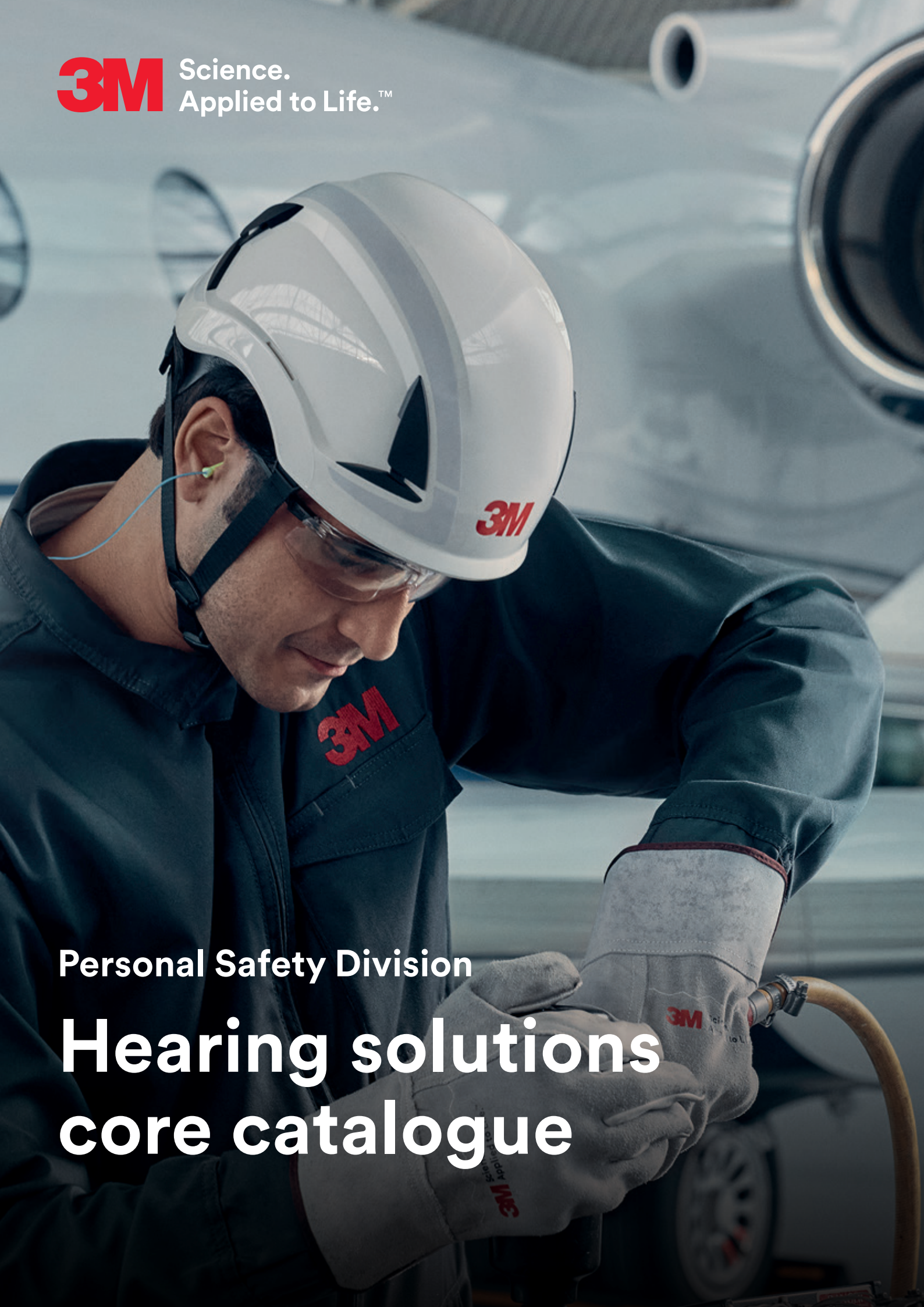


Personal Safety Division

Hearing solutions core catalogue

Choosing the right product

Do you prefer earplugs (in the ear) or earmuffs (over the ear)?

Earplugs

Do you need reusable, disposable or banded earplugs?

Banded

3M™ E-A-Rcaps™
Page 15

Reusable

3M™ E-A-R™ UltraFit™
Page 14

Disposable

Do you want a roll down earplug or a 'no touch' push-to-fit insertion?

1 or 2 Handed — Push-to-fit

3M™ E-A-R™ Flexible Fit
Page 13

2 Handed — Push-to-fit

3M™ E-A-R™ Express™
Page 14

Roll down

Do you need moisture resistance?

Yes

3M™ E-A-R™ Classic™
Page 10

No

3M™ 1100
Page 11

Earmuffs

Do you wear them over the head or attached to a safety helmet?

Headband

Do you need 'dielectric' electrical insulation?

Yes

Do you need a very high noise reduction rating of 37 dB?

No

3M™ PELTOR™ Earmuff X4
Page 20

Yes

3M™ PELTOR™ Earmuff X5
Page 20

No

Do you wear earmuffs for extended periods of time and need extra comfort features?

Yes

3M™ PELTOR™ X Series
Page 19

No

3M™ PELTOR™ Optime™
Page 17-18

Helmet mounted

Do you need ABS impact resistant cups?

No

3M™ PELTOR™ Optime™
Page 17-18

Yes

3M™ PELTOR™ X Series
Page 19

	 3M™ E-A-Rsoft™ Yellow Neons™	 3M™ E-A-R™ Classic™	 3M™ E-A-R™ Classic™ Corded	 3M™ 1100 Earplugs	 3M™ One Touch™ Pro Earplug Dispenser	 3M™ E-A-R™ Express™ Earplugs	 3M™ E-A-R™ Flexible Fit Earplug HA	 3M™ E-A-R™ UltraFit™ Earplugs	 3M™ E-A-Rcaps™	 3M™ PELTOR™ Optime™ I Earmuffs	 3M™ PELTOR™ Optime™ II Earmuffs	 3M™ PELTOR™ Optime™ III Earmuffs	 3M™ PELTOR™ Earmuff X4	 3M™ PELTOR™ Earmuff X5
Hearing protection types:														
Disposable earplugs	●	●	●	●	●									
Push-to-fit earplugs						●	●							
Re-usable earplugs								●						
Banded earplugs									●					
Ear muffs										●	●	●	●	●
SNR v dB 28dB SNR	36	28	28	37		28	30/35	32	23	27	31	35	33	37
Noise level:														
< 85 dB														
83–93 dB														
87–98 dB		●	●			●			●	●				
94–105 dB							●	●			●			
95–110 dB	●			●			●					●	●	●
Customer need:														
Corded	●		●	●		●	●	●						
Un-corded	●	●		●		●	●	●						
Application/environment:														
Temperature (•cold/hot•)	●●	●●	●●	●●		●●	●●	●●	●●	●	●	●	●	●
Humidity		●	●				●			●	●	●	●	●
Lack of hygiene facility						●	●	●		●	●	●	●	●

The challenges of hearing protection

40 million workers are exposed to loud noise and 13 million suffer from hearing disorders despite industry regulations*. You can advance your hearing conservation programme with a customised and comprehensive approach to the hearing protection challenge. Implementing a solution that really makes a difference begins with understanding the hazards, the regulation and the factors that impact protection.

The facts

The #1 Reported Occupational Health Issue: data from the European Agency for Safety and Health at Work shows that noise induced hearing loss is the most commonly reported occupational medical condition in the EU.

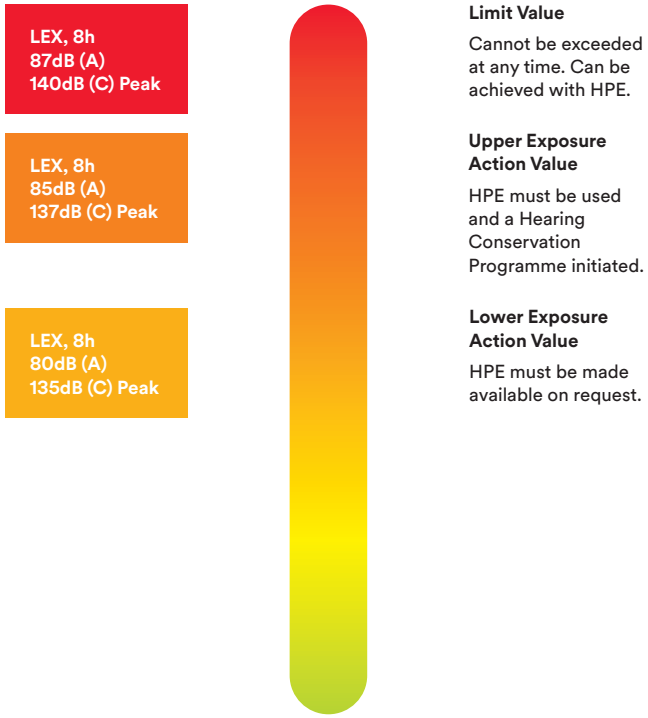
One Third of European Employees Potentially at Risk: according to the EU OSHA one third of workers in Europe are exposed to potentially dangerous levels of noise.

Repeated exposure to loud sounds, greater than 85 dB(A), can cause permanent hearing loss and tinnitus. Other health effects related to noise include stress, anxiety, hypertension, sleep disturbance and fatigue.

The regulations

The Physical Agents (Noise) Directive 2003/10/EC states that suitable hearing protection devices be made available at the Lower Exposure Action Value and information on the harmful effects of noise provided to the worker.

At Upper Exposure Action Value suitable hearing protectors must be worn in areas where there is risk of noise induced hearing damage and entry to such areas should be strictly controlled. In addition, hearing conservation programme be initiated which may include general health surveillance and audiometric checks. The Limit Value is the absolute ceiling limit that must not be exceed at any time and can be achieved by using appropriate hearing protectors.



* Source: European Agency for Safety and Health at Work

The real world concerns of hearing protection

Variable Noise Levels: Every environment is different and workers can face a wide range of sound levels throughout the day and in different areas at the same facility.

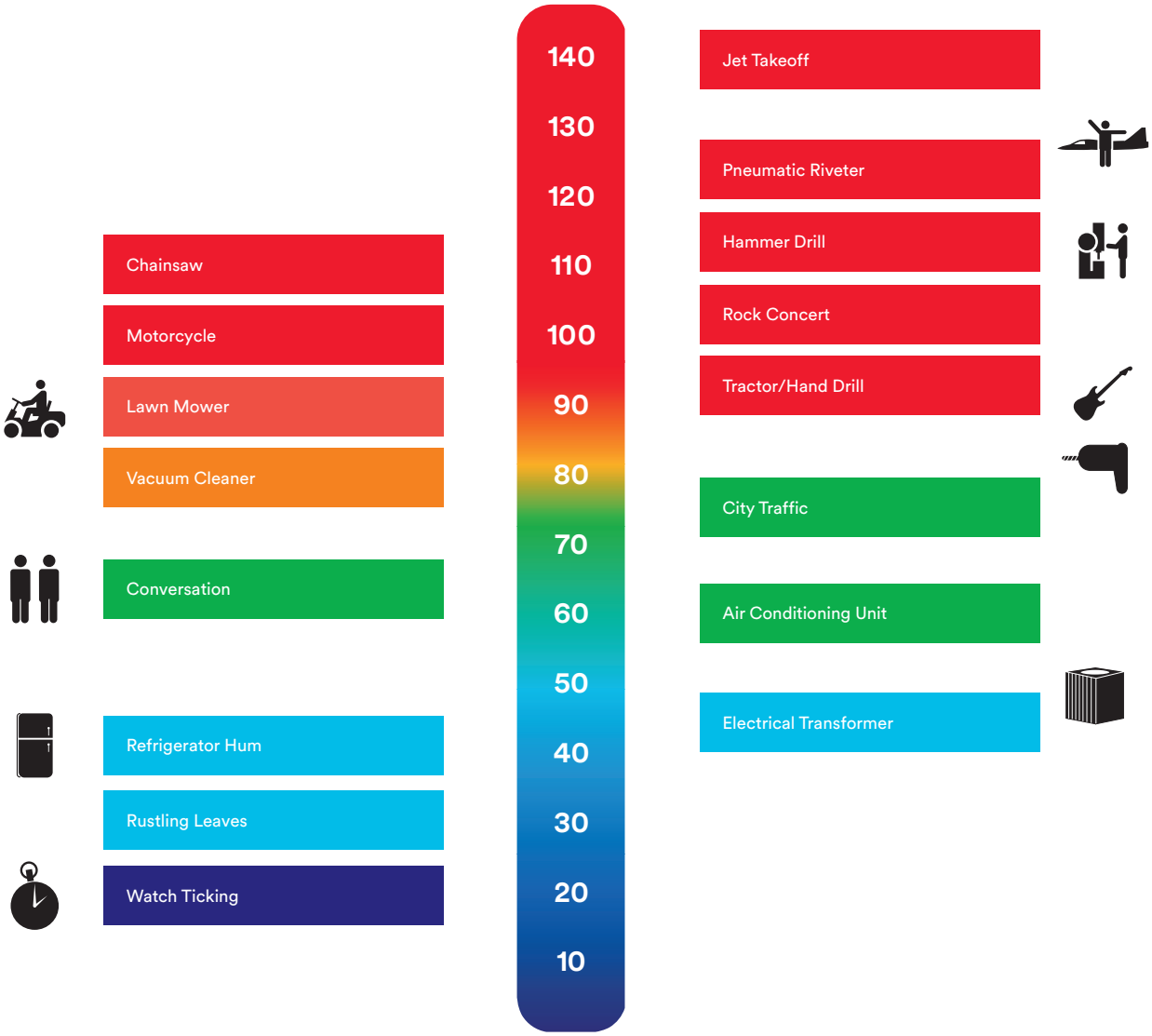
The Human Factor: Each person has a different shape, size and anatomy of the ear canal, so there is no one-size fits all hearing protection solution. The key to achieving optimal protection is having the best fit possible.

Employee Communication: Where there is an essential need for workers to communicate or hear warning sounds it is vital that their hearing is protected from hazardous noise levels.

What types of sounds require hearing protection?

At home and work, it's important to understand which sounds may cause hearing loss and require hearing protection:

Decibel scale dB(A)



Is your hearing protection fit for purpose?

Harmful noise is one of the top 3 health hazards in the workplace. Noise is now officially recognised as an irreversible health hazard in accordance with the PPE Regulation (EU) 2016/425 and placed in the highest risk category as respiratory protection and fall protection, for example.

Implication of the change in categorisation.

Your supplier of hearing protection products

Manufacturers of hearing protection products are subject to more stringent on-going quality control procedures, including quality control of products or quality assurance for the entire manufacturing site.

Your users of hearing protection products

Protection from harmful noise needs to be taken seriously, and using the right product and wearing it correctly is vital. The PPE Regulation recognises this and brings added confidence to users that the products they are wearing are stringently monitored for on-going compliance.

As a Safety Officer what should you be aware of?

- Ensure the hearing protection is fully compliant with appropriate standards and PPE Regulation
- Training of workers in the correct selection of personal protective equipment is even more important since the change in categorisation of hearing protectors.

3M has over 50 years' experience of developing innovative hearing protection products

At 3M we recognise the importance of providing the appropriate level of support for our customers. Whether it's helping you choose the right products for particular hazards and working environments, or helping you keep up to date with changing legislation and the implications for your workplace.

3M is here to help

3M has a team of dedicated hearing technical and regulatory experts around Europe.

At 3M our manufacturing processes operate to stringent quality monitoring principles required by the PPE Regulation, and our team of experts actively participate on many European CEN Standards Committees as well as trade associations such as the European Safety Federation.

3M can help you fulfil your essential training requirement

As with any personal protective equipment used in high risk environments, you need to be fully confident that you select the appropriate hearing protector suitable for your workplace needs. 3M can help. We offer a range of training services including:

- Presentations
- Seminars
- Face to face demonstrations
- User training videos
- Webinars
- Fit testing

It starts with PAR

How do you decide what hearing protection you will offer to your workers?

If you are simply using the SNR found on the hearing protection packaging as a guide you may not be providing accurate protection levels for every worker. Ears come in many shapes and sizes and to make sure all workers are getting the protection they need, you need to know their Personal Attenuation Rating (PAR).

Noise-induced hearing loss is 100% preventable.

29dB pass.

A “pass” result means the hearing protection is inserted properly and provides sufficient protection for the worker’s specific job.

10dB fail.

A “fail” result means the hearing protection is either not inserted properly or is the wrong type or size for the worker’s ear canal.

What’s your PAR?

Every employee is different.
Every job is different.
Every ear is different.

Finding each employee’s PAR will help you have assurance that workers’ hearing is protected and they are compliant with the law. That’s why we made the new 3M™ E-A-Rfit Dual-Ear Validation System fast, accurate and easy.

Fit testing is key

Get results you can trust. The 3M™ E-A-Rfit™ Dual-Ear Validation System measures the effectiveness of the earplug or earmuff inside the employee’s ear providing accurate, quantitative results. Because you can simultaneously test both ears, you have more to focus on education including the importance of fit and protection.

Why 3M?

As the leader in hearing protection, 3M offers a complete solution, with dual-ear and earmuff testing capabilities plus a user-friendly interface. The 3M™ E-A-Rfit™ Dual-Ear Validation System is the fast and easy way to find your employees’ PAR, because we know how important it is to make your hearing conservation program fit seamlessly into your operation.

Technology and support from the hearing protection experts

Employee education and training

The 3M global hearing experts provide valuable on-site training and seminars throughout the world, helping employers and their workers achieve their hearing conservation goals. This training is conveniently performed on-site at no cost. Whether it's explaining attenuation ratings or regulations, or providing the motivation workers need to comply, 3M Hearing Specialists are available to help you achieve your hearing conservation program objectives. They're experts in hearing conservation training and will work with your team to help ensure your professional workers are protected with the right hearing protection equipment for their jobs.

Understanding Single Number Rating (SNR)

A single number rating is the overall level of attenuation of the hearing protector across all test frequencies performed in a laboratory under ideal conditions. However, each hearing protector's SNR may not be a good estimate for workplace noise reduction.

Many factors, such as the relationship between the size of the wearer's head and size of the wearer's ear canal, and how it fits over the ears or inserted in the ear canal, can impact how effective that hearing protector will be. That's why it is so important to have the 3M™ E-A-Rfit™ Validation System as part of your hearing conservation program and the support of a hearing protection team with over 40 years of expertise.

Innovation from the experts

At 3M, we understand the challenges of the workplace, the complexities of fitting protection devices, and the importance of creating adaptable solutions for maximising hearing protection. Our innovations in noise detection, protection and validation are designed to solve real-world challenges, providing our customers with the advanced and comprehensive solutions needed to help protect workers.

The 3M team of application specialists, sound engineers, and support personnel provides an unmatched level of support you can rely on to advance your hearing protection program.

3M™ Disposable Foam Earplugs

3M™ Disposable Earplugs, made from expandable slow-recovery foam, provide a great combination of comfort and hearing protection for users. Once in the ear, foam earplugs expand to conform to the unique shape of each ear, providing a comfortable, custom fit. 3M provides a wide range of disposable roll-down earplugs so you can choose the best solution for your individual needs.

3M™ E-A-R™ Classic™ Earplugs

3M™ E-A-R™ Classic™ Earplugs were the industry's first foam earplugs, virtually revolutionising hearing protection. Today, the revolution continues. It meets more wearer and environmental needs with its proprietary foams, preferred cylindrical shape and proven in-ear comfort.

Available with cord	✓
Moisture resistant	✓
Reusable	
Slow recovery foam	✓
No roll down required	

Dispenser available, uncorded models

Product number	Product description	Attenuation rating (SNR)	Corded	Case qty
PP-01-002	3M™ E-A-R™ Classic™ Earplugs, Pillow Pack	28 dB	No	250 PR
CC-01-000	3M™ E-A-R™ Classic™ Earplugs (corded)	29 dB	Yes	200 PR
PD-01-001	3M™ E-A-R™ Classic™ Earplugs, Dispenser Refill	28 dB	No	500 PR

3M™ E-A-Rsoft™ Yellow Neons™ Earplugs

3M™ E-A-Rsoft™ Yellow Neons™ Earplugs have a smooth texture for in-ear comfort and are made of an advanced foam formulation for all-day wearability. Offered in one size to comfortably fit in a wide range of ears, these high attenuation earplugs are ideal for many different noisy applications. Brightly coloured for hearing protection compliance sighting, 3M™ E-A-Rsoft™ Yellow Neons™ Earplugs are an excellent choice for any hearing conservation program.

Available with cord	✓
Moisture resistant	
Reusable	
Slow recovery foam	✓
No roll down required	

Dispenser available, uncorded models

Product number	Product description	Attenuation rating (SNR)	Corded	Case qty
ES-01-001	3M™ E-A-Rsoft™ Yellow Neons™ Earplugs	36 dB	No	250 PR
311-4266	3M™ E-A-Rsoft™ Yellow Neons™ Earplugs (corded)	36 dB	Yes	250 PR
PD-01-002	3M™ E-A-Rsoft™ Yellow Neons™ Earplugs, Dispenser Refill	36 dB	No	500 PR

3M™ Foam Earplugs

Soft, hypoallergenic foam and a tapered design help provide a noise-reducing seal in the ear canal. 3M™ 1100 Earplugs and 3M™ 1110 Earplugs are easy to roll down, and once fitted in the ear, soften with body temperature for comfortable extended wear.

Available with cord	✓
Moisture resistant	
Reusable	
Slow recovery foam	✓
No roll down required	

Dispenser available, uncorded models

Product number	Product description	Attenuation rating (SNR)	Corded	Case qty
1100	3M™ 1100 Earplugs	37 dB	No	200 PR
1100	3M™ 1100 Earplugs, Dispenser Refill	37 dB	No	2000 PR
1110	3M™ 1110 Earplugs (corded)	37 dB	Yes	100 PR

3M™ E-A-R™ One Touch™ Pro Earplug Dispenser

Conveniently provide hearing protection where employees need it. The 3M™ One Touch™ Pro Earplug Dispenser dispenses one earplug at a time with a simple twist. No more expense and waste of individually wrapped plugs. Made from ABS plastic with a powder-coated steel-back plate, it's designed for challenging environments - indoors and outdoors.

- Accurately dispenses one earplug at a time
- Dispenses earplug directly into hand
- Powder coated steel back plate and durable ABS and POM plastic for tough environments
- Free-standing or wall-mounted, could be located inside or outside
- Mounting holes designed to fit a variety of competitive dispensers
- The innovative design protects against sun, rain and wind, when dispensing earplugs outside

3M™ E-A-R™ Classic™ Earplugs

3M™ E-A-Rsoft™ Yellow Neons™ Earplugs

3M™ 1100 Earplugs

Product number	Product description	Case qty
391-0000	3M™ E-A-R™ One Touch™ Earplugs Dispenser	1 EA
PD-01-001	3M™ E-A-R™ Classic™ Earplugs Refill Bottle	500 PR
PD-01-002	3M™ E-A-Rsoft™ Yellow Neons™ Earplugs Refill Bottle	500 PR
1100-R	3M™ 1100 Earplugs Refill Bottle	500 PR

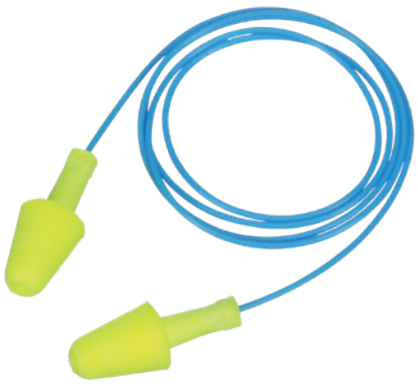
3M™ Push-to-fit Earplugs

Simply hold 3M™ Push-to-fit Earplugs by the stem then push them into place – there is no roll-down required for a clean and comfortable fit. The soft foam tip quickly adjusts to the shape of the ear to help create a noise-reducing seal. Since you don't touch the foam tip, they are easy to fit and keep clean, even when your hands are dirty or you are wearing gloves.

3M™ E-A-R™ Flexible Fit Earplug HA

3M™ E-A-R™ Flexible Fit HA Earplug is the first fully washable foam earplug and the first earplug to offer two distinctive attenuation ratings, dependent on one-hand or two-hand fitting method with SNR 30 dB and 35 dB respectively.

Available with cord	✓
Moisture resistant	
Reusable*	✓
Slow recovery foam	
No roll down required	✓
Washable foam	✓

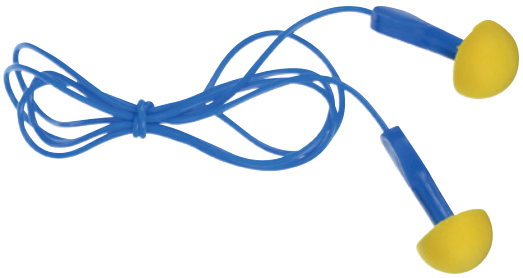


Product number	Product description	Attenuation rating (SNR)	Corded	Case qty
7100212747	3M™ E-A-R™ Flexible Fit Earplug HA 328-1000, CE, uncorded, pillow pack	35 dB (30dB**)	No	400 PR
7100212752	3M™ E-A-R™ Flexible Fit Earplug HA 328-1001, CE, corded, pillow pack	35 dB (30dB**)	Yes	500 PR

* For up to 2 weeks
** One hand insertion

3M™ E-A-R™ Express™ Earplugs

The unique pod design of 3M™ E-A-R™ Express™ Earplugs allows the foam to compress easily so the earplug slides gently into the ear and expands slowly, making an effective seal for most ear canals. A flexible stem makes fitting easy.



Available with cord	✓
Moisture resistant	
Reusable	
Slow recovery foam	
No roll down required	✓

Product number	Product description	Attenuation rating (SNR)	Corded	Case qty
EX-01-002	3M™ E-A-R™ Express™ Earplugs, Pillow Pack	28 dB	No	100 PR
EX-01-001	3M™ E-A-R™ Express™ Earplugs (corded)	28 dB	Yes	100 PR

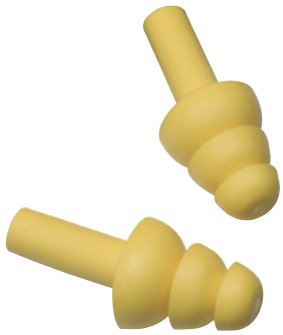
3M™ Reusable Earplugs

These durable, long-lasting earplugs are made from soft, flexible materials that are washable and reusable. The tapered tips are pre-moulded to fit a wide range of ear sizes comfortably. Available in a variety of styles and protection levels.

3M™ E-A-R™ UltraFit™ Earplugs

A proven triple-flange design and pliable, pre-moulded material make 3M™ E-A-R™ UltraFit™ Earplugs a fit for most ear canals. These durable, reusable earplugs are easy to use again and again, reducing waste. They can be cleaned easily with soap and water. Since there is no need to roll them down before fitting, simply push them into the ears for clean and comfortable noise reduction. Each pair includes a tipped reusable cord which can be removed and reinserted to give flexibility to wear the plugs as either corded or uncorded.

Available with cord	✓
Moisture resistant	✓
Reusable	✓
Slow recovery foam	
No roll down required	✓



Product number	Product description	Attenuation rating (SNR)	Case qty
UF-01-000	3M™ E-A-R™ UltraFit™ Earplugs, Pillow Pack, Corded	32 dB	50 PR

3M™ Banded Hearing Protectors

3M™ Banded Hearing Protectors are an easy-to-use, convenient alternative to earplugs and earmuffs. They are quick to put on and take off and may be stored around the neck in between uses, making them ideal for intermittent use. Banded hearing protectors offer simplicity to help ensure your workers are receiving the right level of protection. Most models are available with replacement tips, which make them a very cost-effective option.

3M™ E-A-Rcaps™

One of the lightest banded hearing protectors on the market, 3M™ E-A-Rcaps™ banded hearing protectors feature comfortable foam caps on a flexible band to block the ear canal opening. Ideal for visitors to a noisy facility or people who need hearing protection for short periods of time. They are designed to be worn under the chin which means they do not interfere with other head PPE such as hard hats.

Available with cord	
Moisture resistant	
Reusable	
Slow recovery foam	✓
No roll down required	✓

Replacement pods available

Product number	Product description	Attenuation rating (SNR)	Case qty
EC-01-000	3M™ E-A-Rcaps™ Hearing Protector	23 dB (U-T-C)	10 EA
ES-01-301	3M™ E-A-Rcaps™ Replacement Pods	23 dB (U-T-C)	50 PR

3M™ Earmuffs

Earmuffs are a popular choice in hearing protection due to their ease of use and consistent fit. Available in headband, neckband, helmet attached and folding models, earmuffs help meet hearing protection needs in many common applications.

3M™ PELTOR™ Optime™ I Earmuffs

3M™ PELTOR™ Optime™ I Earmuffs offer versatile protection and are very lightweight providing high wearer comfort. They combine a low profile with generous inner depth which makes them easy to combine with other equipment, allowing the ear to rest comfortably. 3M™ PELTOR™ Optime™ I Earmuffs are your choice for both short and long duration tasks. The wide, comfortable sealing rings are filled with a unique combination of fluid and foam, which gives optimum sealing and low contact pressure at the same time. It is ideal for use in environments with moderate industrial noise, such as workshops, sheet-metal shops and printing works, but also suitable outdoors, such as lawn mowing or in connection with hobby and leisure activities.

Headband

P3* helmet attachment

Product number	Product description	Attenuation rating (SNR)	Case qty
H510A	3M™ PELTOR™ Optime™ I Earmuff Headband, Yellow	27 dB	10 EA
H510P3E	3M™ PELTOR™ Optime™ I Earmuff Helmet Mounted, Yellow	26 dB	10 EA

3M™ PELTOR™ Optime™ II Earmuff

The 3M™ PELTOR™ Optime™ II Earmuff has been developed for demanding noisy environments and muffles even extremely low frequencies to a maximum degree. The sealing rings are filled with a unique combination of liquid and foam. The result is an optimum seal with low contact pressure, which provides agreeable comfort even during long-term use. The sealing rings have ventilation channels and are covered with soft, patterned, hygienic foam.

3M™ PELTOR™ Optime™ II Earmuff is a suitable choice for environments with substantial industrial noise or construction machinery, airports and agricultural work.

Headband

P3* - helmet attachment

Product number	Product description	Attenuation rating (SNR)	Case qty
H520A	3M™ PELTOR™ Optime™ II Earmuff Headband, Green	31 dB	10 EA
H520P3E*	3M™ PELTOR™ Optime™ II Earmuff Helmet Mounted, Green	30 dB	10 EA

3M™ PELTOR™ Optime™ III Earmuff

3M™ PELTOR™ Optime™ III Earmuff is a high performance hearing protector and has been developed for use in extremely noisy environments. The protection is based on a technology with a double casing minimising resonance in the holder casing resulting in maximum high-frequency attenuation.

The sealing rings are broad and filled with soft plastic foam for the best fit and low contact pressure. The 3M™ PELTOR™ Optime™ III Earmuff stands for effective protection and highest comfort for the wearer.

Headband

P3* helmet attachment

Product number	Product description	Attenuation rating (SNR)	Case qty
H540A	3M™ PELTOR™ Optime™ III Earmuff Headband, Black / Red	35 dB	10 EA
H540P3*	3M™ PELTOR™ Optime™ III Earmuff Helmet Mounted, Black / Red	34 dB	10 EA

3M™ PELTOR™ Earmuffs X Series

3M™ PELTOR™ Earmuff X Series earmuffs combine the 3M™ PELTOR™ legendary hearing protection knowledge with our most advanced technologies, creating our most comfortable, durable earmuff. A broad range of protection levels make it easier to find the correct level of protection.

Comfort: Internal stainless steel wire headband designed to help maintain consistent pressure over an 8 hour period for a consistent comfortable fit

Comfort: Twin headband design helps lessen heat build up on top of head

Comfort: Carefully moulded plastic sliders help make the cup easy to adjust while the earmuff is on the head

Durability: Thermoplastic polyurethane (TPU) soft outer cup coating helps protect from abrasion and bumps

Durability: ABS plastic cups are rigid, high strength, and impact resistant

Design: Modern, sleek design helps promote users to wear them

Protection: Electrically insulated headband with no exposed wires helps protect from low voltage electrical hazards

Durability: Stainless steel wire coated with hard plastic helps make headband the most durable 3M™ has to offer

Comfort: Flat, wide headband with soft plastic coating helps provide stable pressure on top of the head for enhanced comfort

Comfort: Designed to optimise weight distribution and balance for outstanding comfort

Comfort: Wide, soft foam ear cushions designed for high comfort and an effective seal with the head

Comfort: Large space inside ear cups allows for a comfortable fit over a wide range of ear sizes

Colour: Each earmuff is uniquely colour coded to quickly visually identify the level of protection being worn

The 3M™ PELTOR™ Earmuff X Series is available in attenuations 27 dB to 37 dB.

3M™ PELTOR™ Earmuff X1 Green

3M™ PELTOR™ Earmuff X2 Yellow

3M™ PELTOR™ Earmuff X3 Red

3M™ PELTOR™ Earmuff X4 Bright green

3M™ PELTOR™ Earmuff X5 Black

** Electrically insulated. The bracket arms of helmet attachment earmuffs are made of non-conductive (sometimes referred to as 'dielectric') material whilst the metal components of the attachment mechanisms are covered in non-conductive material. The metal wire of the headband earmuffs are covered in a non-conductive material. These products were found to be electrically insulated, withstanding a voltage up to 1,2 kV, at an external laboratory against a modified test method based on EN 397:2012 under dry conditions. 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.

3M™ PELTOR™ Earmuff X4

The 3M™ PELTOR™ Earmuff X4 combines high attenuation with a sleek, low-profile, aesthetically pleasing design. The fluorescent yellow-green colour provides high visibility, while the innovative foam earcup inserts and spacers help boost attenuation.

- 3M™ PELTOR™ Earmuff X4A features an electrically insulated (dielectric) wire headband**
- Twin headband design helps reduce heat buildup with good fit and balance
- Slim and lightweight compared to other high-attenuating earmuffs
- Colour coded fluorescent yellow-green for excellent visibility
- New ear cushion foam technology for an effective acoustic seal and reliable protection

Product number	Product description	Attenuation rating (SNR)	Case qty
X4A	3M™ PELTOR™ Earmuff X4 Headband, Black / Bright Green	33 dB	10 EA
X4P3E	3M™ PELTOR™ Earmuff X4 Helmet Mounted, Black / Bright Green	32 dB	10 EA
HYX4	Hygiene Kit	-	10 EA

3M™ PELTOR™ Earmuff X5

The 3M™ PELTOR™ Earmuff X5 offers highest earmuff Noise Reduction Rating (SNR) in the market today for very high noise situations. The high attenuation provided by these earmuffs is a result of the optimum combination of specially-formulated foam in the earcups and cushions and the innovative spacer and cup design.

- 3M™ PELTOR™ Earmuff X5A features an electrically insulated (dielectric) wire headband**
- Twin headband design helps reduce heat buildup with good fit and balance
- Wire headband offers comfortable pressure during prolonged usage
- Despite larger earcups, 3M™ PELTOR™ Earmuff X5 is lightweight with excellent balance and comfort
- Very high noise attenuation, SNR 37 dB* in headband and 36 dB in helmet mounted version

Product number	Product description	Attenuation rating (SNR)	Case qty
X5A	3M™ PELTOR™ Earmuff X5 Headband, Black	37 dB	10 EA
X5P3E	3M™ PELTOR™ Earmuff X5 Helmet Mounted, Black	36 dB	10 EA
HYX5	Hygiene Kit	-	10 EA

Validation

1 Fit

Have the employee insert their hearing protection.

2 Test

Connect to microphones and begin speaker test sound.

3 Assess

Use PAR to customise hearing protector selection.

10 dB
Right

29 dB
Left

Fail

A 'fail' result means the hearing protection is either not inserted properly or is the wrong type or size for the worker's ear canal.

NOTE:

Finding out each employee's PAR is the first step to a successful conservation program. Once a worker's PAR is measured, you can determine if they're using the right hearing protection and ensure they're trained on using it properly.

Pass

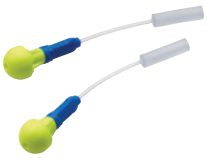
A 'pass' result means the hearing protection is inserted properly and provides sufficient protection for the worker's specific job.

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

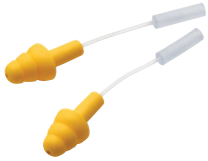
Fit testing is key, so make sure you get results you can trust. The 3M™ E-A-Rfit™ Dual-Ear Validation System measures the effectiveness of the earplug from inside the ear, providing accurate quantitative results. And because you can simultaneously test both ears, you'll have more time to educate employees on the importance of fit and compliance.

Features:

- Dual-ear testing
- Fast, clear accurate results
- Earmuff testing capability
- Tests all 7 frequencies
- Seamless software integration
- Science-based, quantitative testing
- Compact design



3M™ E-A-R™ Push In Probed Test Plugs



3M™ E-A-R™ UltraFit™ Probed Test Plugs

3M™ E-A-R™ Classic™ Probed Test Plugs

3M™ PELTOR™ Earmuff X4 Probed Test Ear Muff Cushion

3M™ PELTOR™ Earmuff X4 Probed Test Ear Muff Cushion

Product #	Abbreviated description	Case qty
393-1000	3M™ E-A-Rfit™ Kit – Validation System includes the Software, Speaker and Impact-Resistant Carrying Case	1 KIT
393-2000-50	3M™ E-A-Rsoft™ Yellow Neons™ Probed Test Plugs	50 PR
393-2001-50	3M™ E-A-R™ UltraFit™ Probed Test Plugs	50 PR
393-2003-50	3M™ E-A-R™ Classic™ Probed Test Plugs	50 PR
393-3005-2	3M™ PELTOR™ Earmuff X4/X5 Probed Test Ear Muff Cushion	2 PR
393-2008-50	3M™ E-A-R™ Express™ Probed Test Plugs	50 PR
393-2010-50	3M™ 1100 Model Probed Test Plugs	50 PR
393-2020-50	3M™ E-A-Rcaps™ Probed Test Plugs	50 PR
393-3004-2	3M™ PELTOR™ Optime™ Probed Test Cushion	2 PR

Technical information

Noise regulations

The European Physical Agent (Noise) Directive 2003/10/EC is designed to ensure that employees are protected from physical as opposed to chemical hazards. Hearing loss is one of the most common industrial injuries, and, despite some success in reducing it due to earlier legislation, continues to cost industry dearly whilst making retirement a misery for many. Noise induced hearing loss is totally preventable using a variety of techniques including process evaluation, engineering control, hearing protectors etc.

Action and limit values

All values for noise exposure are averaged over an 8 hour working day except for peak values (impact or impulse noise) which refer to a single event. There is an option to average the noise level over a 40 hour week. An action value is a point at which certain defined actions must take place.

The limit value is the noise level at the ear which must not be exceeded.

Lower Exposure Action Value 80 dB(A) continuous or 112 pa (135 dB(C)) peak level

- Assess the level of the risk
- Take reasonable steps to reduce exposure
- Advise employees of the risk
- Provide appropriate hearing protection
- Provide training and information about the risk and control measures
- Provide audiometry when risk assessment suggests a risk to health

Upper exposure action value 85 dB(A) continuous or 140 pa (137 dB(C)) peak level

- All the above
- Wearing of hearing protection is compulsory
- Audiometry is a requirement

Exposure limit value 87 dB(A) continuous or 200 pa (140 dB(C)) peak level

- This limit must never be exceeded
- The level is at the ear, i.e. takes into account any hearing protection used

Hearing protection standards

EN 352-1	General requirements - earmuffs
EN 352-2	General requirements - earplugs
EN 352-3	General requirements - helmet mounted earmuffs
EN 352-6	Safety requirements and testing - earmuffs with electrical audio input
EN 352-8	Safety requirements and testing - entertainment audio earmuff
EN 458	Guidance document - selection, care, use, maintenance of hearing protectors

Educational aids

Providing your workers with hearing protection is not enough to ensure you comply with health and safety regulations. Involving workers in the choice of hearing protection and providing them with a good quality training program plays a vital part.

3M has a wide variety of educational material to help you achieve an effective training scheme: from posters, leaflets, videos and presentations through to model ears to demonstrate how to fit an earplug. Our sales expertise can provide you with the tools you need to construct and provide an effective training programme.

Attenuation data

E-A-R™ CLASSIC™ EARPLUGS

Frequency (Hz)		125	250	500	1000	2000	4000	8000
Mean attenuation (dB)	22.3	23.3	24.6	26.9	27.4	34.1	41.6	40.4
Standard deviation (dB)	5.4	5.3	3.6	5.4	4.8	3.1	3.5	6.4
Assumed protection (dB)	16.9	18.1	20.9	21.5	22.6	30.9	38.1	34.0

SNR=28dB H=30dB, M=24dB, L=22dB

E-A-R™ CLASSIC™ CORDED EARPLUGS

Frequency (Hz)		125	250	500	1000	2000	4000	8000
Mean attenuation (dB)	21.7	23.7	26.1	30.4	30.1	33.8	42.6	42.1
Standard deviation (dB)	6.3	5.6	5.2	5.7	5.3	4.6	4.0	5.7
Assumed protection (dB)	15.4	18.0	20.9	24.6	24.9	29.2	38.6	36.4

SNR=29dB H=30dB, M=26dB, L=23dB

E-A-R™ FLEXIBLE FIT EARPLUG HA EARPLUGS - Two hand insertion

Frequency (Hz)	125	250	500	1000	2000	4000	8000
Mean attenuation (dB)	31.0	29.9	34.1	34.7	38.3	40.4	43.5
Standard deviation (dB)	3.7	4.2	3.3	3.8	3.1	3.4	2.6
Assumed protection (dB)	27.3	25.7	30.8	30.9	35.2	37.0	40.9

SNR=35dB H=36dB, M=32dB, L=29dB

E-A-R™ FLEXIBLE FIT EARPLUG HA EARPLUGS - one hand insertion

Frequency (Hz)	63	125	250	500	1000	2000	4000	8000
Mean attenuation (dB)	27.6	28.0	28.5	29.4	31.0	35.5	38.6	40.5
Standard deviation (dB)	5.6	5.3	5.5	5.0	4.5	4.8	4.1	5.6
Assumed protection (dB)	22.0	22.7	23.0	24.4	26.5	30.7	34.5	34.9

SNR=30dB H=31dB, M=27dB, L=25dB

E-A-R™ E-A-RSOFT™ YELLOW NEONS EARPLUGS

Frequency (Hz)		125	250	500	1000	2000	4000	8000
Mean attenuation (dB)	23.7	30.8	36.1	39.2	39.5	35.8	42.1	46.1
Standard deviation (dB)	6.7	6.5	6.7	4.7	3.9	4.9	3.1	3.3
Assumed protection (dB)	17.0	24.3	29.4	34.5	35.6	30.9	39.0	42.8

SNR=36dB H=34dB, M=34dB, L=31dB

3M™ 1100 EARPLUGS

Frequency (Hz)		125	250	500	1000	2000	4000	8000
Mean attenuation (dB)	30.0	33.1	36.3	38.4	38.7	39.7	48.3	44.4
Standard deviation (dB)	3.9	5.0	7.4	6.2	5.6	4.3	4.5	4.4
Assumed protection (dB)	26.1	28.1	28.9	32.2	33.1	35.4	43.8	40.0

SNR=37dB H=37dB, M=34dB, L=31dB

E-A-R™ EXPRESS™ EARPLUGS

Frequency (Hz)		125	250	500	1000	2000	4000	8000
Mean attenuation (dB)	27.8	26	24.9	25.2	29.4	34.9	37	35.9
Standard deviation (dB)	5.4	4.5	3.3	5.0	4.2	4.1	5.2	3.7
Assumed protection (dB)	22.4	21.5	21.5	20.2	25.2	30.8	31.8	32.2

SNR=28dB H=30dB, M=24dB, L=22dB

E-A-R™ ULTRAFIT EARPLUGS

Frequency (Hz)		125	250	500	1000	2000	4000	8000
Mean attenuation (dB)	29.2	29.4	29.4	32.2	32.3	36.1	44.3	44.8
Standard deviation (dB)	6.0	7.4	6.6	5.3	5.0	3.2	6.0	6.4
Assumed protection (dB)	23.2	22.0	22.7	26.9	27.3	32.8	38.3	38.4

SNR=32dB H=33dB, M=28dB, L=25dB

E-A-R™ E-A-R CAPS™ EARPLUGS

Frequency (Hz)		125	250	500	1000	2000	4000	8000
Mean attenuation (dB)	21.0	20.2	19.8	19.1	23.2	33.4	41.0	40.7
Standard deviation (dB)	4.1	4.4	4.2	4.3	3.7	4.5	2.9	5.4
Assumed protection (dB)	16.9	15.8	15.5	14.8	19.5	29.0	38.1	35.2

SNR=23dB H=27dB, M=19dB, L=17dB

PELTOR™ Optime™ I - H510P3

Frequency (Hz)	125	250	500	1000	2000	4000	8000
Mean attenuation (dB)	11.2	13.4	26.9	33.9	32	33.5	36.9
Standard deviation (dB)	2.0	1.9	1.8	1.9	2.4	1.8	1.8
Assumed protection (dB)	9.2	11.5	25.1	31.9	29.6	31.7	35.1

SNR=26dB H=32dB, M=23dB, L=15dB

PELTOR™ Optime™ I - H510A EARMUFFS

Frequency (Hz)	125	250	500	1000	2000	4000	8000
Mean attenuation (dB)	11.4	18.7	27.5	32.9	33.6	36.6	35.9
Standard deviation (dB)	4.1	3.6	2.5	2.7	3.4	2.7	3.7
Assumed protection (dB)	7.3	15.1	25	30.1	30.2	33.9	32.2

SNR=27dB H=32dB, M=25dB, L=15dB

PELTOR™ Optime™ II - H520P3* EARMUFFS

Frequency (Hz)	125	250	500	1000	2000	4000	8000
Mean attenuation (dB)	14.1	19.4	32.0	39.9	36.2	35.4	39.2
Standard deviation (dB)	2.3	2.7	2.7	2.4	2.6	4.4	2.6
Assumed protection (dB)	11.8	16.7	29.3	37.5	33.6	31.0	36.6

SNR=30dB H=34dB, M=28dB, L=19dB

PELTOR™ Optime™ II - H520A EARMUFFS

Frequency (Hz)	125	250	500	1000	2000	4000	8000
Mean attenuation (dB)	14.6	20.2	32.5	39.3	36.4	34.4	40.2
Standard deviation (dB)	1.6	2.5	2.3	2.1	2.4	4.0	2.3
Assumed protection (dB)	13.0	17.7	30.2	37.2	34.0	30.4	37.9

SNR=31dB H=34dB, M=29dB, L=20dB

PELTOR™ Optime™ III H540P3* EARMUFFS

Frequency (Hz)	125	250	500	1000	2000	4000	8000
Mean attenuation (dB)	17.1	24.5	34.8	40.2	39.6	46.7	43.1
Standard deviation (dB)	2.3	2.8	2.2	2.0	1.8	4.2	2.5
Assumed protection (dB)	14.8	21.7	32.6	38.2	37.8	42.5	40.6

SNR=34dB H=40dB, M=32dB, L=22dB

PELTOR™ Optime™ III H540A EARMUFFS

Frequency (Hz)	125	250	500	1000	2000	4000	8000
Mean attenuation (dB)	17.4	24.7	34.7	41.4	39.3	47.5	42.6
Standard deviation (dB)	2.1	2.6	2.0	2.1	1.5	4.5	2.6
Assumed protection (dB)	15.3	22.1	32.7	39.3	37.8	43.0	40.0

SNR=35dB H=40dB, M=32dB, L=23dB

PELTOR™ X4A, X4A-OR

Frequency (Hz)	63	125	250	500	1000	2000	4000	8000
Mean attenuation (dB)	19.6	17.8	22.1	30.6	39.5	37.3	43.8	42.1
Standard deviation (dB)	4.1	2.3	2.5	1.8	2.9	4.1	2.8	4.0
Assumed protection (dB)	15.5	15.5	19.6	28.8	36.6	33.2	41.1	38.2

SNR = 33dB H = 36dB, M = 30dB, L = 22dB

PELTOR™ X4P3, X4P5-OR

Frequency (Hz)	63	125	250	500	1000	2000	4000	8000
Mean attenuation (dB)	16.6	16.8	21.8	30.6	40.1	36.7	43.1	41.9
Standard deviation (dB)	3.6	2.5	2.1	1.9	2.3	3.7	2.7	4.7
Assumed protection (dB)	12.9	14.3	19.7	28.7	37.8	32.9	40.4	37.2

SNR = 32dB H = 36dB, M = 30dB, L = 21dB

PELTOR™ X5A

Frequency (Hz)	63	125	250	500	1000	2000	4000	8000
Mean attenuation (dB)	23.0	22.3	28.8	39.7	44.2	39.8	43.0	40.2
Standard deviation (dB)	3.1	2.4	2.4	2.7	3.4	4.6	2.8	2.9
Assumed protection (dB)	19.8	19.9	26.4	37.0	40.9	35.2	40.2	37.3

SNR = 37dB H = 37dB, M = 35dB, L = 27dB

PELTOR™ X5P3

Frequency (Hz)	63	125	250	500	1000	2000	4000	8000
Mean attenuation (dB)	20.4	22.0	26.9	38.2	43.5	38.7	41.0	40.4
Standard deviation (dB)	3.3	3.1	2.2	2.8	3.4	4.5	2.5	3.3
Assumed protection (dB)	17.1	18.9	24.7	35.4	40.2	34.2	38.5	37.2

SNR = 36dB H = 36dB, M = 34dB, L = 26dB

Hearing protection use and care

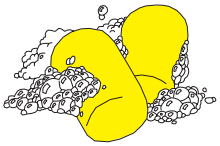
Roll down earplugs

How to use

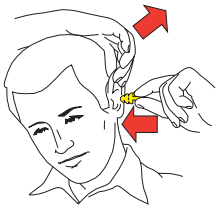
Slowly roll and compress foam earplugs into a very thin cylinder. While compressed, insert the earplug well into the ear canal. Fitting is easier if you reach around the head to pull the ear outward and upward during insertion.

Care and cleaning

Keep the earplugs clean and free from material that can irritate the ear canal. They may be washed in mild liquid detergent and warm water. Squeeze excess water from the plugs and air dry. Washing may be repeated several times. Discard the earplugs if they noticeably change their firmness or do not re-expand to their original size and shape.



Reusable pre moulded earplugs

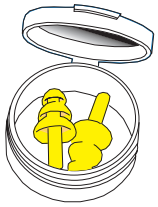


How to use

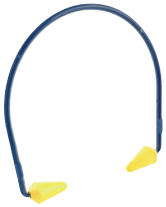
Reach around the back of your head and pull outward on the ear while inserting the plug until you feel it sealing. This may seem tight at first, especially if you have never worn earplugs.

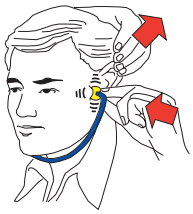
Care and cleaning

Pre-moulded earplugs could last several months depending on the type and on your work environment, hygiene and body chemistry. They should be replaced if they shrink, harden, tear, crack or become permanently deformed. Wash them in warm soapy water and rinse well. When dry, store them in a carrying case.



Banded earplugs



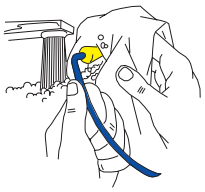


How to use

Hold the large ends of the pods and swivel them to direct the tips into the ear canal openings. Firmly push and wiggle the pods into the ear canal until a snug seal is obtained. Pulling on the outer ear while pushing the pods will be helpful to most wearers.

Care and cleaning

Most semi-aural hearing protectors can be cleaned in the same way as pre-moulded earplugs. Since the band holds the tips in place to provide an acoustic seal, do not tamper with it otherwise the protection afforded by the device may be reduced.



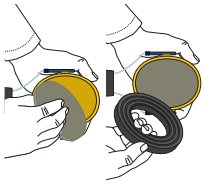
Earmuffs

How to use

Earmuffs must fully enclose the ears to seal against the head. Adjust the headband so cushions exert even pressure around the ears to get the best noise reduction. Pull hair back and out from beneath the cushions. Do not wear caps, store pencils behind the ear or anything that may break the seal.

Care and cleaning

Cushions can be cleaned with warm soapy water and rinsed thoroughly. Do not use alcohol or solvents. Cushions normally need replacing at least twice a year or more – whenever they become stiff, cracked, or do not seal. Do not modify earmuffs in any way, and especially do not stretch or abuse the headband as this will reduce protection.



3M™ PELTOR™ Clean

Disposable hygiene protection for hearing protectors, headsets etc.

The disposable hygiene protection 3M™ PELTOR™ Clean is an easy way to improve hygiene and comfort. They are easy to fix to the sealing rings and lead to insignificant loss of attenuation. Effective and practical for use in dirty or hot environments to keep cushions hygienically clean. Also useful when several persons are using the same item, for example visitors hearing protectors.

Product number	Product description	Case qty
HY100A	100 pairs on a roll in a dispenser	

Notes

Notes

Kontaktujte nás

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Otváracie hodiny

Pondelok	8:00 - 17:00
Utorok	8:00 - 17:00
Streda	8:00 - 17:00
Štvrtok	8:00 - 17:00
Piatok	8:00 - 15:00
Sobota	Zatvorené
Nedeľa	Zatvorené

ľubica® work & safety

Viac informácií o produktoch **nájdete na www.lubica.sk**