

Michael & Associates, Inc.

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September 12, 1995

Roland Westerdal
Elvex Corporation
7 Trowbridge Drive
P.O. Box 850
Bethel, CT 06801-0850



National Voluntary Laboratory
Accreditation Program

Dear Mr. Westerdal:

Attenuation measurements have been performed according to the American National Standards Institute (ANSI) Specifications, ANSI S3.19-1974, on the Elvex HB-25 (test ID P652A) muff-type hearing protector. The specified threshold measurement data were obtained using ten normal-hearing listeners with ages ranging from 22 to 35 years. These listeners were selected from a standby group of about 35 volunteers, mostly graduate students, who regularly serve as listeners for measurements of this kind.

The measurements were made in a quiet room designed for this purpose. The ambient noise levels in this room are below the limits specified, and open ear thresholds are used on a continuing basis to monitor the background noise levels. An automatic recording attenuator was used to record both open and occluded ear thresholds.

The attached Tables show grand mean attenuation values in decibels (dB) for each test signal along with group attenuation values. Standard deviations (S.D.) for the 30 different attenuation determinations for each test signal are also given.

Michael & Associates is accredited by the National Institute of Standards and Technology (NIST) National Laboratory Accreditation Program (NVLAP) for tests performed according to ANSI S3.19-1974 and ANSI S12.6-1984. These accreditation criteria encompass the requirements of international standards ISO 9002:1994 (ANSI / ASQC Q92-1987), ISO / IEC Guide 25:1990, and ISO / IEC Guide 58:1993 as suppliers of test results. This report may only be reproduced in its entirety.

Use these laboratory-derived attenuation data for comparison purposes only. The amount of protection afforded in field use is often significantly lower depending on how the protectors are fitted and worn.

Sincerely,

A handwritten signature in black ink, appearing to read "K. Michael".

Kevin Michael, Ph.D.
President

**INDIVIDUAL AND SUMMARY ATTENUATION DATA FOR
FOR HEARING PROTECTIVE DEVICES**

TEST METHOD: ANSI S3.19-1974
 MANUFACTURER: ELVEX
 MODEL: HB-25

POSITION: OH
 DATE: 9/11/95
 TEST ID #: P652A

FREQUENCY IN HERTZ

SUBJECT	125	250	500	1000	2000	3150	4000	6300	8000
1	12	15	29	35	36	37	38	35	37
	14	16	28	36	34	37	37	33	35
	15	17	32	36	37	37	38	35	38
2	11	20	29	34	42	37	38	32	35
	12	17	28	35	40	36	39	32	33
	8	16	27	35	37	35	38	32	34
3	17	21	28	36	35	34	35	37	34
	16	23	33	36	36	36	34	37	35
	14	22	30	34	37	35	34	38	35
4	8	14	31	35	34	35	35	33	31
	11	18	33	40	37	33	36	36	35
	12	18	31	40	38	33	36	35	34
5	10	18	30	42	37	39	34	35	38
	13	18	28	38	37	37	35	35	42
	9	15	27	39	36	36	38	38	43
6	12	19	29	41	39	37	38	37	34
	11	17	26	38	38	33	40	37	34
	10	17	26	39	36	32	39	38	35
7	13	17	31	41	38	30	39	43	38
	14	20	30	39	38	33	38	39	35
	11	18	30	38	37	28	39	40	34
8	14	21	31	40	38	35	38	35	39
	12	19	27	37	36	35	38	35	37
	12	19	25	38	38	34	38	35	37
9	17	22	31	38	39	33	38	40	37
	15	22	30	37	38	35	36	39	34
	15	22	29	36	37	34	37	39	36
10	10	19	30	35	34	35	32	31	32
	13	19	29	36	34	34	32	31	33
	11	19	29	36	33	33	31	32	35

MEANS	13.1	19.8	29.3	37.6	36.7	33.3	36.3	36.6	35.6
STD. DEV.	2.0	1.7	1.8	1.8	2.0	2.2	2.9	4.0	2.1

NRR = 25 dB

HEADBAND FORCE = 2.4 LBS

Use these laboratory-derived data for comparison purposes only. The amount of protection afforded in field use is often significantly lower depending on how the protectors are fitted and worn.

MANUFACTURER: ELVEX
MODEL: HB-25
POSITION: OH

DATE: 9/11/95
TEST ID#: P652A

Measurements were made according to American National Standards Insti
Specifications ANSI S3.19-1974.

Center Frequency in Hz	Mean Attenuation in dB	Group Attenuation in dB	Standard in dB
125	13.1	32.8	2.0
250	19.8		1.7
500	29.3		1.8
1000	37.6		1.8
2000	36.7	173.2	2.0
3150	33.3		2.2
4000	36.3		2.9
6300	36.6	72.2	4.0
8000	35.6		2.1

These data were obtained through measurements made at the laborato
of Michael & Associates, Inc., State College, PA , USA. Michael & Ass
Inc., is accredited to test to ANSI S3.19-1974 and ANSI S12.6-1984 by
National Institute of Standards and Technology (NIST) National Volunt
Laboratory Accreditation Program (NVLAP).

Kevin L. Michael
Kevin L. Michael, Ph.D.
President

9/12/95
Date