

EPA Proposed Revisions to Hearing Protection Standard

The Federal Environmental Protection Agency (EPA) Noise Labeling Standards for Hearing Protection Devices (40 CFR 211 subpart B) is changing for the first time in more than 20 years. The many issues under discussion include new test methods, periodic retest requirements, and changes to both Noise Reduction Ratings (NRR) and package labeling. Listed here is a quick reference guide to the proposed changes:

Issue	Old Rule	Proposed Rule
Testing protocols	ANSI S3.19-1974	<ul style="list-style-type: none">• ANSI/ASA S12.6--2008• ANSI S12.42--1995 (R2002)• ANSI/ASA S12.68--2007• IEC 60711
Fit testing	Subjects fit with product by lab personnel	Subjects self-fit product without assistance
Number of test subjects	10, regardless of product type	10 for earmuffs 20 for plugs and ear bands
Retesting requirement	Once in product life cycle	All devices to be retested every five years
NRR	Single number	High/low numeric range
Attenuation	Passive only	Passive, active, and impulse attenuation testing
Device position testing	No reference	Testing results for each wearing position

Once adopted, the Final Rule is intended to ensure realistic assessment and communication of product protection levels.

New Test Protocols

Existing EPA regulations use ANSI (American National Standards Institute) S3.19-1974 *Method for the Measurement of Real-Ear Protection of Hearing Protectors and Physical Attenuation of Earmuffs* as evaluation criteria. ANSI and the EPA agree that this rule may not reflect real-life working conditions well enough. Instead, the proposed new rule refers to test methods for both active and passive Hearing Protection Devices (HPDs), active noise reduction capability, and communication headsets with integrated electronics. The new rule will incorporate:

- ◆ ANSI/ASA S12.6--2008, Methods for Measuring the Real-Ear Attenuation of Hearing Protectors
- ◆ ANSI S12.42--1995 (R2002), Microphone-in-Real-Ear and Acoustic Test Fixture Methods for the Measurement of Insertion Loss of Circumaural Hearing Protection Devices
- ◆ ANSI/ASA S12.68--2007, Methods of Estimating Effective A-weighted Sound Pressure Levels When Hearing Protectors are Worn
- ◆ IEC 60711, Occluded-Ear Simulator for the Measurement of Earphones Coupled to the Ear by Ear Inserts

ANSI S3.19-1974 uses humans fitted with HPDs by lab personnel to achieve test consistency. The proposed rule requires that human test subjects don and fit HPDs themselves without assistance, after brief training by lab personnel. While earmuffs will still require 10 qualified subjects, plugs and ear bands will require 20.

Additionally, the new protocols allow dbA noise measurements to be applied directly; they do not have to be de-rated by 7dB as they are now.

Periodic Product Retesting Requirements

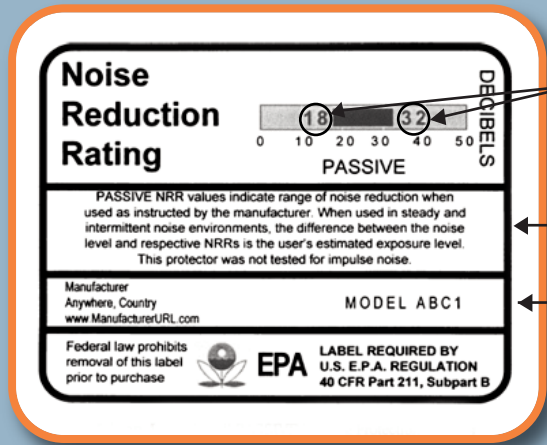
Current regulations require that HPDs be rated and tested only once in a product's life cycle. The proposed rule states that any material, design, or manufacturing changes may cause measurable performance changes. As a result, HPDs are to be retested every five years.

Revised NRR System

New hearing protection ratings are proposed to appear as high and low numeric ranges instead of the current single-number NRR. This change is intended to address real-world situations where workers do not achieve proper HPD fit. Proposed NRR ranges are also expected to address inherent design differences among HPD types (such as muffs versus plugs).

The low number within the proposed NRR represents the degree of hearing protection achieved by at least 80 percent of test subjects; the high number represents the protection level achieved by at least 20 percent of test subjects. Both the low and high end of the range must be shown on the product package labeling.

Proposed NRR label example. Please note that this example is **not** the final, approved EPA label.



New hearing protection ratings to appear as high and low numeric ranges instead of current single-number

Brief explanation of attenuation type

References manufacturer's information and product part number

Product Labeling

Several changes are being made to product labeling, including new NRR ranges mentioned previously, as-worn position test results, and HPD results in passive, active, and impulse modes.

- ◆ **As-Worn Test Results:** HPD manufacturers often offer three-position options: behind-the-head, over-the-head, or under-the-chin. All stated wearing positions will require corresponding tests with results to appear on package labeling.
- ◆ **Passive and Active Test Results:** most HPDs available when the existing rule was adopted were passive devices lacking electronics and materials common to modern products. Users are to be made aware of different product mode performance (active vs. passive vs. impulse) for correct product selection through packaging labeling.
 - **Passive Hearing Protector:** passive effectiveness of all HPDs is to be tested and rated, with only one numeric range (labeled as "Passive Protection") to be displayed.
 - **Active Noise Reduction (ANR) Hearing Protector:** active devices are to be tested and rated in both passive and active modes. Active device labeling will show two NRR ranges, one for passive protection and one for active protection.
 - **Impulsive Noise Hearing Protector:** impulse noise is that which is loud enough (greater than 140 dB) to cause short-duration general work area disruption. Impulse labeling will show two NRR ranges (one for passive protection and one for impulse protection), as HPDs intended for use within such areas must be tested within those environments.
- ◆ **Communication Headsets Incorporating Hearing Protection:** all communication headsets claiming to provide hearing protection will require NRR testing/rating of both active and passive devices.

Public Comment and Hearing

The EPA will receive written public comments through November 4, 2009; the public hearing is scheduled for Wednesday, October 7, 2009.

Proposed Implementation Date

Once the Final Rule is adopted, the EPA estimates that the entire re-testing and re-labeling process will take 30 months; products manufactured on or after the effective date must comply with the new standard. Most manufacturers believe this effective date to be unrealistic and have requested that a compliance transition time period be added.

Conclusion

Proposed changes to 40 CFR 211 subpart B will affect all hearing protective devices, including all products in the MSA and MSA Safety Works HPD product lines. In addition to test method, NRR system, and labeling changes, users will need to change the way they review product protection levels. Training of both safety equipment purchasers and users will be necessary to help ensure both user understanding and proper HPD selection for their working conditions.

Once the Final Rule is adopted, MSA will issue further information regarding required changes and how MSA hearing protection products are affected.

Note: This bulletin contains only a general description of the products shown. While uses and performance capabilities are described, under no circumstances shall the products be used by untrained or unqualified individuals and not until the product instructions including any warnings or cautions provided have been thoroughly read and understood. Only they contain the complete and detailed information concerning proper use and care of these products.



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