Science.
Applied to Life.™

Testable with the
3M™ E-A-Rfit™ Validation System

3M™ PELTOR™ X Series X4A and X5A Headband Earmuffs

Technical Data Sheet

Product description

Historically higher attenuating earmuffs meant larger and bulky cups, but this isn't the case any longer. The 3M™ PELTOR™ Earmuffs X4 can attenuate by as much as 32dB whilst maintaining a sleek, low profile aesthetically pleasing design.

Using the same innovative technology, the 3M™ PELTOR™ X5 remains relatively lightweight with excellent balance and wearer comfort despite the larger cups, and can attenuate by as much as 34dB.

Electrically insulated (dielectric) properties.

Electrically Insulated. Non-conductive (sometimes referred to as "dielectric") material covers the metal components of the headband mechanisms. These earmuffs have been evaluated at an external laboratory against a modified test method based on EN 397:2012 under dry conditions. The metal parts of the headband are electrically insulated with standing a voltage up to 1.2 kV. The user must determine the overall suitability of this product for the intended application taking into account any hazards other than noise for which this product is tested and approved.

Features

- Testable with the 3M™ E-A-Rfit™ Validation System
- Twin headband design for outstanding balance and comfort
- Electrically-insulated wire headband (dielectric)
- Soft wide cushions help maintain a comfortable pressure around the ears
- Innovative foam earcup inserts and spacers that help improve attenuation
- Ear cushion foam technology for an effective acoustic seal and reliable protection
- Easy-to-replace cushions and inserts help keep them clean
- Hard hat-attach version fits directly to many hard hats without an adapter.

X4A Headband

X5A Headband

Quick Reference

	X4A	X5A
Attenuation Data		
SLC_{80}	32dB	34dB
Class	5	5
Tested to	AS/NZS 1270:2002	AS/NZS 1270:2002
Physical Properties		
Clamp Force	10.2 N	10.5 N
Weight	233g	347g
Material Listing		
Headband and Headband cover/sleeve	Stainless steel wire, TPE, Polyester, Polypropylene, Acetal	
Cup Material	ABS	
Cushion	PVC and PU Foam	
Insert (Liner)	PU Foam	
Other		
Colour	Light Green/Black	Dark Grey/Black
Hygiene Kit	HYX4	HYX5
Compatible with 3M™ E-A-Rfit™ Validation System	Yes	

Applications

The 3M™ Peltor™ X Series earmuffs are ideal for protection against noise arising from a wide range of applications in the workplace. Examples of typical applications include airports, construction, manufacturing as well as mining and utilities.

X marks the spot for comfortable hearing protection. Fit and your Personal Attenuation Rating with the X Series can be confirmed using the 3M™ E-A-Rfit™ Dual-Ear Validation System.

Standards

The 3M™ PELTOR™ X Series X4A and X5A Headband Earmuff have been tested by an accredited laboratory in accordance with the requirements stipulated in Australian/New Zealand Standard AS/NZS 1270:2002.

Fitting Instructions

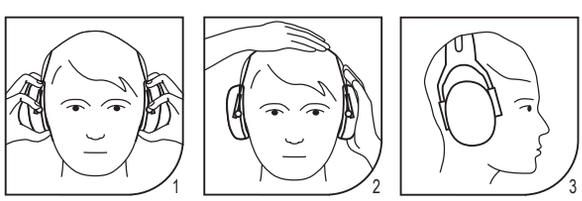
Research suggests that user may receive less noise reduction than indicated by the attenuation label value(s).

Performance will be reduced by anything that impairs the seal of the cushions against the wearer's head e.g., thick spectacle frames, goggles, respirator straps, balaclavas, etc. If spectacles are worn, cushions must be soft and subtle to ensure seal. Select thin, flat temples or straps when wearing this product in combination with other PPE (safety glasses, googles, or respiratory protection), to minimize interference with the seal of the earmuff cushions (i.e., acoustic seal).

Prior to fitting, inspect the product to ensure it is not damaged. Follow manufacturers instructions.

To fit the hearing protector:

1. Pull the cups apart and place the earmuffs over the ears so that the cushions form a snug seal around the ears (Fig 1).
2. Adjust the height for optimum comfort and fit by sliding the cups up or down the guide whilst holding the headband in place (Fig 2).
3. Figure 3 shows the product correctly fitted.



Fit Check

When hearing protectors are correctly worn your own voice should sound hollow and sounds around you should not sound as loud as before.

Hearing Protector Fit Testing

The 3M™ E-A-Rfit™ Dual-Ear Validation System

The success of your hearing conservation program requires more than offering earplugs or earmuffs. Each worker needs to wear the most effective hearing protector for the environment and the correct fit for their unique anatomy.

With 3M™ E-A-Rfit™ Dual-Ear Validation System, you can quickly identify how much protection each worker receives from their 3M hearing protectors.

The Technology Behind 3M™ E-A-Rfit™

The 3M™ E-A-Rfit™ Dual-Ear Validation System is based on Field Microphone-In-Real Ear (F-MIRE) technology that measures the effectiveness of hearing protectors from inside a worker's ears, providing accurate, quantitative results.

The tester wears a pair of modified 3M probed hearing protectors connected to a dual-element microphone. A loudspeaker is placed in front of the tester. When it emits a broadband noise, the dual-element microphone measures the signal in the ear canal and outside the ear plug. In less than five seconds, the difference between the two measurements is calculated and a Personal Attenuation Rating (PAR) is displayed.

It Starts with PAR.

The 3M™ E-A-Rfit™ Validation System puts the worker in the context of their noise environment and helps you understand their level of attenuation.

The results you get from the 3M™ E-A-Rfit™ is displayed as a PAR. The PAR is a numerical value that shows the reduction in sound level within the ear when a hearing protector is worn. The resulting PAR, combined with the worker's exposure to noise, is used to determine if a worker is receiving appropriate protection from the noise hazard.

Knowing the PAR lets you identify workers who are inadequately protected, so you can provide real-time intervention and training.

Key Benefits of the 3M™ E-A-Rfit™ Dual-Ear Validation System include:

- Tests both ears simultaneously in less than 5 seconds
- Science-based, quantitative testing
- Fast, clear and accurate results
- Tests 7 frequencies—125Hz to 8000Hz
- 3M™ Earplug, earmuff, and headset (comms) testing capability

Contact your 3M Personal Safety Specialist to find out more about our 3M™ E-A-Rfit™ Dual-Ear Validation System or for assistance in solving your complex or day-to-day hearing conservation challenges.

Attenuation Data

3M™ PELTOR™ X4A Headband Earmuffs

AS/NZS 1270:2002

Frequency (Hz)	125	250	500	1000	2000	4000	8000	SLC_{80}	Class	Clamp Force
Mean Attenuation (dB)	19.2	22.9	29.8	40.0	37.5	42.1	39.5			
Standard Deviation (SD) (dB)	3.3	3.7	3.8	3.2	2.7	5.4	5.5	32 dB	5	10.2 N
Mean minus SD (dB)	15.9	19.2	26.0	36.8	34.8	36.7	34.0			

Hearing protector Class 5 tested to AS/NZS 1270. When selected, used and maintained as specified in AS/NZS 1269, this protector may be used in noise up to 110dB(A) assuming an 85dB(A) criterion. A lower criterion may require a higher protection class.

3M™ PELTOR™ X5A Headband Earmuffs

AS/NZS 1270:2002

Frequency (Hz)	125	250	500	1000	2000	4000	8000	SLC_{80}	Class	Clamp Force
Mean Attenuation (dB)	22.6	29.7	37.2	41.8	37.6	41.0	42.5			
Standard Deviation (SD) (dB)	4.2	3.8	5.0	4.7	5.5	4.7	4.1	34 dB	5	10.5 N
Mean minus SD (dB)	18.4	25.9	32.2	37.1	32.1	36.3	38.4			

Hearing protector Class 5 tested to AS/NZS 1270. When selected, used and maintained as specified in AS/NZS 1269, this protector may be used in noise up to 110dB(A) assuming an 85dB(A) criterion. A lower criterion may require a higher protection class.

Key

Mean Mean attenuation value derived from testing in accordance with AS/NZS 1270:2002.
SD Standard Deviation derived from testing in accordance with AS/NZS 1270:2002.
Mean-SD Mean attenuation value minus Standard Deviation **SLC_{80}** = Single number rating commonly used in Australia and New Zealand to compare acoustic performance of hearing protectors. The subscript '80' indicates that in well managed hearing protector programs, the protection provided is expected to equal or exceed the SLC_{80} in 80% of protector-wearer noise spectrum combinations.
Class A simplified process for selecting hearing protectors based on the wearers 8-hour equivalent continuous A-weighted sound pressure level.

3M strongly recommends personal fit testing of hearing protectors. Research suggests that users may receive less noise reduction than indicated by the attenuation label value(s) on the packaging due to variation in fit, fitting skill, and motivation of the user. Refer to applicable regulations and guidance on how to adjust attenuation label value(s). In the absence of applicable regulations, it is recommended that the attenuation label value(s) be reduced to better estimate typical protection.

The effectiveness of a hearing protector reduces dramatically when the hearing protector does not fit properly, is incorrectly inserted or is not worn 100% of the time during ALL hazardous noise events. Removal of the hearing protector, even for brief moments, substantially reduces protection and greatly increases the risk of hearing damage.

Cleaning and Maintenance

Follow recommended care and cleaning instructions in order to maintain best noise reduction and function.

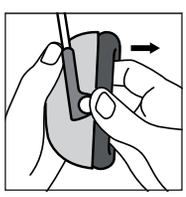
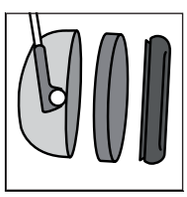
Cleaning

1. After use, wipe outside cups and earmuff cushions so they remain clean and hygienic. The product be cleaned using mild detergent and water. Do not immerse in water. Do not clean with solvents such as acetone, or with waterless hand cleaners or products containing lanolin.
2. If the earmuffs cannot be cleaned or are damaged, dispose of the product and obtain a new pair.

Maintenance

Cushions and inserts can be replaced by using the approved Hygiene Kits for your 3M™ PELTOR™ Product. See 'Ordering Information' section.

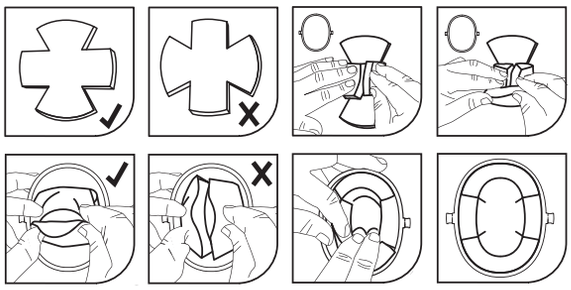
1. Remove the existing earmuff cushion from your headset by placing your fingers in the cup to help enable you to pull the earmuff cushion out.

2. Once you have removed the earmuff cushion from the headset, proceed with the removal of the grey spacer from the existing earmuff. To separate the ear cushion from the grey spacer, carefully pull apart the cushion with one hand whilst forcing apart the grey spacer with the other. Use your finger nail to prow open.


3. Remove the foam inserts located inside the hearing protector cups and replace with the new foam inserts located in the new hygiene kit.

3a. For the X5 series headsets, firstly pull out the foam insert from your new hygiene kit and place it on a flat surface as depicted in picture with the tick below. Fold side tabs into the middle and then fold top and bottom tabs on top of the side tabs. Place folded foam into the cup and maneuver until the hygiene kit is sitting snugly in the cup.



4. Connect the new earmuff cushion located in your hygiene kit onto the grey spacer by pressing down and around the cushion until the cushion securely clicks into place. The new cushion will only lock onto the rough side of the grey spacer, and not the smooth side. Securely lock the new cushion and grey spacer onto the hearing protector cups with the newly inserted foam inserts.

- 3M recommends replacing the hygiene kit every six months to maintain acceptable noise reduction, hygiene and comfort. In hot and humid environments more frequent changes may be required to maintain acceptable hygiene.
- 3M™ PELTOR™ HY100A Clean Hygiene Pads can be applied onto the earmuff cushions to help absorb sweat and moisture for improved comfort and hygiene.

Storage

- Store the product in a clean and dry area before and after use.
- Always store the product in the original packaging and away from any sources of direct heat or sunlight, dust and damaging chemicals.
- Operating temperature range: – 20°C (-4°F) to 50°C (122°F).
- Storage temperature range:– 20°C (-4°F) to 40°C (104°F).
- Relative humidity: <90%.

Disposal

If the product is to be disposed*, it should be disassembled and disposed of as solid waste. Please see local authority regulations for disposal advice and locations

* Discard the product within 5 years from date of manufacture or immediately if damaged or cannot be cleaned.

Ordering Information

SAP ID	3M ID	Availability		Model	Description
		AU	NZ		
Headsets					
7000104081	XA007707947	●	●	X4A	3M™ PELTOR™ X Series Premium Headband Earmuff X4A, SLC_{80} 32dB (Class 5), 10 EA/Case
7000104082	XA007707954	●	●	X5A	3M™ PELTOR™ X Series Premium Headband Earmuff X5A, SLC_{80} 34dB (Class 5), 10 EA/Case
Accessories – Hygiene					
7000104048	XA007707608	●	●	HYX4	3M™ PELTOR™ X Series Hygiene Kit XY4
7000104049	XA007707616	●	●	HYX5	3M™ PELTOR™ X Series Hygiene Kit XY5
7100064410	XH001651351	●	●	HY100A	3M™ PELTOR™ Clean Hygiene Pads HY100A, 100 Pairs/Carton
3M™ E-A-Rfit™ Dual-Ear Validation System – Probe					
7100062128	70071691136	●	●	393-3005-2	3M™ PELTOR™ X4/X5 Earmuff Probed Test Cushions 393-3005-2, 2 EA/Kit

WARNING!
These hearing protectors help reduce exposure to hazardous noise and other loud sounds. Misuse or failure to wear hearing protectors at all times that you are exposed to noise may result in hearing loss or injury. For proper use, see supervisor or User Instructions.

Always ensure the hearing protection device (HPD) is:

- Suitable for the application;
- Fitted correctly;
- Worn during all periods of exposure;
- Replaced when necessary.

Important Notice: To the extent permitted by law, 3M shall not be liable for any loss or damage including any loss of business, loss of profits, or for any indirect, special, incidental or consequential loss or damage arising from reliance upon any information herein provided by 3M. Nothing in this statement will be deemed to exclude or restrict 3M's liability for death or personal injury arising from its negligence.

3M Australia Pty Ltd
Personal Safety Division
Bldg A, 1 Rivett Road
North Ryde NSW 2113
Customer Service 1300 363 565
Web www.3M.com.au/ppesafety

3M New Zealand Ltd
Personal Safety Division
94 Apollo Drive, Rosedale
Auckland 0632
Customer Service 0800 252 627
Web www.3M.com/nz/ppesafety