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# HEARING PROTECTION

Noise induced hearing loss is a permanent hearing impairment resulting from prolonged exposure to high levels of noise. It is important to practice hearing conservation by using hearing protection to prevent noise induced hearing loss. Hearing protection includes earplugs and earmuffs that are designed to reduce the intensity or loudness of sound.

## Earmuffs

Simply a traditional method of "hearing" protection. Today's range of earmuffs cope with a very wide spectrum of industrial hazards. It is important to study the attenuation characteristics of each model as they do vary in performance across the range of sound frequency.

## Helmet Mounted Earmuffs

These all-in-one head & hearing protections are popular among safety officers. Today's models are styled to be sensibly "parked" when not in use.

## Earplugs

Can be worn conveniently with all other PPE equipments. Easy to use and attenuation provided often exceed that of an earmuff. Both disposal & reusable earplug provide excellent protection with long term comfort.

## Standards

Earmuffs and earplugs are tested to the relevant European Standard, American Standard, & JKPK.

- ▶ EN352-1 Earmuffs
- ▶ EN352-2 Earplugs
- ▶ EN352-3 Helmet Mounted Earmuff
- ▶ ANSI S3.19 Measurement of Real-Ear Hearing Protector Attenuation and Physical Attenuation of Earmuffs.
- ▶ Most hearing specialists agree: You can damage your hearing if you're continually exposed to noise greater than 85 decibels over eight hours. As noise levels rise above 85 decibels, the safe exposure time for unprotected ears falls dramatically. For example, 110 decibels noise can impair hearing after just 15 minutes of exposure.

## SNR (Single Number Rating)

SNR is a single-number rating which is calculated in accordance with ISO 4846 2.2 (1992). "Estimation of effective A-weighted Sound Pressure Levels when Hearing Protectors are worn". Normally used by European Standard.

## NRR (Noise Reduction Rating)

NRR is required by US law to be shown on the label of each hearing protection sold in United States.

## Difference between SNR and NRR

The main difference is the SNR being calculated using a single standard deviation while NRR formula deducts two standard deviation.

## Infinity Earmuff & Millennium Earmuff



EN 352-1

SNR: 29dB



### Infinity Earmuff

Model: **PC-03EM**

- Light, padded headband with soft pad allows easy adjustments, providing long wearing comfortable fit for most head sizes, even when wearing safety eyewear.
- Rugged construction provides durability in wide range of environments.
- Can be worn in three positions.
- SNR: 29dB.
- Comply with EN352-1.

Packaging: 1pr/polybag 20prs/carton



EN 352-1

SNR: 30dB



### EM-918-B

### Millennium Earmuff

Model: **EM-918-B**

- High rating for superior comfort & secure fit with high attenuation making it extremely functional, ensuring protection at both high and low frequencies.
- Soft foam - filled cushions provide excellent protection against harmful noise & sound.
- Can be worn in three positions.
- SNR : 30db
- Comply with EN352-1.

Packaging: 1pr/polybag 20prs/carton

#### Attenuation Data PC-03EM

Frequency (Hz)	125	250	500	1000	2000	4000	8000	SNR
Mean Attenuation, (Mf) in (dB)	12.7	22.3	28.6	34.2	32.5	35.5	38.6	
Standard Deviation, Sf	3.2	3.0	3.1	3.4	3.2	2.4	3.7	<b>29dB</b>
Assumed Protection (dB)	9.5	19.3	25.5	30.8	29.3	33.1	34.9	

#### Attenuation Data EM-918-B

Frequency (Hz)	125	250	500	1000	2000	4000	8000	SNR
Mean Attenuation, (Mf) in (dB)	13.59	20.00	27.97	34.84	32.97	35.00	36.09	
Standard Deviation, Sf	2.58	3.03	3.32	2.95	4.10	2.42	3.76	<b>30dB</b>
Assumed Protection (dB)	11.01	16.97	24.65	31.89	28.86	32.58	32.33	

## Foldable Earmuff



EN 352-1

SNR: 28dB



### Ultra Foldable Earmuff

Model: **PC05FEM**

Packaging: 1pr/box 20prs/carton

### PC05FEM

- Provide optimum comfort with excellent protection, excellent seal properties, good fit, & low surface pressure.
- Ideally designed for intermittent noise.
- Convenient storing due to compact size and folding capabilities.
- SNR: 28dB.
- Comply with EN352-1



EN 352-1

SNR: 30dB



### Square Foldable Earmuff

Model: **PC08FEM**

Packaging: 1pr/box 20prs/carton

### PC08FEM

- Provide optimum comfort with excellent protection, excellent seal properties, good fit, & low surface pressure.
- Padded headband allows easy adjustment to fit most head sizes comfortably.
- Ideally designed for intermittent noise.
- Convenient storing due to compact size and folding capabilities.
- SNR: 30dB.
- Comply with EN352-1.

#### Attenuation Data PC05FEM

Frequency (Hz)	125	250	500	1000	2000	4000	8000	SNR
Mean Attenuation, (Mf) in (dB)	13.59	20.00	27.97	34.84	32.97	35.00	36.09	
Standard Deviation, Sf	2.58	3.03	3.32	2.95	4.10	2.42	3.76	<b>28dB</b>
Assumed Protection (dB)	11.02	16.97	24.65	31.89	28.86	32.58	32.33	

#### Attenuation Data PC08FEM

Frequency (Hz)	125	250	500	1000	2000	4000	8000	SNR
Mean Attenuation, (Mf) in (dB)	17.3	18.7	29.3	37.7	38.0	38.3	38.6	
Standard Deviation, Sf	2.1	2.3	3.1	3.2	2.5	2.5	2.7	<b>30dB</b>
Assumed Protection (dB)	15.3	16.4	26.2	34.5	35.5	35.8	35.9	