

Attenuation Data for 3M™ Hearing Protectors

Foam Ear Plugs

Hearing Protector Model	U.S. Noise Reduction Rating (NRR)	Average Real Ear Attenuation in Laboratory (tested according to ANSI S3.19-1974)										CSA Class* (Canada)
Soft Foam Ear Plugs 1120	28 dB	FREQUENCY (Hz)	125	250	500	1000	2000	3150	4000	6300	8000	AL
		MEAN (dB)	24.7	28.9	35.1	36.4	39.1	41.9	43.0	45.2	45.5	
		STANDARD DEVIATION (dB)	5.3	3.8	4.1	3.4	3.6	3.3	3.0	4.2	3.2	
Corded Soft Foam Ear Plugs 1130	28 dB	FREQUENCY (Hz)	125	250	500	1000	2000	3150	4000	6300	8000	AL
		MEAN (dB)	26.3	28.3	33.3	35.1	37.2	41.8	43.4	43.8	43.4	
		STANDARD DEVIATION (dB)	3.8	3.1	3.2	3.0	2.7	4.6	3.9	3.6	4.7	
Foam Ear Plugs 1100	29 dB	FREQUENCY (Hz)	125	250	500	1000	2000	3150	4000	6300	8000	AL
		MEAN (dB)	33.9	37.7	39.8	38.5	37.0	41.9	42.7	45.5	44.6	
		STANDARD DEVIATION (dB)	4.7	5.5	5.6	4.8	3.1	3.8	3.4	4.0	3.4	
Corded Foam Ear Plugs 1110	29 dB	FREQUENCY (Hz)	125	250	500	1000	2000	3150	4000	6300	8000	AL
		MEAN (dB)	33.9	37.7	39.8	38.5	37.0	41.9	42.7	45.5	44.6	
		STANDARD DEVIATION (dB)	4.7	5.5	5.6	4.8	3.1	3.8	3.4	4.0	3.4	

*CSA Z94.2-1994

Note: Research suggests that the NRR may significantly overestimate the protection provided by hearing protectors in real-world, workplace conditions. 3M recommends reducing the NRR by 50% before estimating workplace protection. 3M hearing protectors are most effective when they are worn properly and worn for the entire time that you are exposed to loud noise.

3M Occupational Health and Environmental Safety Division

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Reusable Ear Plugs

Hearing Protector Model	U.S. Noise Reduction Rating (NRR)	Average Real Ear Attenuation in Laboratory (tested according to ANSI S3.19-1974)										CSA Class* (Canada)
Reusable Ear Plugs 1260	24 dB	FREQUENCY (Hz)	125	250	500	1000	2000	3150	4000	6300	8000	AL
		MEAN (dB)	27.2	27.9	31.0	30.9	34.2	35.8	37.5	39.9	41.7	
		STANDARD DEVIATION (dB)	4.3	3.7	3.6	3.1	3.8	3.0	3.9	4.2	5.1	
Corded Reusable Ear Plugs 1270	24 dB	FREQUENCY (Hz)	125	250	500	1000	2000	3150	4000	6300	8000	AL
		MEAN (dB)	28.7	30.1	32.8	33.8	34.5	35.6	36.2	39.9	42.2	
		STANDARD DEVIATION (dB)	5.0	5.0	4.6	4.1	3.5	3.4	4.0	4.5	5.3	
Corded Reusable Ear Plugs with Storage Case 1271	24 dB	FREQUENCY (Hz)	125	250	500	1000	2000	3150	4000	6300	8000	AL
		MEAN (dB)	28.7	30.1	32.8	33.8	34.5	35.6	36.2	39.9	42.2	
		STANDARD DEVIATION (dB)	5.0	5.0	4.6	4.1	3.5	3.4	4.0	4.5	5.3	

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Banded Hearing Protectors

Hearing Protector Model	Headband Position	U.S. Noise Reduction Rating (NRR)	Average Real Ear Attenuation in Laboratory (tested according to ANSI S3.19-1974)											CSA Class* (Canada)
Banded Hearing Protector 1310	under chin	20 dB	FREQUENCY (Hz)	125	250	500	1000	2000	3150	4000	6300	8000	BL	
			MEAN (dB)	21.9	21.1	22.4	24.0	34.4	40.2	40.6	44.1	46.5		
			STANDARD DEVIATION (dB)	4.7	2.8	3.2	2.5	3.0	2.5	2.8	3.2	2.5		
	behind head	21 dB	FREQUENCY (Hz)	125	250	500	1000	2000	3150	4000	6300	8000	BL	
			MEAN (dB)	21.6	20.9	23.0	24.5	34.0	40.3	40.7	44.0	46.2		
			STANDARD DEVIATION (dB)	3.0	2.6	2.3	2.4	2.7	3.4	3.7	4.9	3.9		

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Ear Muffs

Hearing Protector Model	Headband Position	U.S. Noise Reduction Rating (NRR)	Average Real Ear Attenuation in Laboratory (tested according to ANSI S3.19-1974)										CSA Class* (Canada)
Low Profile Ear Muffs 1425	over head	22 dB	FREQUENCY (Hz)	125	250	500	1000	2000	3150	4000	6300	8000	B
			MEAN (dB)	14.0	17.5	25.0	35.8	34.3	33.4	34.2	33.7	33.2	
			STANDARD DEVIATION (dB)	2.9	2.4	2.2	3.5	3.3	1.6	2.3	2.3	2.0	
Three Position Ear Muffs 1427	over head	27 dB	FREQUENCY (Hz)	125	250	500	1000	2000	3150	4000	6300	8000	A
			MEAN (dB)	19.5	22.9	31.7	40.8	36.1	41.5	41.1	40.4	38.4	
			STANDARD DEVIATION (dB)	2.9	2.1	2.2	3.2	3.1	2.7	2.4	2.3	2.9	
	behind head	27 dB	FREQUENCY (Hz)	125	250	500	1000	2000	3150	4000	6300	8000	AL
			MEAN (dB)	20.4	22.8	30.4	39.5	36.1	41.6	42.1	41.1	39.5	
			STANDARD DEVIATION (dB)	4.2	2.0	1.8	2.8	2.0	3.6	2.8	2.3	2.5	
	under chin	26 dB	FREQUENCY (Hz)	125	250	500	1000	2000	3150	4000	6300	8000	A
			MEAN (dB)	18.5	22.8	31.0	40.1	35.7	40.3	41.3	39.8	37.9	
			STANDARD DEVIATION (dB)	3.4	2.7	2.2	2.2	2.4	3.9	3.0	2.5	2.6	

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Hearing Protector Model	Headband Position	U.S. Noise Reduction Rating (NRR)	Average Real Ear Attenuation in Laboratory (tested according to ANSI S3.19-1974)										CSA Class* (Canada)
General Purpose Ear Muffs 1435	over head	23	FREQUENCY (Hz)	125	250	500	1000	2000	3150	4000	6300	8000	B
			MEAN (dB)	15.0	20.9	27.5	30.8	33.5	33.8	36.9	36.1	36.9	
			STANDARD DEVIATION (dB)	3.0	2.8	2.8	2.4	2.7	3.1	3.1	3.2	3.7	
Padded Ear Muffs 1440	over head	24	FREQUENCY (Hz)	125	250	500	1000	2000	3150	4000	6300	8000	B
			MEAN (dB)	15.5	21.8	28.1	29.6	30.5	35.0	39.0	39.9	40.1	
			STANDARD DEVIATION (dB)	2.2	2.2	2.7	1.7	2.0	2.4	2.4	2.8	3.2	
Ear Muffs for Hard Hats 1450	mounted on hard hat	23	FREQUENCY (Hz)	125	250	500	1000	2000	3150	4000	6300	8000	B
			MEAN (dB)	15.8	21.0	28.3	29.3	30.2	35.1	38.6	39.8	38.9	
			STANDARD DEVIATION (dB)	2.9	2.4	2.7	1.8	1.9	3.4	2.6	3.4	4.2	

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