



(2900 intergrating/logging sound level meter, Quest Technology co., Wisconsin) 125, 250, 500, 1000, 2000, 4000, 8000 Hz, 102 (A : 34, B : 22, C : 21, D : 21) .

A 45.7 ± 6.4, B 45.0 ± 4.9, C 48.1 ± 6.8, D 44.8 ± 8.4

A 19.4 ± 7.8, B 17.5 ± 6.4, C 20.3 ± 8.9, D 19.8 ± 6.4

1 kHz 40 dB, 500, 1000, 2000, 4000, 6000 Hz 2, pitch match 250~8000 Hz 가

(1994) 500, 1000, 2000 Hz 30 dB, 4000 Hz 40 dB

(tympanometry) B C, 50.4 dB, 6 kHz 49.0 dB, 4~6 kHz 10 dB

Table 1, 500 Hz 10.6 dB, 1 kHz 12.0 dB, 2 kHz 18.7 dB, 4 kHz 74.6~95.4 dB 2000 Hz, C D

**Table 1.** Pure tone threshold of workers in each factory dB

Factory	Side	Freq. (Hz)				
		500	1000	2000	4000	6000
A (n=34)	Right	12.2 ± 5.4	11.5 ± 4.4	21.6 ± 11.4	51.8 ± 14.1	51.8 ± 15.0
	Left	12.5 ± 5.0	11.3 ± 4.7	20.4 ± 11.6	53.2 ± 12.7	50.9 ± 15.9
B (n=25)	Right	9.8 ± 4.2	10.2 ± 3.4	17.6 ± 11.7	51.6 ± 9.8	54.4 ± 15.7
	Left	13.8 ± 4.6	9.6 ± 2.0	15.8 ± 8.6	46.8 ± 13.0	43.2 ± 18.6
C (n=22)	Right	8.2 ± 5.1	15.0 ± 9.9	19.5 ± 13.6	50.7 ± 9.0	44.3 ± 16.4
	Left	7.5 ± 4.3	14.3 ± 9.2	19.5 ± 15.0	51.6 ± 12.8	48.9 ± 17.1
D (n=21)	Right	10.7 ± 6.0	12.9 ± 8.5	18.1 ± 14.4	48.8 ± 13.4	50.2 ± 20.3
	Left	9.8 ± 5.4	11.2 ± 5.7	16.7 ± 12.4	48.6 ± 17.8	48.6 ± 18.6

**Table 2.** Intensity of noise in each factory dB

Factory	Hz	Intensity (dB)						
		125	250	500	1000	2000	4000	8000
A		66.5 ± 1.0	75.3 ± 0.9	82.8 ± 1.1	85.6 ± 1.2	87.5 ± 0.5	91.6 ± 1.2	86.6 ± 0.8
B		75.4 ± 0.4	88.2 ± 1.2	94.2 ± 0.7	94.1 ± 0.3	95.4 ± 0.9	92.6 ± 0.7	74.6 ± 1.2
C		75.9 ± 0.1	83.4 ± 0.4	89.2 ± 0.2	91.1 ± 0.2	88.7 ± 0.6	82.6 ± 0.1	73.7 ± 0.1
D		67.1 ± 0.9	76.5 ± 0.8	88.1 ± 1.1	100.3 ± 1.4	98.5 ± 0.7	94.8 ± 1.4	89.2 ± 1.0

소음성 난청에서 이명의 주파수

73.7~91.1 dB, 67.1~100.3 dB 1000 Hz 가 가 가 Table 4  
 가 79 25 (31.6%) , 54  
 가 , 가  
 가 8 kHz  
 102 43 (42.2%)  
 가 4 ,  
 가 3 , 36 79 trauma) (acoustic  
 (Table 3). (TTS, temporary threshold shift)  
 4000 Hz 가 A (PTS, permanent threshold shift) 가  
 24 2000 Hz 2 (8.3%),  
 4000 Hz 22 (91.7%) . 2000 Hz 가  
 가 B 20 2000 Hz 가  
 Hz 1 (5.0%), 4000 Hz 19 (95.0%) 가  
 . 1000 Hz 가 C 10)  
 17 1000 Hz 2 (11.8%), 2000 Hz  
 Hz 2 (11.8%), 4000 Hz 13 (76.5%) 가  
 . 1000 Hz 가 D , 11) 가  
 18 2000 Hz 1 (5.6%),  
 4000 Hz 17 (94.4%) , 12)  
 79 1000 Hz ,  
 가 2 (2.5%) , 2000 Hz ,  
 6 (7.6%) , 4000 Hz , 13) , 14)  
 가 71 (89.9%) 1000 Hz 8000 Hz Na - K 15) 가  
 1 (Table 4). ,  
 가 가 , 2)12)  
 , 4~6 kHz  
 가 가  
 2 kHz , 16)  
 4 kHz , 17)  
 가 , 18)  
 , 19)  
 41.5% , 7)  
 ,  
 가 ,  
 ,

**Table 3.** Number of ear according to the finnitus frequency in each factory ear

Factory	Side	Freq. (Hz)			
		1000	2000	4000	no finnitus
A	Right	0	1	11	22
	Left	0	1	11	22
B	Right	0	1	10	14
	Left	0	0	9	16
C	Right	1	1	6	14
	Left	1	1	7	13
D	Right	0	0	9	12
	Left	0	1	8	12

**Table 4.** Relation between frequencies of noise and finnitus ear

Tinnitus (Hz)	Noise (Hz)			
	1000	2000	4000	Total (%)
1000	2	0	0	2 ( 2.5)
2000	3	1	2	6 ( 7.6)
4000	30	19	22	71 (89.9)

20)  
 1000 Hz 가 2 , 2000 Hz  
 가 1 , 4000 Hz가 1 .  
 42.2% ,  
 가 4000 Hz . 가  
 20)  
 42.2%가  
 Lee<sup>7)</sup> (41.5%)  
 가  
 2 83.7%  
 4000 Hz 가 1000  
 Hz 2000 Hz 가 4000 Hz  
 가 89.9%  
 가 31.6% 68.4%  
 가 4000 Hz  
 가 4000  
 Hz 가 가  
 가 가  
 20)  
 가  
 가  
 4000 Hz  
 가  
 4 1  
 102  
 1000 Hz 4000 Hz  
 ,  
 500, 1000, 2000, 4000, 6000 Hz  
 ,  
 pitch - match

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