recommended	Best	Best	
Furfural				
Hydrochloric acid, 10%	Best		Best	Best
Hydrochloric acid, 37%		Best		
Hydrogen peroxide, 30%		Good		
Iso octane		Best		
Isopropyl alcohol				
Kerosene				
Lacquer Solvent	Not Recommended	Not Recommended	Not Recommended	Not Recommended
Methanol	Good	Good	Good	Good
Methyl t-butyl ether				
Methylene Chloride	Not Recommended	Not Recommended	Not Recommended	Not Recommended
Methylamine		Best		
Naptha solvent		Good		
n-Heptane		Good	Good	
Nitromethane			Best	
octyl alcohol			Best	
Petroleum ether		Best		
Sodium hydroxide, 20%			Best	
Sodium hydroxide, 40%	Best	Good		Best
Sulphuric acid, 50%		Best		
Sulphuric acid, 96%	Good			
Toluene		Not Recommended		
Turpene (D-Limonene)		Best		
Turpentine	Not Recommended			
Unleaded petrol	Not Recommended	Best	Not Recommended	Not Recommended

Glove Permeation tested against EN374-1:2003.

Not Recommended
Good
Best

General Safety Protection

Reference

Head Protection

Head protection should be used in any application where there is risk of falling objects or head injury. 3M hard hats are available in front brim and full brim models. The shell is designed to deflect objects, and the suspension works with the shell to absorb the impact energy when something hits the top of the shell. The cradle of the suspension is mounted to the hard hat with six or four clips (six- or four-point suspension). Accessory slots are available to accommodate eye, face and hearing protection products.

Who Sets the Standards

In the U.S., OSHA Standards 29 CFR 1926.100 for construction and 29 CFR 1910.132 and 1910.135 for general industry outline requirements for head protection. Compliant hard hats must have certain user information — the date of manufacture, manufacturer's name, sizing instructions and guidelines for care and service, as well as legend and class description.

In the U.S., the ANSI Z89.1 Standards* classify protective helmets as either Type I — designed to protect from top impacts/penetration or Type II — designed for top and lateral impact/penetration — including criteria for impact energy attenuation from impacts from the front, back and sides, as well as the top, off-center penetration, resistance and chin-strap retention.

* Canadian Head Protection Standards are addressed in CSA Z94.1

Hard Hat Classes

Class C
Lightweight. Offers less impact protection than Class G and E. Conductive, providing no electrical protection.

Class G
General Service. Provides good impact protection. Proof-tested electrical to withstand 2,200 volts.

Class E
Good protection. Proof-tested electrical to 20,000 Volts.

Cautionary Note on Electrical Protection

Class G and E helmets provide limited electrical protection. The maximum voltage against which the helmet will protect the wearer depends on a number of variables — including the characteristics of the electrical circuit, condition of the helmet and prevailing weather conditions. The safe use of helmets in electrical applications must be established by the authority with jurisdiction.

Two Basic Types of Suspension Systems

Hard hats are available with two types of suspension systems. A pinlock-suspension system attaches to wearer's head with a locking mechanism that works similarly to a belt. Wearer must remove the hard hat to adjust this type of suspension.

The wearer does not have to remove the hard hat to adjust the ratchet suspension system. The wearer can quickly loosen or tighten the suspension by turning a ratchet-type knob.

Maintenance and Care

Hard hats should be inspected prior to each use and replaced if any damage is evident. Polyethylene shells exposed to heat, sunlight or chemicals, such as paint thinners and some cleaning agents, will age. Check for any flaking, cracks, dents, nicks or gouges. The suspension system should be checked also — look for twisted, cut, or frayed straps, loose stitching or cracks in any plastic component, and missing mounts/clips. Any hard hat sustaining an impact should be replaced.

Maintenance Tips:

:: Store the helmet in clean, dry area — preferably in an area not exposed to extreme heat or cold. Avoid storing/transporting hard hats in the rear window of motor vehicles

:: Do not sit on or compress the sides of the hard hat

:: Clean the protective helmet with mild soap and warm water

General Safety Protection

Enhanced and High Visibility Clothing

Visibility is critical for those who work or play in proximity to vehicular traffic/equipment or in low light conditions. Construction workers, emergency response personnel, traffic and transportation employees — even joggers — need to dress for conspicuity enhancement with high visibility clothing.

While the use of 3M™ Scotchlite™ Reflective Material enhances visibility, no reflective material can guarantee absolute visibility, particularly in adverse weather conditions. Performance will vary depending upon actual use, exposure conditions and maintenance.

Standard ANSI/ISEA 107-2010 defines performance criteria for high visibility apparel. The standard establishes three garment classes based on performance requirements and on the wearer's activities: 360° visibility, color/luminance, and total area of background and retroreflective materials used. In addition, there is a common-sense component of the standard that addresses product labeling, comfort and performance while not hindering the wearer. The 2009 MUTCD requires ANSI/ISEA 107 Class 2 or 3 for exposure to traffic on public roadways.

Garment selection should be based on a risk assessment, which includes the complexity of the work environment, separation of the worker from moving equipment and vehicles, and additional work variables such as weather. The following table details minimum size requirements for apparel background material along with contrasting retroreflective material (bands).

Garment Classes

Class 3 (Highest)

:: Background Material = 1240 sq. inch (.80 m²)

:: Retroreflective Material = 310 sq. inch (.20 m²)

Class 2 (Most Common)

:: Background Material = 775 sq. inch (.50 m²)

:: Retroreflective Material = 201 sq. inch (.13 m²)

Class 1

:: Background Material = 217 sq. inch (.14 m²)

:: Retroreflective Material = 155 sq. inch (.10 m²)

Maintenance and Care

ANSI Standards require that all high visibility apparel contain a label with instructions for washing and drying the garment. Care instructions should be followed closely and the garment replaced when any evidence of wear in material or retroreflective bands is evident.

Glossary

ANSI (American National Standards Institute)

A private, non-profit organization that administers and coordinates the U.S. voluntary standardization and conformity assessment program. The official U.S. representative to the International Organization for Standardization (ISO).

ANSI Standards by themselves are not actual mandates or laws unless they are referenced in a law or regulation, at which time they do become mandated.

ASTM International

One of the largest voluntary standards development organizations in the world. Provides technical standards for materials, products, systems and services. Represents producers, users, consumers, government and academia from more than 120 countries.

(U.S.) Consumer Product Safety Commission

Federal commission charged with protecting the public from unreasonable risks of serious injury or death from more than 15,000 types of consumer products under the agency's jurisdiction.

CSA (the Canadian Standards Association)

Accredited by the Standards Council of Canada (SCC). CSA regulates all protective products sold in Canada. Products which meet the CSA (Canadian Standards) eyewear standard will be marked with CSA.

EPA (U.S. Environmental Protection Agency)

Develops and enforces regulations that implement environmental laws enacted by Congress.

ISEA (International Safety Equipment Association)

United States trade association for companies that manufacture safety and personal protective equipment. The goal of ISEA member companies is to protect the health and safety of people exposed to hazardous and potentially harmful environments worldwide.

ISO (International Organization for Standardizations)

A non-governmental network of the national standards institutes of 157 countries (one member per country) with Central Secretariat in Geneva, Switzerland, who coordinates the system.

NSC (National Safety Council)

A 501(c) not-for-profit international public service organization dedicated to educating and influencing people to prevent accidental injury and death. The National Safety Council promotes safety in the workplace, transportation, and in homes and communities.

NIOSH (National Institute for Occupational Health and Safety)

Federal agency responsible for conducting research and making recommendations for the prevention of work-related injury and illness. NIOSH also tests and certifies respiratory protection devices.

OSHA (Occupational Safety & Health Association)

Division of the U.S. Department of Labor that establishes standards for safety in the workplace. OSHA's mission is to assure the safety and health of America's workers by setting and enforcing standards; providing training, outreach and education; establishing partnerships; and encouraging continual improvement in workplace safety and health.

Prevent Blindness America

Leading volunteer eye health and safety organization dedicated to fighting blindness and saving sight.