



**Blackwoods**





# EASY GUIDE





FOCUS ON HEARING PROTECTION



## SYMPTOMS OF HEARING LOSS

If you or someone you know experiences one or more of the following, hearing sensitivity should be checked

-  Speech and other sounds seem muffled
-  Trouble understanding conversations when you are in a noisy place, such as a restaurant
-  Frequently asking people to speak up or repeat themselves
-  Turning up the volume of the television or radio

-  Trouble hearing high-pitched sounds (e.g. birds, doorbell, telephone, alarm clock)
-  Trouble understanding speech over the phone
-  Asking others to speak more slowly and clearly
-  Ringing in the ears

## IF YOU HAVE TO SHOUT TO BE HEARD IN YOUR WORKPLACE, IT IS AN INDICATOR THAT NOISE IS AN ISSUE

In Australia, if your workplace has a noise exposure of greater than 85dB for an 8 hour day, then controls must be in place to reduce the noise. Noise-Induced Hearing Loss (NIHL) is preventable. It occurs over time and its effects are realised long after the damage has been done. NIHL is permanent and irreversible. If you understand the hazard of noise and how to choose the appropriate Hearing Protectors, you can prevent hearing loss. There are different noise control options, but the first line of defence is prevention. Hearing protection should be a last resort if noise cannot be engineered out.

## WHAT TO CONSIDER WHEN CHOOSING HEARING PROTECTION

- 1. Know How Much Noise Reduction You Need**  
Determine what Class rating you need
- 2. Think About Your Worksite and Job Tasks**  
Determine the type of job, length of exposure to noise and integration with other PPE
- 3. Decide What is Most Comfortable and Convenient**  
Earplugs or Earmuffs

*Note: It is not always necessary to go to the highest level of protection. Choose the most appropriate class to suit your work situation and risk.*



## THE CLASS SYSTEM

Under the Standard AS/NZS 1270, there is a Classification method for the selection of hearing protectors. Once the extent of the noise hazard has been determined by a noise level survey, the user applies this to the classification table above to select an appropriate hearing protector. The Class System is a simple way to select hearing protection appropriate to the noise exposure. Your exposure time to noise is very important in selecting protection levels. The Class System rating is based on an 8 hour exposure. Anything beyond 8 hours exposure time means that the protection level needs to increase. The above table shows how a small increase of 3dB from 85dB to 88dB is double the noise and 88dB to 91dB is double that again.

## CLASS SYSTEM RATING

HEARING PROTECTION CLASSIFICATION		
CLASS RATING	SLC80 RANGE	L <sub>Aeq,8h</sub> dB(A)
1	10 – 13	<90dB(A)
2	14 – 17	90 – 95dB(A)
3	18 – 21	95 – 100dB(A)
4	22 – 25	100 – 105dB(A)
5	26 or greater	105 – 110dB(A)

## NOISE EXPOSURE TIMES

TIME VS EXPOSURE				
85dB	88dB	91dB	94dB	97dB
8 hrs	4 hrs	2 hrs	1 hr	30 min
100dB	103dB	106dB	109dB	112dB
14 min	7.5 min	3.75 min	1.5 min	0.75 min

# EASY TO DAMAGE. EASY TO PROTECT.



Soft Whisper



Conversation



Lawn Mowing



Construction



Jet Takeoff



Threshold of hearing

Pain threshold

## WARNING

Employers must provide suitable hearing protection equipment where noise exceeds 82 dB(A)

Short exposure causes moderate to severe loss. Wear hearing protectors.

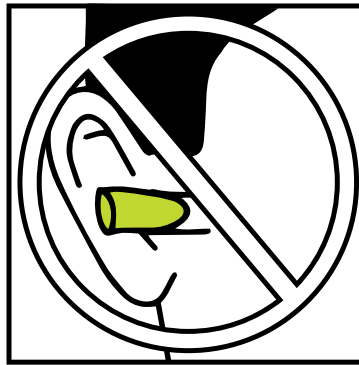
Brief exposure can cause permanent loss.

## GET THE MOST OUT OF YOUR EARPLUGS



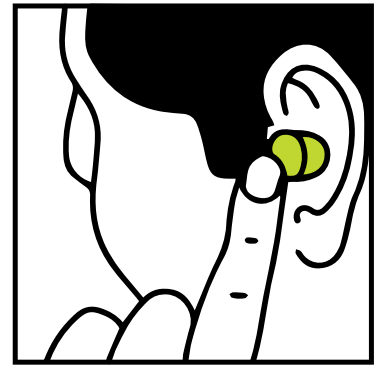
### Acoustical Check

In a noisy environment, with earplugs inserted, cup your hands over your ears and release. Earplugs should block enough noise so that covering your ears with your hands should not result in a significant noise difference.



### Proper Fit

If either or both earplugs do not seem to be fitted properly, remove the earplug and re-insert.



### Removal

Gently twist earplug while slowly pulling in an outward motion for removal.

## KEYS TO SUCCESSFUL HEARING PROTECTION WITH EARPLUGS

### Wear

Read and follow all earplug fitting instructions.

### Selection

Avoid overprotection in minimal noise environments – in selecting the best earplug for your situation, consider noise levels and your need to communicate with co-workers or hear warning signals on the job.

### Maintenance

Inspect earplugs prior to wear for dirt, damage or hardness – discard immediately if compromised.

### Hygiene

For proper hygiene, discard single use earplugs after use.

### Storage

With proper maintenance, multiple use earplugs can last for 2 – 4 weeks. Clean with mild soap/water and store in a case when not in use.

### Clean & Replace

Clean and replace pods on banded earplugs regularly

# EARPLUGS – DISPOSABLE

## CLASS 3

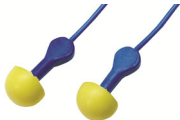
### E-A-R™ Express Pods

19 dB

- Patented foam softens with usage to improve seal & comfort
- The stem & plug are made of two materials to ensure great fit with a rigid stem & comfort with a soft foam
- Perfect for wearers with dirty hands
- Stem aids insertion



Mfr #: 321-3200  
P/N: 0427 1818



Mfr #: 321-2115  
P/N: 0427 1801

### E-A-R™ Classic

21 dB

- Optimal in-ear pressure
- Hydrophobic (repels water)
- SLC80 21dB (Class 3)
- 3M™ proprietary slow recovery foam ensures a good custom fit inside most ear canals

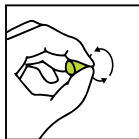


Mfr #: 321-1101  
P/N: 0427 0577

## DISPOSABLE EARPLUG FITTING INSTRUCTIONS

REGULAR size foam earplugs fit most ears well. LARGE size earplugs are also available for larger ear canals, and SMALL size earplugs are available for smaller ear canals. Hands and earplugs should be clean before fitting.

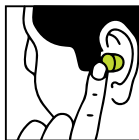
With clean hands, roll the entire earplug into narrowest possible crease-free cylinder.



Reach over your head with a free hand, pull your ear up and back, and insert the earplug well inside your ear canal.



Hold for 30 – 40 seconds, until the earplug fully expands. If properly fitted, the end of the earplugs should not be visible to someone looking at you from the front.



LISTEN to steady loud noise with earplugs in both ears. Cover ears with tightly cupped hands. Noise should sound about the same whether or not ears are covered. If you cannot obtain a good fit, try a different size or type of hearing protector.

## CLASS 4

### E-A-R™ Push-Ins

23 dB

- No roll down provides a quick & easy way to use earplugs
- Heat-activated foam moulds foam to the ear canal
- Perfect for wearers with dirty hands
- Stem aids insertion



Mfr #: 318-1002  
P/N: 0212 0843



Mfr #: 318-1003  
P/N: 0052 3098

### E-A-R™ Classic

23 dB

- Reusable Pillow Pack helps keep earplugs clean when they are not being worn
- Slow-recovery earplug foam is flame-resistant and moisture-resistant
- Moisture resistant firm foam prevents swelling and the need to refit



Mfr #: 311-1001  
P/N: 0310 7998

### PROSAFE Prosoft

25 dB

- Soft and comfortable T-shaped earplugs for easy handling and use
- Non-allergenic and non-irritating
- Self-adjusting Polyurethane (PU) foam



Mfr #: PS-1  
P/N: 0485 4799



Mfr #: EPPSRC  
P/N: 0467 6316

### E-A-RSoft™ Metal Detectable

23 dB

- Soft foam delivers all-day comfort with metal detectability
- The bullet design of the earplug provides high protection levels
- Regular size fits most ear canals. Soft, pliable foam offers comfort for wearing over an extended time
- Made of slow-expanding polyurethane foam, these earplugs provide an excellent seal and optimal comfort



Mfr #: 311-4106  
P/N: 0345 7892

## CLASS 5

### 3M™ Skull Screws

26 dB

- Metallic look appeals to young workers & drives compliance
- Screw grip & twist to seal design ensures maximum protection
- Perfect for wearers with dirty hands
- Stem aids insertion



Mfr #: P1300  
P/N: 0720 9299



Mfr #: P1301  
P/N: 0720 9231

### E-A-RSoft™ FX

26 dB

- Soft, pliable foam offers comfort for wearing over an extended time
- Slow recovery foam effectively seals the ear canal and helps provide reliable hearing protection
- Bell shape allows easy fitting and removal



Mfr #: 312-1261  
P/N: 05374761



Mfr #: 312-1260  
P/N: 0537 4744

### PROSAFE Torpedo

29 dB

- Single-use, one pair sealed in a polybag
- Made from PU foam
- Classic bullet shape
- User formable earplugs
- Pull-down tab on box for easy dispensing
- High visibility colour for easy identification of workers wearing hearing protection



Mfr #: REP301  
P/N: 0237 3986



Mfr #: REP301-C  
P/N: 0237 4003

### PROSAFE Torpedo Metal Detectable

29 dB

- Single-use, one pair sealed in a polybag
- Made from PU foam containing metal ball with PVC cord
- 3mm copper ball for metal detection (Subjective to metal detector performance and capabilities)
- Classic bullet shape
- User formable earplugs
- Pull-down tab on box for easy dispensing



Mfr #: REP301-CD  
P/N: 0237 4020

# EARPLUGS – REUSABLE

## CLASS 3

### E-A-R™ Ultrafit™

- Reusable triple flange design ensures high protection levels
- Premoulding delivers performance in a variety of work environments
- Polybag keeps each pair of earplugs available or accessible for re-use



Mfr #: 340-4001  
P/N: 0357 4529



Mfr #: 340-4002  
P/N: 0467 4871

### SmartFit® Reusable

- Patented Conforming Material Technology uses body heat to adapt to the individual shape of each wearer's ear canal
- Delivers superior comfort and a truly individual fit
- Detachable cord system and HearPack storage case



Mfr #: SMF-30A  
P/N: 0619 2308



Mfr #: SMF-30W-PA  
P/N: 0619 2325

### uvex Whisper – Detectable

- High triple flange protection levels with metal detectability environments
- No need to roll earplugs before fitting so the tips stay clean even if hands are dirty
- Soft polymer is washable and reusable, reducing both waste and costs



Mfr #: 340-4007  
P/N: 0426 9472

## CLASS 4

### E-A-R™ Ultrafit™ 27

- Reusable triple flange design ensures high protection levels
- Insertion stem allows for deeper insertion & higher attenuation
- Conforms well to the ear's natural oval shape



Mfr #: 340-8001  
P/N: 0773 6367



Mfr #: 340-8002  
P/N: 0773 6384

### Rockets® Reusable

- 100% PVC-Free
- The easy-grip handle lets earplugs easily slip into the ear
- Air bubble in tip provides cushioned comfort
- Earplugs can be washed and reused



Mfr #: 6400  
P/N: 0311 7739



Mfr #: 6405  
P/N: 0417 0515

### uvex Whisper Detectable

- Reusable earplugs coloured blue (for the food industry) with metal components for easy detection
- Flange and disc combination for easy and comfortable insertion
- The smooth, dirt-repellent surface can be easily cleaned using soap and water



Mfr #: WP-DT  
P/N: 0651 9762

## CLASS 5

### AirSoft®

- Advanced air pocket design features internal noise-blocking fins
- The four-flange profile creates a better seal in the ear canal
- Less pressure in the ear canal eliminates that "plugged up" feeling
- Rounded flanges, tapered shape fits better in the ear canal
- Firm stem facilitates easy insertion and removal



Mfr #: AS-1  
P/N: 0344 4071



Mfr #: AS30R  
P/N: 0472 4865

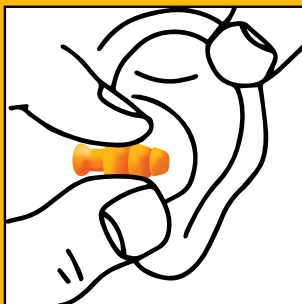
### E-A-RSoft™ FX

- Unique multi-curved stem rotates for a custom fit
- Large handle on the curved stem for easy insertion and removal
- Soft triple flange plug can be washed and reused
- The cord can be attached at any desired length
- 100% PVC-Free\*

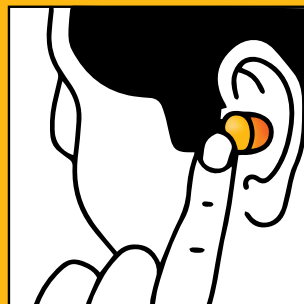


Mfr #: 6445  
P/N: 0200 9102

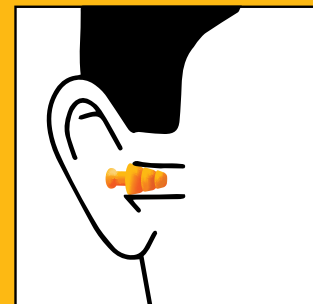
## REUSABLE EARPLUG FITTING INSTRUCTIONS



While holding the stem, reach a hand over your head and gently pull the top of your ear up and back.



Insert the earplug so all flanges are well inside your ear canal.



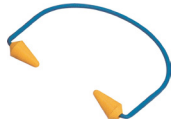
If properly fitted, the tip of the earplug stem maybe visible to someone looking at you from the front.

# EARPLUGS - BANDED

## CLASS 2

### E-A-R™ Caboflex

- Comfortable cone-shaped pods swivel for maximum comfort
- Silicone tips contain a foam core for an effective seal and good noise reduction
- The flexible band can be worn under the chin for use with hard hats
- Ideal for intermittent hearing protection needs



Mfr #: 320-2001  
P/N: 0427 0560

### E-A-Rflex

- Worn over the head, under the chin or behind the neck
- Economical and lightweight alternative to earmuffs
- Foam pods offer high protection and flexibility
- Tapered pods are washable, replaceable, hygienic and dielectric



Mfr #: 350-3001  
P/N: 0427 0815

## CLASS 3

### Quiet

- Soft pods rest partially in the ear for a balance of protection and comfort
- Patented band design prevents ear pods from touching dirty or contaminated surfaces
- Lightweight and portable designed especially for environments with intermittent noise hazards
- Includes pair of replacement pods



Mfr #: QB2  
P/N: 0022 0048

### Jazz Band

- Improved with 50% less band pressure
- A cooler, lighter alternative to earmuffs
- Banded style cool in hot conditions
- Breakaway neck cord allows the band to hang around the neck
- Replacement pods and neck cord available
- Does not interfere with eyewear



Mfr #: 6506  
P/N: 0318 7728

## CLASS 4

### E-A-R™ Swerve

- Sleek, ergonomic design
- Lightweight, contoured design floats around the neck
- Three piece adjustable band
- For use with comfort pod tips
- Designed to limit contact with headwear and collars
- Fits a variety of head sizes
- High-performance protection



Mfr #: 322-2000  
P/N: 0798 3649

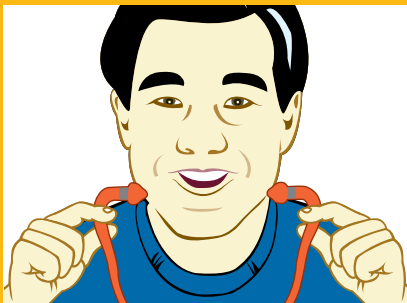
### uvex xact-band

- Integrated sound absorbers reduce noise transmission via the band
- Ergonomic thumb indentations for easy handling and correct insertion
- Extremely lightweight - 4g
- High visibility lime colour for easy visual inspection
- Designed and tested for under the chin wearing mode only
- Replacement pods available (0149 8524)



Mfr #: XA-BD  
P/N: 0012 7793

## BANDED EARPLUG FITTING INSTRUCTIONS



Position band under your chin as shown above. Use your hands to press the ear pods well into the ear canal using an inward motion.



Protection levels are improved by pulling your ear up and back when fitting as shown.



In a noisy environment, lightly press the band inward with your fingertips as shown. You should not notice a significant difference in noise level.

# EARMUFFS – HEADBAND

## Peltor™ X5 Series

- Electrically insulated (dielectric) wire headband
- New ear cushion foam technology for an effective acoustic seal and reliable protection
- Soft wide cushions maintain a comfortable pressure around the ears



Mfr #: XA007707954  
P/N: 0218 8129

## uvex K Series

- Lightweight with a small cup
- Provides protection and comfort without the issues of isolation and miscommunication
- Easy length adjustment for a perfect fit
- A padded headband and soft memory foam cushions for extra wearer comfort



Mfr #: 2610.004  
P/N: 0414 4421

## Peltor™ Optime III Series

- Double casing minimises resonance and provides maximum low-frequency attenuation
- Stainless steel headband wires with four-point suspension help distribute cushion pressure evenly
- Soft, liquid foam-filled ear cushions provide added comfort



Mfr #: H540A  
P/N: 0407 8376

## Peltor™ X4 Series

- Incredibly lightweight & low profile
- This lightweight, lower-profile earmuff helps with compatibility with other personal protective equipment and is designed for protection against moderate-to-high level industrial noise and other loud sounds
- It features an electrically insulated wire headband, often referred to as 'dielectric'



Mfr #: XA007707954  
P/N: 0218 8129

## Verishield VS120

- Large dimension range - Comfortably fits a wide range of head sizes
- Lightweight cushioned headband - Steel-wire construction with a padded headband and precision micro adjustments designed for just the right fit around the ear



Mfr #: 1035105-VS  
P/N: 0041 0996

## PROSAFE 7000

- Lightweight
- Durable construction ideal for use in extreme work environments
- The design ensures pressure is evenly dispersed promoting day-long use



Mfr #: 7000  
P/N: 0547 8920

# EARMUFFS – CAP ATTACH

## Peltor™ X4P3G/3

- Incredibly lightweight & low profile
- This lightweight, lower-profile earmuff helps with compatibility with other personal protective equipment and is designed for protection against moderate-to-high level industrial noise and other loud sounds
- It features an electrically insulated wire headband, often referred to as 'dielectric'



Mfr #: UU010818886  
P/N: 0218 8095

## Peltor™ Optime II H520P3GS/E

- Developed for noisy environments with increased low-frequency attenuation
- Generous inside depth helps the ears to rest comfortably
- Soft, liquid foam-filled ear cushions provide added comfort



Mfr #: 70071730520  
P/N: 0407 8240

## Verishield VS130

- Wide cup opening - Ideal for workers with larger ears, or who wear hearing aids
- Opening area of the cup increased by 16% over earlier versions
- Wide cup opening - Ideal for workers with larger ears, or who wear hearing aids



Mfr #: 1035126-VS  
P/N: 0041 1166

# EARMUFFS – NECKBAND

## Peltor™ X4B

- The design of the neckband allows earmuffs to be worn with a variety of face shields and headgear
- Compatible with headgear without accessory slots
- A soft, adjustable head strap helps to maintain a secure fit with many different types of headgear



Mfr #: UU008197848  
P/N: 0009 7346

## Peltor™ Optime II H520B

- Developed for noisy environments with increased low-frequency attenuation
- Stainless steel headband wires with four-point suspension help distribute cushion pressure evenly
- Generous inside depth helps the ears to rest comfortably
- Soft, liquid foam-filled ear cushions provide added comfort



Mfr #: 70071730546  
P/N: 0407 8274

## Verishield VS120

- Wide cup opening - Ideal for workers with larger ears, or who wear hearing aids
- Opening area of the cup increased by 16% over earlier versions
- Wide cup opening - Ideal for workers with larger ears, or who wear hearing aids



Mfr #: 1035107-VS  
P/N: 0041 1081

	PART	CLEANING	INSPECTING	REPLACING
	Cup shell & headband	Do not immerse in water. Wipe the outside regularly with mild soap and lukewarm water.	Check regularly for cracked or worn parts.	Replace cushions at least twice a year from the hygiene kit or sooner if damaged.
	Cushion	Wipe with mild soap and water.	Determine if the cushion is soiled or cracked.	Replace if the cushion is soiled, replace with new cushion from hygiene kit
	Foam insert	Never wet or dampen foam inserts.	Determine if the foam insert is soiled or damaged.	Replace if foam insert is soiled, replace with new foam insert from hygiene kit.

# TOP 5 EARMUFF MISCONCEPTIONS

## 1. IT'S IMPOSSIBLE TO WEAR MY EARMUFFS INCORRECTLY

**Reality:** While it's true that it is easier to correctly fit earmuffs than earplugs, not all styles of earmuffs are worn the same way and it is possible to wear them incorrectly.

Selecting a pair of earmuffs that fit properly depends on the other types of personal protective equipment (PPE) that are being worn with it. Wearing other pieces of PPE can compromise the seal of the earmuffs, which is what provides workers with the hearing protection they require. Types of PPE that should be considered when selecting a pair of earmuffs include hard hats, safety glasses, welding shields and hairnets.

## 2. THERE IS NOTHING WRONG WITH WEARING EARMUFFS OVER MY HOODIE

**Reality:** Any type of headgear (including hoodies, baseball caps, hoods or hairnets) can interfere with the seal of the earmuff, causing a reduction or significant loss of hearing protection. A recent study conducted by Macedo, Gorman & Berger, 2016<sup>1</sup> revealed that the use of a fleece beanie under the headband earmuff resulted in a reduction of 12 dB of attenuation.

A properly worn earmuff fully encloses the ear and seals tightly against the head. Understanding the significance of the effects of other PPE in the level of protection provided by earmuffs can assist end-users and occupational health and safety professionals in the selection of the most appropriate hearing protector.

## 3. LIFTING MY EARMUFFS EVERY ONCE IN A WHILE, WON'T AFFECT MY HEARING.

**Reality:** When hearing protectors aren't worn properly for the duration of a shift in hazardous noise, a worker's protection drops dramatically. Protection level is not proportional - any unprotected exposure is significant.

Protection is very dependent on wear time, attenuation is quickly degraded if you take hearing protection off. For example, wearing hearing protection for only seven hours out of an eight-hour shift causes protection to drop by two-thirds. When working in hazardous noise, workers are at risk of hearing loss every time they lift their earmuffs to speak to a co-worker, re-adjust their PPE, or even to cool down on a hot day.






**100% Usage**  
Worn for 8:00 hours provides maximum protection

**99% Usage**  
Worn for 7:55 hours provides significantly reduced protection

**90% Usage**  
Worn for 7:10 hours provides virtually no protection

# DOS & DON'TS OF WEARING EARMUFFS

-  **Firm Seal**  
Do seal the cushions firmly against the head
-  **Avoid Obstructions**  
Do not allow hair to obstruct the ear or the earmuff's secure fit in any way
-  **Cover Ear Completely**  
The ear cups should never fit crooked or askew over the ear

## 4. I DON'T NEED TO CLEAN MY EARMUFFS, THEY LAST FOREVER.

**Reality:** Although earmuffs do not go inside the wearer's ears, they should be cleaned regularly to ensure hygienic use. How often earmuffs should be cleaned depends on the environment and whether or not they are shared with co-workers or used by one person. Caring for and cleaning your earmuffs is easy, and can be done with mild soap and water.

It is very important to check earmuffs regularly for possible defects, like cracked cups; hardened, flattened or deformed cushions; leaking liquid-filled cushions and loose bands. Every time an earmuff is stretched open to be worn, the band tension is reduced, and the earmuff will eventually fail to provide a proper seal for the wearer's ears.

3M™ recommends the replacement of the inner and outer foam seals of earmuffs every 3 to 6 months. Hygiene kits (pictured right) are available to allow workers to replace these components and to maintain acceptable noise reduction, hygiene and comfort.

## 5. MY EARMUFFS CAN'T BE FIT TESTED.

**Reality:** 3M has a unique fit testing system that can objectively fit test earmuffs and earplugs.

In addition to testing the seal of the earmuffs on their own, we recommend fit testing the earmuffs while wearing all pieces of PPE a worker would normally wear on the job. This allows the fittest to assess compatibility with all the safety gear being worn while working. Safety glasses and hard hats are two of the most common pieces of PPE that should be worn while fit testing earmuffs to ensure compatibility and a proper seal.

Request a free, on-site, no-obligation 3M™ E-A-Rfit™ Validation System demonstration and see how the E-A-Rfit™ Dual-Ear Validation System can help you and your hearing conservation program.

