Technical Datasheet

3M™ Peltor™ X Series Earmuffs

Product Description

Products Included:
Headband models: X1A, X2A, X3A, X4A and X5A
Hard hat-attached models: X1P3E, X2P3E, X3P3E, X4P3E and X5P3E

The 3M Peltor X Series earmuffs are available in headband and hard hat-attached versions. With Noise Reduction Rating (NRR) values ranging from 21 to 31 dB, the X Series makes it easier than ever to match the attenuation of the earmuff with the noise exposure of the worker. When correctly selected and worn these products help reduce exposure to hazardous levels of noise and loud sounds. The hard hat-attached models fit a wide range of industrial safety helmets including 3M H-700 Series hard hats.

Electrically-Insulated Headband
The metal components of the headband models have been covered by non-conductive material for use in a low voltage electrical hazard (less than 440 V ac). As there are no applicable standards for testing ear muffs against electrical insulating properties, the product has been evaluated at an external laboratory against a modified test method based on EN397:1995. During assessment, the leakage current did not exceed 1.2mA when the external surface of the product made contact with an electrical source. 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.

Key Features

- Modern, attractive low-profile design
- Lightweight
- Twin headband design for outstanding balance and comfort
- Electrically-insulated wire headband*
- Soft wide cushions help maintain a comfortable pressure around the ears
- New innovative foam earcup inserts and spacers that help improve attenuation
- New ear cushion foam technology for an effective acoustic seal and reliable protection
- Easy-to-replace cushions and inserts help keep them clean
- Hard hat-attached version fits directly to many hard hats without an adapter

***NOTE:** The headband models are electrically insulated – sometimes referred to as 'dielectric'.

Fitting Instrutions For Headband Models

Fig. 1 Position the earcups over your ears so the cushions fully enclose the ears and seal tightly against the head. **Fig. 2** Adjust the height of each earcup while holding the headband down until you have a tight and comfortable fit that exerts even pressure around the ears. **Fig. 3** The headband should sit straight on the head.

Care and Cleaning Instructions

Follow recommended care and cleaning instructions in order to maintain best noise reduction and function. Wash outside of earmuffs only. Use mild soap and water. Do not immerse in water. Do not clean with solvents such as alcohol or acetone, or with waterless hand cleaners or products containing lanolin.

Do not store the earmuffs in temperatures above 130°F (+55°C), for example behind a windshield or window. Inspect earmuffs regularly for cracked or worn parts, especially the cushions. Replace as needed. 3M recommends replacing foam liners and cushions at least twice a year in order to maintain acceptable noise reduction, hygiene and comfort.

Fitting Instructions For Hard Hat-Attached Models

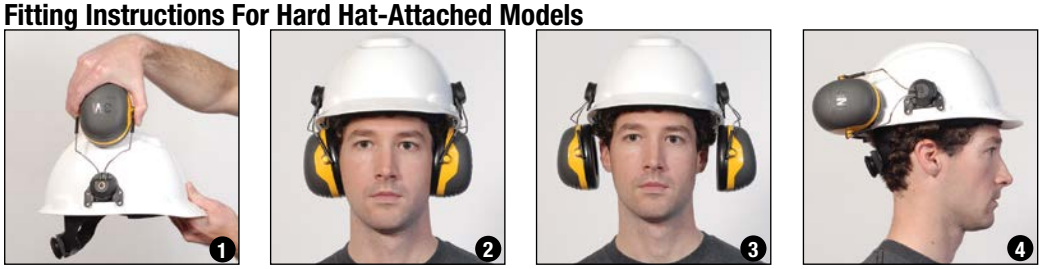

Fig. 1 Insert the hard hat slot adapters into the slots on each side of the hard hat until they snap into place.
When in use, the attachment arms must be pushed inward until you hear a click on both sides, indicating a shift from "stand-by" to "usage" position.

Position the earcups over your ears so that the cushions fully enclose the ears and seal tightly against the head.
Adjust the position of each earcup while holding the helmet in place until you have a tight and comfortable fit that exerts even pressure around the ears.

Make sure the cups and attachment arms are not in contact with the inner lining or the edge of the hard hat when in the "usage" position, otherwise this may lead to leakage.

Note that the cups can be placed in three positions: **Fig. 2** Usage position **Fig. 3** Stand-by position **Fig. 4** Storage position

Note: In Canada, users of hard hats combined with earmuffs must refer to CSA Standard Z94.1 on industrial protective headwear.

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Materials

Component	Headband Version	Hard Hat-Attached Version
Headband and headband cover/ sleeve	Stainless steel wire, TPE, Polyester, Polypropylene, Acetal	N/A
Hard Hat Attachment Arm	N/A	Stainless steel wire, Acetal, Polyamide
Earcups	ABS/TPU	ABS/TPU
Earcup Inserts	PU Foam	PU Foam
Earcup Cushions and Cushion Covers	PU Foam and PVC	PU Foam and PVC

Mass

Model	Mass (ounces)
X1A	6.49
X1P3E	6.53
X2A	7.76
X2P3E	7.76
X3A	8.64
X3P3E	8.71
X4A	8.25
X4P3E	8.32
X5A	12.38
X5P3E	12.45

Applications

The 3M™ Peltor™ X Series 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:

- Metal processing
- Automotive
- Airports
- Construction
- Textile manufacturing
- Chemical & pharmaceutical manufacturing
- Cement manufacturing
- Printing
- Woodworking
- Heavy engineering
- Foundry
- Steelworks
- Mining and quarrying

Headband Models Band Position: Over-the-Head

Model	NRR	CSA Class		Frequency (Hz) 125	250	500	1000	2000	3150	4000	6300	8000
X1A	22 dB	A	Mean (dB)	16.0	18.3	27.7	37.6	35.1	42.2	41.4	39.4	39.3
			SD (dB)	5.2	3.1	3.0	3.5	2.8	2.8	2.6	2.6	3.8
X2A	24 dB	A	Mean (dB)	14.9	21.6	31.8	41.0	36.7	39.1	38.5	39.0	39.0
			SD (dB)	4.2	3.3	2.3	2.5	3.0	2.4	2.0	2.8	3.4
X3A	28 dB	AL	Mean (dB)	23.4	27.7	29.4	42.5	38.8	39.3	42.3	39.5	39.5
			SD (dB)	3.0	2.1	3.1	2.6	2.7	4.0	3.3	2.6	2.8
X4A	27 dB	AL	Mean (dB)	20.5	24.1	32.8	40.7	37.6	44.5	45.4	42.4	42.3
			SD (dB)	4.6	3.4	1.9	2.8	2.9	3.1	2.5	3.1	3.0
X5A	31 dB	AL	Mean (dB)	23.9	30.5	41.1	43.0	38.0	43.1	44.0	41.1	40.3
			SD (dB)	4.1	2.2	2.8	2.9	2.7	2.9	2.4	2.6	2.2

Hard Hat-Attached Models Tested on 3M H-700 Hard Hat

Model	NRR	CSA Class		Frequency (Hz) 125	250	500	1000	2000	3150	4000	6300	8000
X1P3E	21 dB	B	Mean (dB)	13.8	17.3	27.4	35.6	34.5	41.8	40.1	36.8	36.1
			SD (dB)	4.5	3.2	2.9	2.8	2.9	2.9	2.9	3.7	4.1
X2P3E	24 dB	A	Mean (dB)	15.2	21.3	32.6	39.2	35.9	37.7	37.1	38.6	37.3
			SD (dB)	4.2	3.1	2.8	3.2	3.3	2.8	2.1	2.5	3.0
X3P3E	25 dB	AL	Mean (dB)	19.6	24.1	29.7	39.1	35.7	38.2	40.3	37.1	35.4
			SD (dB)	3.3	3.1	2.5	3.9	3.1	4.7	3.5	4.4	4.9
X4P3E	25 dB	A	Mean (dB)	18.1	21.6	32.4	40.1	36.5	44.2	46.2	43.7	43.3
			SD (dB)	4.9	2.6	2.0	2.3	3.2	3.9	2.7	2.4	3.0
X5P3E	31 dB	AL	Mean (dB)	21.6	29.3	41.0	42.4	37.5	41.7	42.5	40.6	40.5
			SD (dB)	3.2	2.5	2.8	3.1	2.2	2.3	2.5	2.9	2.6

Accessories/ Replacement

The earcup cushions and inserts on X Series earmuffs can be replaced with the Hygiene Kits listed below.

Earmuff Model	Hygiene Kit
X1A/X1P3E	HYX1
X2A/X2P3E	HYX2
X3A/X3P3E	HYX3
X4A/X4P3E	HYX4
X5A/X5P3E	HYX5

Standard & Approval

In the United States and Canada there is no approval process for hearing protection. The standards organizations ANSI and CSA do not approve or certify hearing protectors. However, a U.S. EPA requirement (40 CFR 211) specifies that hearing protectors sold in the U.S. must be tested to ANSI S3.19-1974 and labeled with a Noise Reduction Rating (NRR). 3M Hearing Protectors have been tested and labeled accordingly.

CAUTION: Research suggests that many users will receive less noise reduction than indicated by the NRR due to variation in fit, fitting skill and motivation of the user. It is recommended that the NRR be reduced by 50% to better estimate typical workplace protection.

The noise reduction may be lower when eyeglasses, 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 eyeglasses 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 and reshape the headband as this will cause a loose fit and allow sound leakage.

For More Information
Customer Service: 1-800-364-3577

3M Canada Safety Centre
1 800 267-4414
or visit www.3M.ca/PPESafety

Personal Safety Division
3M Canada
P.O. Box 5757
London, Ontario N6A 4T1

⚠ 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. For proper use, see supervisor, Fitting Instructions, or call 3M in U.S. at 1-800-243-4630. In Canada, call Technical Service at 1-800-267-4414.