

**prEN 1731 : November 1994**

**Mesh type eye and face protectors for  
industrial and non-industrial use against  
mechanical hazards and/or heat**

**TEST REPORT NO:** 95.07.24

**CLIENT:** INSPEC Certification Limited  
The Buckland Wharf  
Buckland Wharf  
Aylesbury  
Buckinghamshire HP22 5LQ

**MANUFACTURER:** Peltor AB  
Box 2341  
Malmstengatan 19  
S-331 02 Varnamo  
Sweden

**MODEL:** V40B & V40C Mesh Visors attached to H7A ear muff

**DATE SAMPLES RECEIVED:** 3 April 1995

**DATE ORDER RECEIVED:** 11 and 25 April 1995

**DATES OF TESTS:** 18 - 20 June 1995

Checked: *A. Diamond* ..... Approved: *F. Pennington* .....  
A. DIAMOND F. PENNINGTON

Issued: *11 AUGUST 1995* .....

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The samples tested will be destroyed four weeks from the date of this report unless otherwise instructed

**INTRODUCTION:**

INSPEC Certification Limited submitted ten samples of each of Peltor AB's model V40B and V40C mesh visors and ten samples of Peltor AB's model H7A ear-muff, for testing as units to certain specified requirements of prEN 1731 : November 1994.

It will be helpful to refer to the Standard whilst reading this report.

**PROCEDURES:**

The samples tested were identified as follows:-

V40B visor:	E33201 to E33208
V40C visor:	E33211 to E33218
H7A ear-muff :	E33101A to E33108A

For simplicity, the samples of visor are referred to by only the last two digits and the samples of ear-muff by only the last three digits of these identifications throughout the remainder of this report.

Testing was performed as specified in the relevant clauses of prEN 1731 : November 1994.

When assessing to the requirements of Clause 4.3.3.1 "Increased robustness" failures were recorded for certain samples of model V40B visor. For this reason assessment to the requirements of Clause 5.1 "Mesh visor resisting high speed particles", as originally requested, was not performed.

The numbers of samples tested against specific clauses are reported under the appropriate results.

**RESULTS:**

Please refer to the Standard for details of the requirements of the tests performed.

**4.3.3.1 Increased robustness**

Visor samples 01 to 08, attached to ear-muff samples 01A to 08A respectively, were tested.

Visor samples 11 to 18, attached to ear-muff samples 01A to 08A respectively, were tested.

Upon impacting sample 01 over the left eye frontal position and sample 03 over the right eye frontal position after conditioning at +55°C, and sample 04 over the right eye frontal position after conditioning at -5°C, the ocular of each sample deformed so that marks appeared on the white test paper on the opposite side to that struck by the ball.

None of the remaining samples tested showed any of the defects listed in the Standard.

**5.1 Mesh visors resisting high speed particles**

Visor samples 11 to 18, attached to ear-muffs 01A to 08A respectively, were tested.

On impacting each sample, the ball penetrated through to the headform.

For each of the samples tested, all of the specified impact points on the headform were covered.

**CONCLUSIONS:**

The samples of Peltor AB's model V40B mesh visors attached to H7A ear-muffs, when tested as units, failed to satisfy the requirements of Clause 4.3.3.1 of prEN 1731 : November 1994. For this reason, testing to the requirements of Clause 5.1, as originally requested, was not performed.

The samples of Peltor AB's model V40C mesh visors attached to H7A ear-muffs, when tested as units, satisfied the requirements of Clause 4.3.3.1 of prEN 1731 : November 1994, but failed to satisfy certain requirements of Clause 5.1.

## KONFORMITÄTSERKLÄRUNG

*Herstellername, Adresse, Telefonnr./Faxnr.*

**Peltor AB**

**Box 2341**

**33102 Värnamo, Schweden**

**Tel. +46 (0)370-694200, Fax +46 (0)370-15130**

*erklärt, dass die im Folgenden beschriebene persönliche Schutzausrüstung*

**Augenschützer, Peltor V40C STIHL 0000 884 0507**

*den Vorgaben der Ratsrichtlinie 89/686/EEC und, falls relevant, den nationalen Bestimmungen zum harmonisierten Standard prEN1731 entspricht.*

*identisch mit der persönlichen Schutzausrüstung im EU-Konformitätszertifikat Nr. 364 ist, das von INSPEC Certification Ltd, The Buckland Wharf, Buckland Wharf, Aylesbury, Bucks, HP22 5LQ, England, ausgefertigt wurde.*

*Datum und Ort der Ausfertigung*

**Värnamo, den 10.01.1996**

*Name und Unterschrift der berechtigten Person*



**Sigvard Nilsson**

*Position*

**Development Manager**

## DECLARATION OF CONFORMITY

*Manufacturer's name, address, telephone/fax no*

**Peltor AB**

**Box 2341**

**331 02 Värnamo, Sweden**

**Tel +46 (0)370-694200, Fax +46 (0)370-15130**

*declares that the new PPE described hereafter*

**Eye protector, Peltor V40C STIHL 0000 884 0507**

*is in conformity with the provisions of Council Directive 89/686/EEC and, where such is the case, with the national standard transposing harmonised standard No.*

**prEN1731**

*is identical to the PPE which is the subject of EC certificate of conformity No. 364 issued by INSPEC Certification Ltd, The Buckland Wharf, Buckland Wharf, Aylesbury, Bucks, HP22 5LQ, England.*

*Date and place of issue person*

**Värnamo 1996-01-10**

*Name and signature of authorized*

  
**Sigvard Nilsson**

*Position*

**Development Manager**

## DÉCLARATION DE CONFORMITÉ

*Nom, adresse, n° téléphone/télocopie du fabricant*

**Peltor AB**

**Box 2341**

**SE-331 02 Värnamo, Suède**

**Tél. +46 (0)370 69 42 00, Fax +46 (0)370 151 30**

*déclare que le nouveau PPE décrit ci-après*

**Protection oculaire, Peltor V40C STIHL 0000 884 0507**

*est conforme aux dispositions de la directive européenne 89/686/CEE, et lorsque c'est le cas à la norme nationale transposant la norme harmonisée n° prEN1731*

*est identique à la PPE qui est l'objet du certificat UE de conformité n° 364 délivré par INSPEC Certification Ltd, The Buckland Wharf, Buckland Wharf, Aylesbury, Bucks, HP22 5LQ, Angleterre.*

*Date et lieu de délivrance*

**Värnamo, le 10 janvier 1996**

*Nom et signature de la personne autorisée*

  
**Sigvard Nilsson**

*Titre*

**Directeur Développement**



# TESTING OF HEARING PROTECTORS ACCORDING TO STANDARD EN 352-1:1993

Date: 14.09.1997

Name: **Peltor H31A**

Manufacturer: **Peltor Ab**

Type: Earmuff

Description: Foam filled earmuff with orange cups, black cushions and  
~~behind the neck~~ <sup>over the head</sup> metal band



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**FINNISH INSTITUTE OF OCCUPATIONAL HEALTH  
DEPARTMENT OF PHYSICS**

Eero Korhonen  
Technical manager

Esko Toppila  
Researcher

**OUR REFERENCE 97172T01**

Customer's reference:



## TEST REPORT NUMBER 97172T01

### 1. CUSTOMER

S.Nilsson  
Peltor Ab  
Box 2341, Malmstensg. 19  
S-33102 Värnamo  
Sweden

### 2. DESCRIPTION AND IDENTIFICATION OF THE TEST ITEMS

Name: Peltor H31A  
Type: Earmuff  
Description: Foam filled earmuff with orange cups, black cushions and  
~~behind the neck~~ <sup>over the head</sup> metal band  
Manufacturer: Peltor Ab

### 3. TEST ITEMS

Ten items were supplied by the customer 18.04.1997.

### 4. TESTING

The tests were performed during 22.04.1997 – 22.05.1997 in the Department of Physics testing laboratories. The test, ~~headband force~~ <sup>headband force</sup> was performed according to the standard EN 352-1.

### 5. RESULTS

#### 5.1. The mass of hearing protectors

The mass of all ten specimens was measured in accordance with 7.1.3.3 and the mean mass of the specimens was calculated. The mean mass of Peltor H31A was 186 g.





## 5.2. Adjustability

The nominal size of earmuffs was measured from specimens 1-6 in accordance with 7.2.

Peltor H31A fitted to the test dimensions as follows in 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.

Peltor H31A satisfies the requirements in the small, normal and large size range.

## 5.3. Cup rotation

Cup rotation was measured from specimens 1-6 in accordance with 7.3. The ability of the cups to accommodate a range of angular movements was tested. The contact between the cushions of Peltor H31A and the plates was continuous throughout this range.

## 5.4. Headband force

The headband force was measured from specimens 1-6 in accordance with 7.4. The mean value of headband force for the specimens 1-6 was 10 N.

## 5.5. Cushion pressure

Cushion pressure was measured from specimens 1-6 in accordance with 7.5. The cushion pressure of Peltor H31A was 2700 Pa.

## 5.6. Resistance to damage when dropped

Resistance to damage when dropped was measured from specimens 1-6 in accordance with 7.7. Peltor H31A did not crack or become detached.

## 5.7. Resistance to low temperature (optional)

Not performed.



### 5.8. Change in the headband force

Specimens 1-6 were subject to headband flexing in accordance with 7.8 to water immersion in accordance with 7.9. After conditioning ( $60\pm 5$ ) min in ( $22\pm 5$ ) °C the headband force was measured again.

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

### 5.9. Insertion loss

Insertion loss was tested from specimens 1-10 in accordance with 7.11. The results are shown below.

Frequency (Hz)	63	125	250	500	1000	2000	3150	4000	6300	8000
Mean IL (dB)	9.3	12.8	12.0	26.8	36.9	36.2	34.4	40.6	37.4	40.0
St. dev (dB)	2.8	1.0	1.6	1.6	1.5	0.8	1.0	1.0	2.3	2.8

### 5.10. Resistance to leakage

Not performed.

### 5.11. Ignitability

Ignitability was tested from specimens 5-6 in accordance with 7.13. Peltor H31A did not ignite or continue to glow after removal of the heated rod.



## 5.12. Sound attenuation

Sound attenuation was tested from specimens 1-4 in accordance with 7.14. in over the head position.

### Sound attenuation characteristics in the over the head position

Frequency (Hz)	125	250	500	1000	2000	3150	4000	6300	8000
Mean attenuation (dB)	11.2	17.4	29.7	36.2	37.3	40.8	34.7	33.3	35.7
St. deviation	3.7	3.8	2.5	3.1	3.6	3.3	3.2	2.5	3.7
APV (84%)	7.5	13.6	27.2	33.1	33.7	37.5	31.5	30.8	32.0

$H_{84} = 33$  dB

$M_{84} = 25$  dB

$L_{84} = 15$  dB

$SNR_{84} = 27$  dB

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## KONFORMITÄTSERKLÄRUNG

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*erklärt, dass die im Folgenden beschriebene persönliche Schutzausrüstung*

**Kapselgehörschutz H31A STIHL 0000 884 0507**

*den Vorgaben der Ratsrichtlinie 89/686/EEC und, falls relevant, den nationalen Bestimmungen zum harmonisierten Standard Nr. prEN352-1:1993 entspricht.*

*identisch mit der persönlichen Schutzausrüstung im EU-Konformitätszertifikat Nr. 97172S01 ist, das vom, Institute of Occupational Health, Department of Physics, Laajanyhtie 1, 01620 Vantaa, Finland, ausgefertigt wurde.*

*Datum und Ort der Ausfertigung*

**Värnamo, den 22.12.1997**

*Name und Unterschrift der berechtigten Person*

  
**Sigvard Nilsson**

*Position*

**Development Manager**

## DECLARATION OF CONFORMITY

*Manufacturer's name, address, telephone/fax no*

**Peltor AB**

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*declares that the new PPE described hereafter*

**Hearing protector, headband, Peltor H31A STIHL 0000 884 0507**


*is in conformity with the provisions of Council Directive 89/686/EEC and, where such is the case, with the national standard transposing harmonised standard No. EN 352-1:1993*

*is identical to the PPE which is the subject of EC certificate of conformity No. 97172S01 issued by Institute of Occupational Health, Department of Physics, Laajaniityntie 1, 01620 VANTAA, Finland*

*Date and place of issue*

**Värnamo 1997-12-22**

*Name and signature of authorized person*

  
**Sigvard Nilsson**

*Position*

**Development Manager**

## DÉCLARATION DE CONFORMITÉ

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*déclare que le nouveau PPE décrit ci-après*

**Protection H31A STIHL 0000 884 0507**

*est conforme aux dispositions de la directive européenne 89/686/CEE, et lorsque c'est le cas à la norme nationale transposant la norme harmonisée n° prEN352-1:1997*

*est identique à la PPE qui est l'objet du certificat UE de conformité n° 97172S01 délivré par Institute of Occupational Health, Department of Physics, Laajaniityntie 1, 01620 Vantaa, Finland.*

*Date et lieu de délivrance*

**Värnamo, le 22.12.1997**

*Nom et signature de la personne autorisée*

  
**Sigvard Nilsson**

*Titre*

**Directeur Développement**