

## Noise Reduction Ratings for Clemco Apollo Supplied-Air Respirators

The following discussion is a simplified explanation about Clemco Apollo respirators and hearing protection. Noise Reduction Ratings (NRR) are controlled by the American National Standards Institute (ANSI). Products must undergo rigorous testing by an accredited independent testing organization to meet ANSI standards. Apollo Respirators have undergone such rigorous testing and have been assigned a noise reduction rating of 8 decibels (dB) for models: Apollo 20 with DLX suspension, Apollo 60, Apollo 600 with web suspension, and an NRR rating of 9 dB for the Apollo 600 with DLX suspension.

### Simple Calculation to Determine Maximum Exposure

When exterior noise exceeds 80 decibels plus the NRR of the respirator (the maximum exposure over an eight-hour period), the operator must wear additional hearing protection. Per OSHA regulations, the apparatus offering the higher level of protection is considered **primary** protection and any other protection is considered **secondary** protection.

Base Acceptable Noise Level	Apollo 600 Respirator with DLX Suspension	Additional Protection	Maximum External Noise	
80	9 as primary; 5 as secondary	None	[80 + 9 =89]	1
80	9 as primary; 5 as secondary	Ear plugs rated 33	[80 + 5 + 33 =118]	2
80	9 as primary; 5 as secondary	Ear plugs rated 27	[80 + 5 + 27 =112]	3

- 1 Example: The operator is wearing only the Apollo 600 with DLX, which becomes the primary protection, and is therefore rated at 9 decibels of protection, for a total acceptable exposure of 89 decibels maximum over an 8-hour period.
- 2 Example: The operator is wearing ear plugs rated with a protection factor of 33 (higher rating than the respirator) and the Apollo 600 DLX. The ear plugs are considered the primary protection, and the Apollo Respirator becomes the secondary protection with a rating of 5 decibels, for a total acceptable exposure of 118.
- 3 Example: The operator is wearing ear plugs rated with a protection factor of 27 (higher rating than the respirator) and the Apollo 600 DLX. The ear plugs are considered the primary protection, and the Apollo Respirator becomes the secondary protection with a rating of 5 decibels, for a total acceptable exposure of 112.

For a thorough explanation and a detailed method to determine the level of hearing protection provided by Apollo respirators, read our article **“How to Determine Level of Hearing Protection When Using Apollo Series Supplied-Air Respirators.”** Go to [www.clemcoindustries.com](http://www.clemcoindustries.com); click on the ‘safety info’ tab in the navigation bar and click on ‘articles’.