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3M™ PELTOR™ Optime™ I Earmuffs

Technical Data Sheet

Description

The 3M™ PELTOR™ Optime™ I earmuffs are available in headband, neckband, foldable or helmet mounted version. These products are designed to provide moderate level of attenuation that meets the needs of the majority of industrial applications.

When correctly selected and worn these products help reduce exposure to hazardous levels of noise and loud sounds.

The helmet mounted version is designed to fit a wide range of industrial safety helmets (see below for further details).

Key Features

- Modern, stylish slim line cup design
- Unique low profile headband design helps maintain constant pressure thus providing confidence in protection
- Space inside cup help reduce moisture and heat build-up
- Soft wide cushions help reduce pressure around the ears and improves comfort and wearability
- Easy to replace cushions and inserts help keep them hygienically clean
- Easy to understand attenuation symbol to help ensure correct product selection
- Helmet mounted earmuffs now come with two blades in the box to accommodate common helmet slots, and Scott/3M accessories such as visors.

Applications

The 3M™ PELTOR™ Optime™ I earmuffs are ideal for protection against noise arising from a wide range of applications in the workplace and leisure activity

Examples of typical applications include:

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


H510A


H510F


H510P3GS/E


H510B

Materials

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

Optime I Headband/Neckband/Foldable version

Component	Material
Headband/Neckband/ Foldable	Stainless Steel Wire, PVC, Acetal
Headband padding	PVC
Cups	ABS
Inserts	PU Foam
Cushions and Cushion Covers	PU Foam and PVC

Optime I Helmet mounted version

Component	Material
Helmet attachment arm	Stainless Steel Wire, Acetal, Polyamid
Cups	ABS
Inserts	PU Foam
Cushions and Cushion Covers	PU Foam and PVC

Standards

The Optime I earmuffs have been tested in accordance with AS/NZS 1270:2002 and have been tested by an accredited laboratory in accordance with the requirements stipulated in AS/NZS 1270.

Attenuation Data

Optime I H510A Headband & H510F Foldable Headband

Class 5	SLC_{80} Value is 28 dB						
Frequency (HZ)	125	250	500	1000	2000	4000	8000
Means	14.7	16.4	25.6	34.6	34.7	35.2	36.0
Standard Deviation	2.9	2.3	3.1	3.2	3.1	2.9	3.5
Mean - SD	11.8	14.1	22.5	31.4	31.6	32.3	32.5

Optime I H510B Neckband

Class 4	SLC_{80} Value is 25 dB						
Frequency (HZ)	125	250	500	1000	2000	4000	8000
Means	14.5	13.5	23.6	29.7	34.2	35.0	36.8
Standard Deviation	4.7	3.2	3.7	4.6	4.6	3.6	3.5
Mean - SD	9.8	10.3	19.9	25.1	29.6	31.4	33.3

Optime I H510P3GS/E Helmet Attachment

Class 5	SLC_{80} Value is 26 dB						
Frequency (HZ)	125	250	500	1000	2000	4000	8000
Means	15.3	16.1	23.8	31.5	35.5	34.7	36.5
Standard Deviation	4.0	2.6	5.2	4.2	4.6	6.1	7.7
Mean - SD	11.3	13.5	18.6	27.3	30.9	28.6	28.8

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 up to 105dB(A) assuming an 85dB(A) criterion.

Hearing protector class 5 tested to AS/NZS 1270:2002. When selected, used and maintained as specified inAS/NZS 1269.3:2005, this protector may be used in noise up to 110 dB(A) assuming an 85 dB(A) criterion. A lower criterion may require a higher protector class.

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.

SLC_{80} and The Class System

SLC_{80} is the rating number used in Australia and New Zealand. Users are advised to only use SLC_{80} when selecting their earmuffs or earplugs.

Depending on the SLC rating, a Class is assigned:

- A Class 1 protector may be used up to 90dB TWA
- A Class 2 protector to 95dB TWA
- A Class 3 protector to 100dB TWA
- A Class 4 protector to 105dB TWA
- A Class 5 protector to 110dB TWA

Symbol	Definition	Where Used
SLC80	Sound Level Conversion	Australia / New Zealand
NRR	Noise Reduction Rating	United States
SNR	Single Number Rating	European Union

Fitting Instructions

- Follow the fitting instructions on the product package
- Remove hair or any obstruction from underneath the cushion.
- If spectacles are worn, cushions must be soft and subtle to ensure seal. If safety spectacles are worn in combination a thin side arm spectacle is preferable.

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 hazardous noise may result in hearing loss or injury.
- The noise reduction may be lower when safety spectacles, goggles or respirator straps are worn between the sealing surface of the earmuff cushions and the sides of the wearer's head. For best noise reduction, select safety spectacles or goggles that have thin, flat temples or straps which will minimize interference with the seal of the earmuff cushions. Pull long hair back to the extent possible and remove other items that may degrade the earmuff seal such as pencils, hats, jewelry or earbuds.
- Do not bend or reshape the headband, neckband or helmet attachment and ensure there is adequate force to hold the earmuffs firmly in place.

Maintenance/cleaning

- Hearing protectors should be inspected prior to use for damage or deterioration. Damaged or worn parts should be replaced prior to use.
- Wash outside of earmuffs only. Use mild soap and water. Do not immerse in water. If the hearing protector gets wet from rain or sweat, turn the earmuffs outwards, remove the ear cushions and foam liners, and allow to dry before reassembly.
- Do not store the earmuffs in temperatures above +55°C (130°F), for example behind a windshield or window.
- Inspect earmuffs regularly for cracked or worn parts, especially the cushions. Replace as needed.
- 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.

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.
- Storage temperature range: –20 °C (-4°F) to 55 °C (131°F).
- Relative humidity: <90%.
- For headband and neckband versions: make sure that no force is applied to the headband or neckband and that the cushions are not compressed.
- Helmet attachment version: ensure the earmuffs are in the storage position and that the cushions are not compressed.

Disposal

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

Ordering Information

3M Code	Model #	Description
70071730496	H510P3GS/E	H510P3GS/E PELTOR Optime I Helmet Attach Earmuff
70071730504	H510F	H510F PELTOR Optime I Foldable Headband Earmuff
70071730421	H510B	H510B PELTOR Optime I Neckband Format Earmuff
70071730454	H510A	H510A PELTOR Optime I Headband Format Earmuff
XA007707574	HYX1	HYX1 Replacement Hygiene Kit for Optime I Series

Important Notice

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