



3M™ E-A-Rsoft™ Yellow Neon, Metal Detectable Earplugs

Technical Data Sheet

Product description

3M™ E-A-Rsoft™ Yellow Neon Metal Detectable disposable ear plugs are designed for insertion into the ear canal to help reduce exposure to hazardous levels of noise and loud sound. These products are available in corded and uncorded version.

The 3M™ E-A-Rsoft™ Yellow Neon Metal Detectable is specifically designed for the food industry.

These products provide effective protection across all test frequencies.



Features

- Slow expanding polyurethane foam
- Soft foam helps provide low pressure inside the ear canal
- Metal detectable version
- Tapered shape conforms quickly to most ear canals particularly large size
- Vibrant bright colour
- Available in corded version
- Compatible with the 3M E-A-Rfit Dual-Ear Validation System

Standards

These hearing protectors have been tested by an accredited laboratory in accordance with the requirements specified in the Australian/New Zealand Standard AS/NZS1270:2002.

Laboratory Attenuation Values

Frequency (Hz)	125	250	500	1000	2000	4000	8000
Mean (dB)	21.9	22.2	24.5	25.7	31.3	42.7	42.5
SD (dB)	8.1	7.4	7.7	6.2	4.8	5.5	7.9
Mean - SD (dB)	13.8	14.8	16.8	19.5	26.5	37.2	34.6

SLC₈₀ 23dB (Class 4)

Hearing protector Class 4 tested to AS/NZS1270. When selected, used and maintained as specified in AS/NZS1269, this protector may be used in noise up to 105dB(A) assuming an 85dB(A) criterion. A lower criterion may require a higher protection class.

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.

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

SLC80 = 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 SLC80 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.

Materials

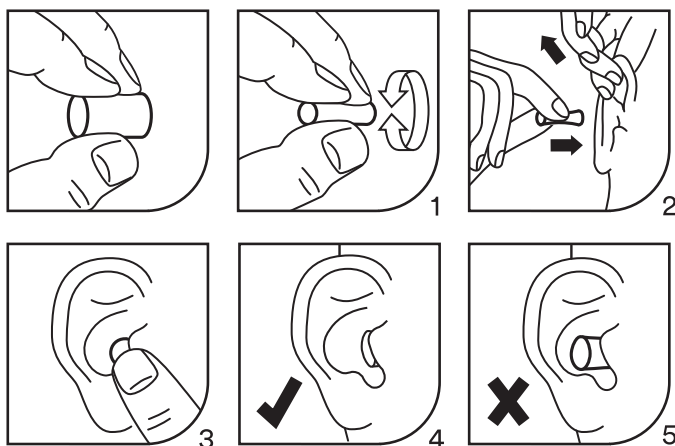
The following materials are used in the manufacture of this product.

Component	Material
Earplugs	Polyurethane Foam with implanted stainless steel ball bearing in the plug.
Cord	Recycled PVC with metal particles in the cord.

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.

1. Roll earplug slowly with thumb and fingers. Gradually increase pressure to compress earplug to a small crease-free cylinder.
2. Insert compressed earplug well into ear canal while pulling ear outward and upward with opposite hand.
3. 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.
4. Image of correctly fitted earplug. Insertion depth for correct fit will vary depending on the unique size and shape of each ear canal.
5. 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.

3M Personal Safety Division

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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

3M Order Code	Model #	Description
70071515103	311-4106	3M™ E-A-Rsoft™ Yellow Neon Metal Detectable Corded
3M™ E-A-Rfit™ Dual-Ear Validation System - Probe		
70071562741	393-2000-50	3M™ E-A-Rsoft™ Yellow Neon Probed Test Plug

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, User Instructions, or call 3M TechAssist Helpline 1800 024 464.

Always ensure the hearing protection device (HPD) is:

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

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