## NRR,SNR,SLC80

حسین عفیفه زاده کاشانی کارشناس ارشد بهداشت حرفه ای

- NRR [Noise Reduction Rating] \*ANSI S3.19
- SNR [Single Number Rating] \*ISO 4869
- SLC80 [Sound Level Conversion] \*AS/NZS 1270

Table 1. Rating numbers commonly used for hearing protectors.

Symbol	Definition	Where Used	
NRR	Noise Reduction Rating	United States	
SNR	Single Number Rating	European Union	
SLC <sub>80</sub>	Sound Level Conversion	Level Conversion Australia/New Zealand	

### What is NRR?

- NRR در واقع میزان کاهش صدا است که تمامی وسایل حفاظتی شنوایی در ایالات متحده باید مقدار NRR لوازم خود را ذکر کنند.
- در واقع NRR می تواند به عنوان یک تخمین برای سطح صدا برای حفاظت های شنوایی استفاده شود.

### **CALCULATE**

OSHA A Lprot = L - (NRR - 7) / 2

Lprot = L - NRR / 2 $\mathbf{C}$ 

NIOSH A Lprot = L - (NRR - 7)

Foam Earplugs:Lprot = L - (NRR \* 0.5)Other Earplugs:Lprot = L - (NRR \* 0.3)

Earmuffs:Lprot = L - (NRR \* 0.75)

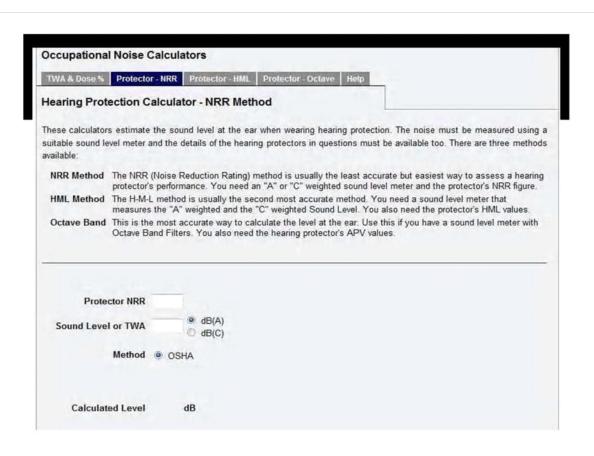
OSHA

### **Dual Protection**





NRR 29 NRR 27



Noise at Wor	k Calculator				
LEP,d LEP,w	Protector - Oc	tave Pr	rotector - HML Protector - SNR HELP		
Hearing Prot	ection Calcu	ılator - S	SNR Method		
			I at the ear when wearing hearing protection. The noise must be measured using a of the hearing protectors in questions must be available too. There are three methods		
Octave Band		s is the most accurate way to calculate the level at the ear. Use this if you have a sound level meter with ave Band Filters. You also need the hearing protector's APV values.			
HML Method	The H-M-L met	H-M-L method is usually the second most accurate method. You need a sound level meter that asures the "A" weighted and the "C" weighted Leg. You also need the protector's HML values.			
SNR Method	The SNR meth	od ie neus	ally the least appropriate but any last many to account a braider anything a sufficiency of		
Silk mouled			ally the least accurate but easiest way to assess a hearing protector's performance. d sound level meter and the protector's SNR figure.		
	You need a "C		d sound level meter and the protector's SNR figure.		
Prote C Weighte	You need a "C	" weighted	d sound level meter and the protector's SNR figure.		
Prote C Weight Calcula	You need a "C ector SNR ed Sound Level	" weighted	d sound level meter and the protector's SNR figure.		

### **SNR**

- Wearer's estimated exposure (dBA') = workplace noise level (dBA) – SNR
- Wearer's estimated exposure (dBA') = workplace noise level (dBC) – SNR

# Simplified guidance on selection of hearing protection



A-weighted noise level (dB)	Select a protector with an SNR of
85-90	20 or less
90-95	20-30
95-100	25-35
100-105	30 or more

### SLC8o

TABLE II - Determination of the AS/NZS Class and specification of allowable noise levels\*

SLC <sub>80</sub>	Class	May be used up to this noise level (dBA)
10 to 13	1	90
14 to 17	2	95
18 to 21	3	100
22 to 25	4	105
26 or greater	5	110

### از طریق آنالیز فرکانس

 جمع فشار صوت و انحراف معیار گوشی و در نهایت منهای میانگین افت انتقال

### The End

# Thank you for your attention