

HEARING PROTECTION

Guide and Usage Material

Hearing Protection

Determining the need to provide hearing protection for employees can be challenging. Employee exposure to excessive noise depends upon a number of factors, including:

- ✓ The loudness of the noise as measured in decibels (dB).
- ✓ The duration of each employee's exposure to the noise.
- ✓ Whether employees move between work areas with different noise levels.
- ✓ Whether noise is generated from one or multiple sources.

Generally, the louder the noise, the shorter the exposure time before hearing protection is required. For instance, employees may be exposed to a noise level of 90 dB for 8 hours per day (unless they experience a Standard Threshold Shift) before hearing protection is required. On the other hand, if the noise level reaches 115 dB hearing protection is required if the anticipated exposure exceeds 15 minutes.

For a more detailed discussion of the requirements for a comprehensive hearing conservation program, see OSHA Publication 3074 (2002), "Hearing Conservation" or refer to the OSHA standard at 29 CFR 1910.95, Occupational Noise Exposure, section (c).

Table 5, below, shows the permissible noise exposures that require hearing protection for employees exposed to occupational noise at specific decibel levels for specific time periods. Noises are considered continuous if the interval between occurrences of the maximum noise level is one second or less. Noises not meeting this definition are considered impact or impulse noises (loud momentary explosions of sound) and exposures to this type of noise must not exceed 140 dB. Examples of situations or tools that may result in impact or impulse noises are powder-actuated nail guns, a punch press or drop hammers.

If engineering and work practice controls do not lower employee exposure to workplace noise to acceptable levels, employees must wear appropriate hearing protection. It is important to understand that hearing protectors reduce only the amount of noise that gets through to the ears. The amount of this reduction is referred to as attenuation, which differs according to the type of hearing protection used and how well it fits. Hearing protectors worn by employees must reduce an employee's noise exposure to within the acceptable limits noted in Table 5. Refer to Appendix B of 29 CFR 1910.95, Occupational Noise Exposure, for detailed information on methods to estimate the attenuation effectiveness of hearing protectors based on the device's noise reduction rating (NRR). Manufacturers of hearing protection devices must display the device's NRR on the product packaging. If employees are exposed to occupational noise at or above 85 dB averaged over an eight-hour period, the employer is required to institute a hearing conservation program that includes regular testing of employees' hearing by qualified professionals. Refer to 29 CFR 1910.95(c) for a description of the requirements for a hearing conservation program.

Some types of hearing protection include:

Single-use earplugs are made of waxed cotton, foam, silicone rubber or fiberglass wool. They are self-forming and, when properly inserted, they work as well as most molded earplugs.

Pre-formed or molded earplugs must be individually fitted by a professional and can be disposable or reusable. Reusable plugs should be cleaned after each use.

Earmuffs require a perfect seal around the ear. Glasses, facial hair, long hair or facial movements such as chewing may reduce the protective value of earmuffs.



COMMON NOISE LEVELS

Sound Energy Doubles Every 3 dB

Occupational

Non-Occupational

Artillery Fire - 162 dB

Shotgun - 162 dB

Immediate Physical Damage - 160 dB

Jackhammer - 130 dB

Auto Racing - 130 dB

Immediate Pain Threshold - 130 dB

Oxygen Torch - 121 dB
Compactor - 116 dB

Rock Concert - 120 dB
Chainsaw - 118 dB

Unprotected Noise Exposure of Any Duration Not Permitted Above This Level - 115 dB

Diesel Truck Accelerating - 114 dB
Impact Wrench - 102 dB
Bulldozer - 100 dB
Industrial Fire Alarm - 95 dB
Table Saw - 93 dB

Crying Baby - 110 dB
MP3 Player - 105 dB
Motorcycle - 105 dB
Power Lawnmower - 94 dB
Subway - 90 dB

Hearing Protection Required By OSHA - 90 dB

Handsaw - 85 dB
Forklift - 87 dB

Propeller Airplane Cockpit - 88 dB

Hearing Protection Must Be Made Available - 85 dB

Lathe - 81 dB
Normal Conversation - 60 dB

Hair Dryer - 80 dB
Alarm Clock - 75 dB

Non-Hazardous Noise - 75 dB

Transformer - 50 dB

Rainfall - 50 dB

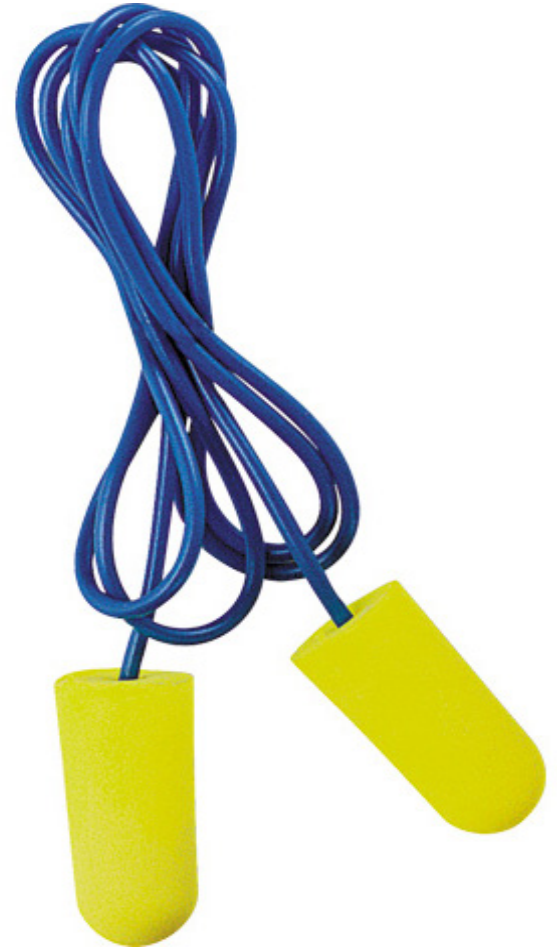
Comfortable Sound - 50 dB

Hearing Protection

E-A-Rsoft™ Yellow Neons™ & 3M E-A-R Blasts™ Earplugs

The softest, smoothest, highest NRR earplugs available today!

- ✓ Advanced foam formulation that provides low-pressure comfort
- ✓ Available uncorded or with breakaway cord
- ✓ Two sizes available for optimum comfort and protection
- ✓ Yellow E-A-R™ trademark colour assures proven protection and high quality
- ✓ Laboratory tested NRR 33 dB
- ✓ Also available in Yellow Neons™ metal detectable
- ✓ Both the cord and the plugs are metal detectable
- ✓ CSA class AL



Uncorded

Model No.	Description	Size	Price/Each
SJ423	Yellow Neons™	Regular	\$00.00
SJ425	Yellow Neons™	Large	\$00.00
SJ427	Blasts™	Regular	\$00.00

Corded

Model No.	Description	Size	Price/Each
SJ424	Yellow Neons™	Regular	\$00.00
SJ426	Yellow Neons™	Large	\$00.00
SJ428	Blasts™	Regular	\$00.00

Corded Metal Detectable

Model No.	Description	Size	Price/Each
SAF802	Yellow Neons™	Regular	\$00.00

3M™ E-A-R™ Classic™ Foam Earplugs

Slow recovery PVC foam provides comfort with low pressure. It is moisture resistant and the foam will maintain its comfort, fit and critical recovery characteristics. Shape equalizes pressure throughout the ear canal as it expands. Flame retardant and dermatologically safe foam is not irritating. The Classic™ Plus offers the highest NRR, 33 dB. It has a longer high performance foam plug for increased protection and fits more deeply into the ear canal. The Classic™ Small has a more narrow design for smaller ear canals. Also available in the Classic™ Plus Metal Detectable foam earplugs. Both the cord and the plugs are metal detectable. All models available uncorded pillow pak or corded in poly bag. Model SH106 is packaged in environmentally friendly paper pak, vegetable based in ink and glue. One size fits all. Colour: Yellow.



Uncorded

Model No.	Description	NRR dB	Price/Each
SA681	Foam - Pillow	29	\$00.00
SH106	Foam - Paper Pak	29	\$00.00
SH107	Plus Foam	33	\$00.00
SH109	Small Foam	29	\$00.00
SAJ486	Polybag	29	\$00.00

Corded

Model No.	Description	NRR dB	Price/Each
SE649	Foam	29	\$00.00
SH108	Plus Foam	33	\$00.00
SH110	Small Foam	29	\$00.00

1100 Foam Earplugs

- ✓ Individually packaged for convenience
- ✓ Smooth, dirt resistant surface
- ✓ Soft hypo-allergenic polyurethane foam offers superior comfort
- ✓ NRR 29 dB, CSA Z94.2 Class AL
- ✓ Bright orange for visibility



Uncorded

Model No.	Pairs/Box	Price/Each
SI762	200	\$00.00

Corded

Model No.	Pairs/Box	Price/Each
SAG359	100	\$00.00

E-A-R™ Taperfit™ 2 Foam



- ✓ Self-adjusting polyurethane foam provides low-pressure comfort with excellent attenuation
- ✓ Dermatologically safe and non-irritating foam
- ✓ NRR 32 dB
- ✓ Available in two sizes: Regular and Plus



Uncorded

Model No.	Size	Price/Each
SE393	Regular	\$00.00
SE918	Plus	\$00.00

Corded

Model No.	Size	Price/Each
SE917	Regular	\$00.00
SE919	Plus	\$00.00

E-A-R™ E-Z-Fit™



Comfortable fit for smaller ear canals!

- ✓ Low pressure, soft smooth polyurethane foam is easy to roll and self-adjusting for increased user comfort, with no full feeling in the ear
- ✓ Bell-shaped design with a wide flange allows for easy insertion and removal
- ✓ Designed to fit medium and small ear canals with increased comfort
- ✓ Safe and non-irritating to the ear canal
- ✓ Laboratory tested NRR 28 dB
- ✓ Available one pair per poly bag uncorded or with breakaway cord
- ✓ CSA Z94.2 + CSA Class AL



Uncorded

Model No.	NRR dB	Price/Each
SH114	28	\$00.00

Corded

Model No.	NRR dB	Price/Each
SH115	28	\$00.00

E-A-R™ Push-Ins™ Earplugs **3M** **E-A-R**

- ✓ Easy fit with no roll down required
- ✓ E.A.R.form™ yellow foam tip for ultimate comfort
- ✓ Blue stem allows for hygienic insertion and removal
- ✓ CSA Class AL
- ✓ NRR 28 dB



Uncorded

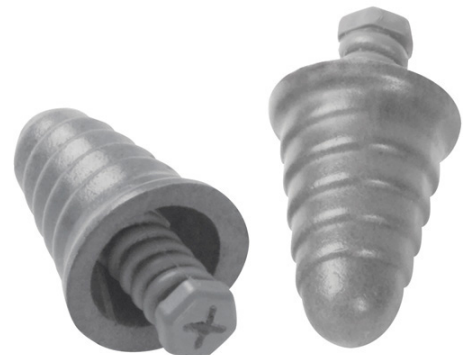
Model No.	Price/Each
SAJ489	\$00.00

Corded

Model No.	Description	Price/Each
SAJ575		\$00.00
SAP857	Metal Detectable	\$00.00

Skull Screws™ Earplugs **3M**

- ✓ Easy grip for clean insertion
- ✓ Look of metal, soft feel of foam
- ✓ The screw "threads" help achieve an optimum noise seal
- ✓ NRR 30, CSA Class AL



Uncorded

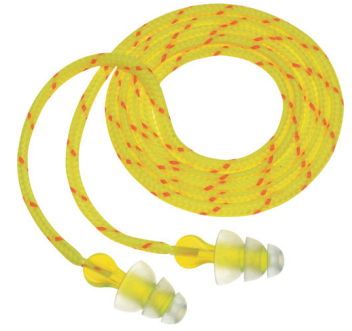
Model No.	Price/Each
SAP424	\$00.00

Corded

Model No.	Price/Each
SAP425	\$00.00

Tri-Flange™ Plugs **3M**

- ✓ Customized comfort – reusable value
- ✓ Soft, pliable flanges conform to the shape of your ear canal for a custom fit
- ✓ Afterglow stem allows for quick clean insertion
- ✓ Available with new LiveWire™ cord for a high-octane look and convenient storage
- ✓ Also available with a new cloth cord
- ✓ Noise jamming protection NRR 26 dB
- ✓ CSA Class AL



Corded

Model No.	Price/Each
SAK437	\$00.00

With Cloth Cord

Model No.	Price/Each
SAK438	\$00.00

E-A-Rsoft™ FX™ Shaped Earplugs **3M** **E·A·R**

- ✓ Made of a custom polyurethane formulation for slow recovery and increased softness in the ear canal
- ✓ CSA Class AL
- ✓ NRR 33 dB



Corded

Model No.	Price/Each
SAH584	\$00.00

Uncorded

Model No.	Price/Each
SAH585	\$00.00

Nitro™ Plugs **3M**

- ✓ Made from the softest foam to cushion the ear canal for long-term wear
- ✓ Available with new LiveWire™ cord for a high-octane look and convenient storage
- ✓ Four vibrant colours in one box. Assortment of red, orange, pink and purple plugs are paired in each box
- ✓ Ultimate protection with a noise jamming NRR 32 dB
- ✓ CSA Class AL



Corded

Model No.	Price/Each
SAK143	\$00.00

Uncorded

Model No.	Price/Each
SAH144	\$00.00

E-A-R™ SofTouch™ Earplugs **3M** **E·A·R**

Safety never felt this good

- ✓ Made of specially formulated foam for added softness
- ✓ Once the plugs are in the ear canals, the comfort lasts
- ✓ Pistol-grip handle gives fingertip control and eliminates dirt transfer for better hygiene
- ✓ SofTouch™ plugs require no roll-down
- ✓ Tapered cones slide in-and-out of the ears quickly, easily and fit correctly
- ✓ Soft seal helps provide an impressive NRR of 31 dB
- ✓ Ideal choice for most noisy environments



Corded

Model No.	Price/Each
SAS461	\$00.00

Uncorded

Model No.	Price/Each
SAS462	\$00.00

No-Touch™ Foam Plugs **3M**

- ✓ Hands off the foam
- ✓ Softness and comfort of a foam earplug without the hassle of rolling it down
- ✓ LiveWire™ stem for the ultimate in comfort and convenience
- ✓ Ensures hygiene and ensures solid insertion of the foam
- ✓ Available with new LiveWire™ cord for a high-octane look and convenient storage
- ✓ Noise jamming protection NRR 29 dB
- ✓ CSA Class AL



Corded

Model No.	Price/Each
SAK146	\$00.00

Uncorded

Model No.	Price/Each
SAK145	\$00.00

No-Touch™ Foam Plugs **3M** **E-A-R**

- ✓ Patented “No Waste Funnel” allows users to reuse base and dispenser
- ✓ Can be used as a table top or wall mounted
- ✓ Easy access for the user from all sides
- ✓ Rating: NRR 33 dB



Model No.	Description	Price/Each
SAI093	One Touch™ Dispenser	\$00.00
SAH873	Yellow Neons™	\$00.00
SAH874	Yellow Neons™	\$00.00
SAI104	Blasts™	\$00.00
SAP387	Foam Pillow	\$00.00

E-A-R™ UltraFit™ Premolded Reusable Earplugs **3M** **E-A-R**

- ✓ Patented triple flange design to fit a wide variety of ear canal sizes
- ✓ Washable, promotes worker hygiene
- ✓ Breakaway cord protects in case of machine entanglement
- ✓ Model SH113 has a metal detectable steel ball securely positioned in the stem and non-food blue for visual detectability in the food processing industry
- ✓ Rating: NRR 25 dB



Model No.	Description	Type	Pairs/Box	Price/Each
SE920	W/O Carrying Case	Uncorded	100	\$00.00
SE405	W/O Carrying Case	Corded	100	\$00.00
SH113	Metal Detectable	Corded	100	\$00.00
SH111	W/ Carrying Case Priced per Pair	Uncorded	50	\$00.00
SH112	W/ Carrying Case Priced per Pair	Corded	50	\$00.00

Express™ Pod Plugs™ **3M** **E·A·R**

- ✓ The easiest earplug to use!
- ✓ Quick, clean and hygienic
- ✓ Laboratory tested NRR 25 dB
- ✓ Reusable or disposable for cost-effective hearing protection
- ✓ Simple to clean and comes in a handy, resealable pack for easy storage
- ✓ Dispenser package in uncorded and corded blue grips or assorted colour grips (red, yellow, green, blue, purple) with matching cords
- ✓ Colour: Yellow
- ✓ CSA Class AL



Corded

Model No.	Description	NRR dB	Price/Each
SH113	Blue Grips	25	\$00.00
SH111	Assorted Colour Grips	25	\$00.00

Uncorded

Model No.	Description	NRR dB	Price/Each
SE920	Blue Grips	25	\$00.00
SE405	Assorted Colour Grips	25	\$00.00

E-A-R™ UltraFit™ 27 Earplugs **3M** **E·A·R**

- ✓ Innovative pistol grip shape designed to give wearers improved fingertip control
- ✓ Patented new polymer formulation now provides highest NRR of any premoulded earplug at 27 dB
- ✓ Comfortable and reusable
- ✓ CSA Class AL



Corded

Model No.	Price/Each
SAP859	\$00.00

Uncorded

Model No.	Price/Each
SAP858	\$00.00

E-A-R™ Arc Plug™

- ✓ Allows workers to hear sound clearly around them without impairment
- ✓ Includes carrying case
- ✓ If an arc flash occurs, the calibrated noise filter activates immediately to suppress the noise to a safer level – without dangerous delay – reducing the chance of hearing damage and concussive disorientation
- ✓ The red side offers protection against constant high-level noise
- ✓ NRR 22 dB
- ✓ Meets NFPA 70E regulations
- ✓ CSA Class AL



Model No.	Pairs/Box	Price/Each
SA0701	10	\$00.00

3M™ Hearing Bands

E-A-Rflex™ Premolded Tips

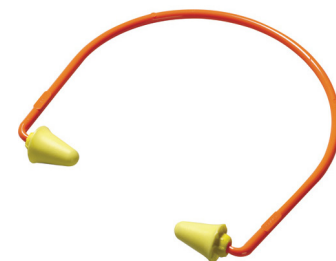
- ✓ Highest protection available in a semi-insert hearing protector
- ✓ Comfortable, effective, lightweight alternative to earmuffs
- ✓ Dermatologically safe plugs are non-irritating
- ✓ Band helps prevent loss and is ideal for intermittent use
- ✓ NRR 24 dB
- ✓ CSA Class AL



Model No.	Description	Type	Price/Each
SH124	Premolded Tips	E-A-Rflex™ Premolded Tips	\$00.00

E-A-Rflex™ Premolded Tips

- ✓ Soft, E-A-Rform™ foam tips
- ✓ Pivoting tips for optimum fit
- ✓ Hi-Viz band
- ✓ Dermatologically safe plugs are non-irritating
- ✓ NRR 28 dB - Higher than any semi-aural product available



Model No.	Description	Type	Price/Each
SAK169	Foam tips	E-A-Rflex™	\$00.00
SAK170	Replacement tips, 5 pairs	E-A-Rflex™	\$00.00

E-A-R Caps®

- ✓ Non-invasive, comfortable hearing protection
- ✓ No hinged band
- ✓ Dermatologically safe plugs are non-irritating
- ✓ Band helps prevent loss and is ideal for intermittent use
- ✓ NRR 17 dB



Model No.	Description	Type	Price/Each
SR852	Foam caps	E-A-R Caps®	\$00.00
SH126	Replacement caps, 5 pairs	E-A-R Caps®	\$00.00

3M™ E-A-R™ Swerve™ Banded Hearing Protectors



- ✓ Ultimate banded hearing protector
- ✓ Adjustable comfort, excellent attenuation
- ✓ Exceptional ergonomics with unmatched performance
- ✓ Contoured design that typically floats around the neck
- ✓ NRR 28 dB (E-A-Rflex™ 28 tips)
- ✓ Durable lightweight band that rebounds well for frequent use



Model No.	Description	Price/Each
SAR645	Ear Band	\$00.00
SAK170	Replacement pods, 5 pairs	\$00.00

Large Capacity Ear Plug Dispensers



- ✓ Visually striking green glow front pocket draws attention to earplugs
- ✓ Dispenser features a removable inner slanted shelf to direct plugs toward pocket
- ✓ Comfortably holds a standard box of 200 disposable ear plugs and can be wall or table mounted
- ✓ Dimensions: 13" H x 12" W x 8" D



Model No.	Description	Price/Each
SED051	Ear Band	\$00.00

M1 Premium Earmuffs



- ✓ Iridescent colour and sleek, curvy shape for a look that workers will want to wear
- ✓ SoftCoat® covering on cups and yoke helps muffle transmitted noise
- ✓ Black-chrome, spring-steel headband resists fatigue and is more durable
- ✓ Six different adjustment points provide a custom and comfortable fit for most head sizes
- ✓ The M1 earmuff folds into a supercompact size for easy storage



Model No.	Type	NRR dB	Price/Each
SAG849	Premium	29	\$00.00

M2 Multi-Position Earmuffs **MOLDEX**

- ✓ Three position earmuff has special molded grips that make fitting and alignment quick and easy
- ✓ The cup adjustment is infinitely variable, distributing pressure evenly for a custom fit
- ✓ The headband is made of lightweight plastic
- ✓ SoftCoat® covering on cups helps muffle transmitted noise



Model No.	Description	NRR dB Over Head	NRR dB Behind Head	Price/Each
SAG850	Multi-Position	26	24	\$00.00

3M™ Peltor™ Optime™ 95 Series Earmuffs **PELTOR 3M**

- ✓ Comfort engineered for continuous daily use
- ✓ Slim tapered dome for use with hardhat and face protection equipment
- ✓ Ultra light with liquid/foam filled ear cushions
- ✓ Exclusively engineered for the computer industry
- ✓ Also suitable for technical training schools, printing facilities, textile industries and home power equipment use
- ✓ CSA Class A (SC176, SC177), Class B (SC175, SAG847)
- ✓ Colour: White



Model No.	Description	NRR dB	Price/Each
SC175	Headband	21	\$00.00
SC176	Neckband	21	\$00.00
SC177	Cap Mount	21	\$00.00
SAG847	Foldable	21	\$00.00

3M™ Peltor™ Optime™ 98 Series Earmuffs **PELTOR 3M**

- ✓ Slim tapered upper dome, excellent for use with hard hat and face protection equipment
- ✓ Broad foam cushions give low, comfortable surface pressure
- ✓ Pressure equalization air openings, quickly ensure the correct pressure to the eardrum
- ✓ Suitable for factories, sheet metal works, schools, printing offices, textile industries and power equipment
- ✓ CSA Class A
- ✓ Colour: Yellow
- ✓ Hygiene kits available



Model No.	Description	NRR dB	Price/Each
SC172	Headband	25	\$00.00
SC173	Cap Mount	23	\$00.00

PTL™, Push-To-Listen PELTOR **3M**

The only muff that lets workers listen safely without removing their earmuffs

- ✓ With the touch of a button, hear co-workers more clearly
- ✓ Padded, wide headband with four-point steel suspension improves hold with less pressure
- ✓ On/Off listening button with fingertip control
- ✓ Patented liquid and foam-filled cushions for optimum seal and comfort
- ✓ Pivoting ear cups tilt to easily fit most facial profiles
- ✓ Push-to-listen feature in one ear cup only, other cup is standard protective style
- ✓ CSA Class A
- ✓ Hygiene kits available



Model No.	Description	NRR dB	Price/Each
SAM366	Headband	26	\$00.00
SAM367	Cap Mount	25	\$00.00

3M™ Peltor™ Optime™ 101 Series Earmuffs



- ✓ Designed for maximum attenuation in a severe noise environment
- ✓ Soft sealing cushions easily replaceable by press-and-snap function
- ✓ Suitable for agriculture, construction equipment, heavy industry and airports
- ✓ CSA Class A
- ✓ Colour: Green
- ✓ Hygiene kits available



Model No.	Description	NRR dB	Price/Each
SC165	Headband	27	\$00.00
SC166	Neckband	26	\$00.00
SC167	Cap Mount	24	\$00.00
SC161	Headband	30	\$00.00
SC162	Neckband	29	\$00.00
SC163	Cap Mount	27	\$00.00

3M™ Peltor™ Optime™ 105 Series Earmuffs **PELTOR™ 3M**

- ✓ Dual cup ultra high attenuating hearing protector for extremely high noise environments
- ✓ Wide ear cushions are filled with a foam which provides excellent sealing properties, good fit, and low surface pressure
- ✓ Ear cushions are easily replaceable with a simple press-and-snap function
- ✓ The outer layer consists of a specially developed hygienically textured plastic, allowing for ventilation and durability
- ✓ CSA Class AL
- ✓ Colour: Black with red trim
- ✓ Hygiene kits available



Model No.	Description	NRR dB	Price/Each
SC161	Headband	30	\$00.00
SC162	Headband	29	\$00.00
SC163	Cap Mount	27	\$00.00

3M™ Peltor™ High Visibility Over-the-Head Earmuffs **PELTOR™ 3M**

- ✓ High visibility, international orange colour for easy identification
- ✓ Comfortable for continuous use
- ✓ Broad ear cushions with combined liquid and foam filling gives the sealing advantages of the liquid ring and good comfort of the foam ring in warm and cold conditions
- ✓ Especially suitable for forestry and airport environments
- ✓ CSA Class A
- ✓ Hygiene kits available



Model No.	Description	NRR dB	Price/Each
SC169	Headband	24	\$00.00
SC170	Cap Mount	23	\$00.00

3M™ Peltor™ Worktunes™ Headsets with Built-In AM/FM Radio

PELTOR™

- ✓ Audio output to ear cup
- ✓ Audio input jack for MP3 players
- ✓ 3.5 mm cable for external audio devices
- ✓ NRR 26 dB, CSA Class A



Model No.	Price/Each
SED673	\$00.00

3M™ Peltor™ X Series Earmuffs

PELTOR™

- ✓ The X-Series earmuffs are 3M's latest advancement in hearing conservation
- ✓ This low-profile earmuff is designed for protection against low-level industrial noise and other loud sounds
- ✓ Earcup pivot points tilt for optimum comfort and efficiency
- ✓ Hygiene kit available
- ✓ CSA Class A



Model No.	Description	NRR dB	Price/Each
SEJ034	Peltor™ X1, Over-Head Headband	22	\$00.00
SEJ035	Peltor™ X2, Over-Head Headband	24	\$00.00
SEJ036	Peltor™ X3, Over-Head Headband	28	\$00.00
SEJ037	Peltor™ X4, Over-Head Headband	27	\$00.00
SEJ038	Peltor™ X5, Over-Head Headband	31	\$00.00
SEJ039	Peltor™ X1P, Cap Mount	21	\$00.00
SEJ040	Peltor™ X2P, Cap Mount	24	\$00.00
SEJ041	Peltor™ X3P, Cap Mount	25	\$00.00
SEJ042	Peltor™ X4P, Cap Mount	25	\$00.00
SEJ043	Peltor™ X5P, Cap Mount	31	\$00.00