



Testing of Hearing Protectors

Test item	H520P3
Type	Earmuff attached to industrial helmet type G22C Peltor
Customer	Peltor AB L. Carlborg Box 2341, Malmsteng. 19 S-331 02 VÄRNAMO SWEDEN
Applied methods	EN 352-3:1993


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Tämän selosteen osittainen julkaiseminen on sallittu ainoastaan Työterveyslaitoksen kirjallisella luvalla. Testaustulokset pätevät ainoastaan testatuille näytteille. Tämän selosteen testit, joissa on merkintä: "Ei Mittatekniikan keskuksen FINAS-akkreditointia", eivät kuulu testauslaboratorion T013 akkreditoinnin piiriin.



T013 (EN ISO/IEC 17025)

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1. Description and identification of test items

Description Foam filled earmuff with yellow cups and black cushions
Manufacturer Peltor AB

2. Scope of testing

2.1 Test items

Ten items were supplied by the customer 2001-10-10. Test items were intact.

2.2 Testing

The tests were performed during 2001-10-23-2002-02-02 in the Department of Physics testing laboratories. The tests were performed according to the standard EN 352-3.

3. Results

3.1 Adjustability

The nominal size of ear-muffs was measured from six specimens.
Specimens were fitted to the test equipment as follows (the over-the-head position):

Test Height mm	Width mm		
	125	145	155
115	S	N	-
130	N	N	N
140	-	N	L

* The internal apex of the headband did not touch the headband support pad.

Specimens satisfy the requirements in the small, normal and large size range.

3.2 Cup Rotation

Cup rotation was measured from six specimens. The ability of the cups to accommodate a range of angular movements was tested. The contact between the cushions of specimens and the plates was continuous throughout this range.

3.3 Headband force



The headband force was measured from six specimens. The mean value of headband force was 7.6 N for small head size (S), 8.2 N for normal head size (N) and 8.9 N for large head size (L). In all positions the headband force shall not be greater than 14 N.

3.4 Cushion pressure

Cushion pressure was measured from six specimens. The cushion pressure was 2100 Pa for small head size (S), 2200 Pa for normal head size (N) and 2300 Pa for large head size (L). In all cases the cushion pressure shall not be greater than 4500 Pa.

3.5 Resistance to damage when dropped

Not performed.

3.6 Resistance to low temperature (optional)

Not performed.

3.7 Change in the headband force

Six specimens were subject to headband flexing. After conditioning (60±5) min in (22±5) °C the headband force was measured again.

Specimen number	1	2	3	4	5	6
Change in headband force (%)	1	6	1	0	3	5

3.8 Insertion loss

Insertion loss was tested from ten specimens. The results are shown below.

Frequency (Hz)	63	125	250	500	1000	2000	3150	4000	6300	8000
Mean IL (dB)	11.7	5.8	23.4	39.3	43.4	47.8	36.7	40.4	40.6	42.1
St. dev (dB)	1.3	1.1	0.8	1.6	1.3	1.8	3.6	2.2	0.9	0.9

3.9 Resistance to leakage

Resistance to damage when dropped was measured from specimen 1-6 in accordance with 7.7. The specimen did not crack or become detached



3.10 Ignitability

Ignitability was tested from specimens numbered 5-6. Specimens did not ignite or continue to glow after removal of the heated rod.

3.11 Sound attenuation

Sound attenuation was tested from specimens numbered 1-4.

Sound attenuation characteristics

Frequency	60	125	250	500	1000	2000	3150	4000	6300	8000
Mean	15.1	14.1	19.4	32	39.9	36.2	40.6	35.4	38.5	39.2
St. dev	2.1	2.3	2.7	2.7	2.4	2.6	2.8	4.4	3	2.6
APV (84%)	13	11.8	16.7	29.3	37.5	33.6	37.8	31	35.5	36.6
H=	34									
M=	28									
L=	19									
SNR	30									
NRR	24									