



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



AS/NZS 1270  
Lic. SMK1147

# 3M™ E-A-R™ Classic™ Disposable Foam Earplugs

## Technical Data Sheet

### Product description

The E-A-R™ Classic™ disposable foam earplugs are designed for insertion into the ear canal to help reduce exposure to hazardous noise.

These products are available in corded and uncorded version.

The uncorded version is also available in One Touch™ Dispenser format.

### Features

- Complies with Australian/New Zealand Standard AS/NZS 1270:2002
- Proprietary soft energy absorbing polymer foam
- Firm material with slow recovery time helps achieve good fit
- Compatible with 3M™ E-A-Rfit validation system
- Special cylindrical shape that fits most ear canals
- Supplied in re-sealable pillow-pack for ease of use
- Sweat and humidity resistant which helps improve comfort- ideally suited for use in hot and humid conditions
- Regular size may help fit a broader range of ear canal sizes
- Available in both corded and uncorded version
- Corded - SLC80 21dB (Class 3)
- Uncorded - SLC80 23dB (Class 4)

### Applications

The E-A-R™ Classic™ is particularly suited for both workplace and leisure environments. Examples of typical applications include:

- Mining
- Automotive
- Chemical & pharmaceutical manufacture
- Construction
- Light engineering
- Metal processing
- Textile manufacture
- Woodworking



310-1001



311-1101

### Standards

These hearing protectors have been produced to comply with the requirements of the Australian /New Zealand Standard AS/NZS 1270:2002.

### Materials

The following materials are used in the manufacture of this product.

Component	Material
Earplugs	PVC foam
Cord	PVC

## Laboratory Attenuation Values

### Corded

Frequency (Hz)	125	250	500	1000	2000	4000	8000
Mean (dB)	19.0	19.0	25.1	23.9	30.7	37.0	39.3
SD (dB)	6.7	5.1	7.9	7.5	6.9	5.5	9.0
Mean - SD (dB)	12.3	13.9	17.2	16.4	23.8	31.5	30.3

SLC<sub>80</sub> 21dB (Class 3)

Hearing protector Class 3 tested to AS/NZS 1270. When selected, used and maintained as specified in AS/NZS 1269, this protector may be used in noise 95dB(A) to less than 100dB(A), assuming an 85dB(A) criterion.

### Uncorded

Frequency (Hz)	125	250	500	1000	2000	4000	8000
Mean (dB)	19.8	20.6	27.8	27.4	31.0	38.7	41.2
SD (dB)	9.2	8.6	7.3	8.7	6.3	6.1	9.2
Mean - SD (dB)	10.6	12.0	20.5	18.7	24.7	32.6	32.0

SLC<sub>80</sub> 23dB (Class 4)

Hearing protector Class 4 tested to AS/NZS 1270. When selected, used and maintained as specified in AS/NZS 1269, this protector may be used in noise 100dB(A) to less than 105dB(A), assuming an 85dB(A) criterion.

### 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<sub>80</sub>** = 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<sub>80</sub> 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.

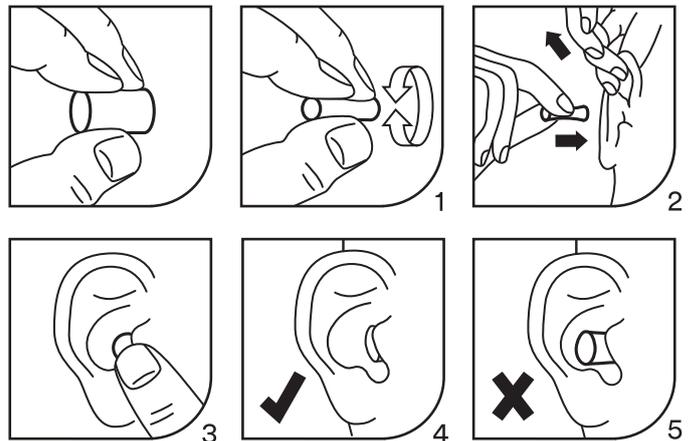
3M strongly recommends personal fit testing of hearing protectors. Research suggests that users may receive less noise reduction than indicated by the attenuation label value(s) on the packaging due to variation in fit, fitting skill, and motivation of the user. Refer to applicable regulations and guidance 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.

## Fitting Instructions

Always fit your ear plugs before entering a noise hazard area. Wash and rinse your hands before fitting ear plugs. Before fitting inspect the product to ensure that it is not torn or damaged. Replace as needed. Ensure hair and jewellery do not interfere with fitting. See Figures 1-5.

- Roll earplug slowly with thumb and fingers. Gradually increase pressure to compress earplug to a small crease-free cylinder.
- Insert compressed earplug well into ear canal while pulling ear outward and upward with opposite hand.
- Hold in place until the ear plug expands. Touch earplug. You should feel only the end of the earplug. If you feel most of the earplug outside the ear canal remove earplug and repeat fitting.
- Image of correctly fitted earplug. Insertion depth for correct fit will vary depending on the unique size and shape of each ear canal.
- Image of incorrectly fitted earplug. The outer end of the earplug should not protrude beyond the tragus.



## Fit Check

When ear plugs are correctly inserted your own voice should sound hollow and sounds around you should not sound as loud as before. Listen to steady loud sound with earplugs in both ears. Cover ears with tightly cupped hands. Noise should sound about the same whether or not ears are covered. Re-check the fit often during wear time. If earplugs become loose the actual protection obtained may be significantly reduced. To re-fit follow steps 1-5 above.

If you cannot obtain a good fit, try a different size or type of hearing protector. If you are unable to fit these earplugs correctly and comfortably in both ears, contact your safety officer or 3M for further advice.

## 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.

## Storage

- Store in area free of contamination
- Storage Temperature must be kept between -20°C and 40°C.
- Storage humidity <85% RH
- Product must be stored in original packaging.
- Regardless of storage history, always inspect hearing protectors before use and discard immediately if worn or damaged.

## Shelf-Life

- 3M™ hearing protector product lifetimes assume the above storage conditions are met.
- Product lifetime = 5 years from date of manufacture as printed on the product packaging.

NOTE: Some locations may have regulations that include specific product lifetime requirements for hearing protectors, which should take precedence over these 3M™ recommendations if they are more restrictive.

## Ordering Information

SAP ID	3M Order Code	Availability		Model #	Description
		AU	NZ		
7000002301	70071514940	●		311-1101	3M™ E-A-R™ Classic™ Corded Earplugs 311-1101, SLC <sub>80</sub> 21dB (Class 3), Poly Bag, 200 Pairs/Box, 10 Boxes/Case
7000002299	70071514916	●		310-1001	3M™ E-A-R™ Classic™ Uncorded , Pillow Pack 310-1001, SLC <sub>80</sub> 23dB (Class 4), 200 Pairs/Box, 10 Boxes/Case
7000002300	70071514932	●	●	312-1201	3M™ E-A-R™ Classic™ Uncorded Earplugs 312-1201, SLC <sub>80</sub> 23dB (Class 4), Poly Bag, 2000 Pairs/Case
7000002298	70071514882	●		391-1001	3M™ E-A-R™ Classic™ One Touch™ Refill, 391-1001, SLC <sub>80</sub> 23dB (Class 4), 500 Pair/Bottle, 4 Bottles/Case, 2000 Pair/Case
<b>3M™ E-A-Rfit™ Dual-Ear Validation System - Probe</b>					
7000052882	70071562774	●	●	393-2003-50	3M™ E-A-R™ Classic™ Probed Test Plugs 393-2003-50, 50 EA/Case

**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.



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