



EC TYPE EXAMINATION CERTIFICATE

SAI Global Assurance Services Limited ("SAI Global") (Notified Body No: **NB2056**) has examined the product and the related technical documentation as presented and certifies that the product complies with the Directive(s) and Standard or Specification as below and on the appendixes included with the certificate.

Certificate holder:

**Zhubei City
Hsinchu County. 30268
Taiwan (R.O.C)**

Product Description: **Personal Hearing Protection (Category II)**

Examined for compliance with: **Directive PPE 89/686/EEC (Article 10)**

Relevant Standard(s)/Technical Specification:
EN352-2:2002 Hearing Protectors - Safety Requirements And Testing - Ear Plugs

Original certification date: **20th December 2013**

Date of issue: **20th December 2013**

Date of expiry: **19th December 2018**

Certificate No: **CEC40064**

Head of Policy, Risk & Certification

**Regional Director, EMEA
Authorized Signatory**

This certificate remains the property of SAI Global and has been issued in accordance with the CE Scheme Conditions and Procedures of the SAI Global Assurance Services Ltd. trading as EFSIS Ltd. Partis houe, Ground Floor, Davy Avenue, Knowlhill. Milton Keynes, MK5 8HJ. United Kingdom. Notified Body: 2056

THIS CERTIFICATE DOES NOT ENTITLE THE HOLDER TO USE ANY OF THE CERTIFICATION TRADEMARKS ISSUED BY SAI GLOBAL LIMITED OR OTHERWISE.

APPENDIX 1

SAI Global Assurance Services Limited (“SAI Global”) (Notified Body No: NB2056) has examined the product and the related technical documentation as presented and certifies that the product complies with the Directive(s) and Standard or Specification as below.

Product Description: **Personal Ear Protection (Category II)**

Model:

Designation/ Model	Description
EP-33	Disposable un-corded PU foam earplugs size 6 to 8 mm– SNR 36dB
EP-33C	Disposable corded PU foam earplugs size 6 to 8 mm – SNR 36dB
EP-33D	Disposable un-corded PU foam earplugs size 6 to 8 mm– SNR 36dB
EP-33F	Disposable corded PU foam earplugs size 6 to 8 mm – SNR 36dB

Examined for compliance with: **Directive PPE 89/686/EEC (Article 10)**

Relevant Standard(s)/Technical Specification:
EN352-2:2002 Hearing Protectors - Safety Requirements And Testing - Ear Plugs

Technical file Reference No: **CEC40064 – CR23398 & CR23796**

Original date of issue: **20th December 2013**

Date of issue: **6th March 2014**

Certificate No: **CEC40064A1**



Head of Policy, Risk & Certification



**Regional Director, EMEA
Authorized Signatory**

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Issued to:

Date: 12 February 2014

Report: T8450-03-1

Issue: 3

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Sample(s):

Model No./Name:	EP33D
Product Type:	Insert-Metal Detectable Type Hearing Protector (Non-Corded Foam Ear Plug)
Quantity:	25 pr.
Nominal Mass (g):	Not Assessed
Nominal Diameter (mm):	Not Assessed
Date(s) Submitted:	21 January 2014

Summary:

Test Report:	*	Q3170A Rev. 0	(2 pages)
Date of Report:		03 February 2014	
Date(s) of Test:		03 February 2014	
Test Subjects Used:		8	
Wearing Position:		Insert	
SNR:		36 dB ¹	
H:		36 dB ¹	
M:		33 dB ¹	
L:		32 dB ¹	

Sample(s):

Model No./Name:	EP33F
Product Type:	Insert- Metal Detectable Type Hearing Protector (Corded Foam Ear Plug)
Quantity:	25 pr.
Nominal Mass (g):	Not Assessed
Nominal Diameter (mm):	Not Assessed
Date(s) Submitted:	21 January 2014

Summary:

Test Report:	*	Q3171A Rev. 0	(2 pages)
Date of Report:		03 February 2014	
Date(s) of Test:		03 February 2014	
Test Subjects Used:		8	
Wearing Position:		Insert	
SNR:		36 dB ¹	
H:		36 dB ¹	
M:		33 dB ¹	
L:		32 dB ¹	

¹ The difference in the attenuation measurements between Q3023A (EP33), Q3093A (EP33C), Q3170A (EP33D) and Q3171A (EP33F) are negligible. It is reasonable to utilize test data from Test Report Q3023A for all of these products (EP33, EP33C, EP33D and EP33F).

Issued to:

Date: 12 February 2014

Report: T8450-03-1

Issue: 3

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Objective:

Contract testing according to EN 352-2:2002 "Hearing Protectors - Safety Requirements and Testing: Ear Plugs"

Sample(s):

Model No./Name:	EP33
Product Type:	Insert-Type Hearing Protector (Foam Ear Plug)
Quantity:	50 pr.
Nominal Mass (g):	0.63
Nominal Diameter (mm):	Smallest – 6 / Largest – 8
Date(s) Submitted:	04 September 2013

Summary:

Test Report:	*	Q3023A Rev. 0	(3 pages)
Date of Report:		26 September 2013	
Date(s) of Test:		09 September 2013 – 26 September 2013	
Test Subjects Used:		16	
Wearing Position:		Insert	
SNR:		36 dB	
H:		36 dB	
M:		33 dB	
L:		32 dB	

Sample(s):

Model No./Name:	EP33C
Product Type:	Insert-Type Hearing Protector (Corded Foam Ear Plug)
Quantity:	25 pr.
Nominal Mass (g):	Not Assessed
Nominal Diameter (mm):	Not Assessed
Date(s) Submitted:	28 October 2013

Summary:

Test Report:	*	Q3093A Rev. 0	(2 pages)
Date of Report:		15 November 2013	
Date(s) of Test:		01 November 2013 – 14 November 2013	
Test Subjects Used:		8	
Wearing Position:		Insert	
SNR:		36 dB ¹	
H:		36 dB ¹	
M:		33 dB ¹	
L:		32 dB ¹	

Product Information

Manufacturer:
Model: EP33
Test ID Number: Q3023A
Date of receipt 9/6/2013
Dates of testing 9/9/2013-9/26/2013
Type of product Foam earplug
Wearing position Insert

	Mass (g)	Nominal diameter (mm)	
		Smallest	largest
sample 1	0.61	6	8
sample 2	0.63	6	8
sample 3	0.63	6	8
sample 4	0.63	6	8
sample 5	0.64	6	8
sample 6	0.64	6	8
sample 7	0.62	6	8
sample 8	0.64	6	8
sample 9	0.67	6	8
sample 10	0.61	6	8

4.2.1 Materials Pass

4.2.2 Construction Pass

4.3.1 Conditioning Completed

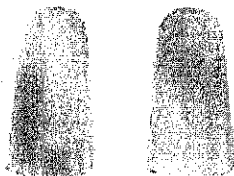
4.3.2 Resistance to damage when dropped

The earplugs did not crack, nor did any parts of the earplugs detach when dropped.

4.3.5 Ignitability

Upon application of the heated rod, no part of the ear-plugs ignited nor continued to glow after removal of the heated rod.

Photo



Appendix A. Attenuation Data
 Individual and Summary Attenuation Data for
 Hearing Protective Devices

Test Method: EN 352-2:2002
 Manufacturer:
 Model: EP33

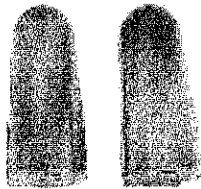
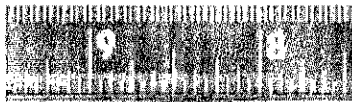
Position: Insert
 Date: 9/26/13
 Test ID # Q3023A

SUBJECT	Attenuation in dB						
	125	250	500	1000	2000	4000	8000
1	42.4	39.4	42.2	43.3	37.1	47.9	49.1
2	32.3	26.0	32.6	34.2	33.8	32.8	42.6
3	39.8	34.1	39.9	42.4	48.3	51.4	47.2
4	42.3	31.1	35.7	31.9	37.8	41.6	49.6
5	44.9	39.4	46.9	49.2	40.2	42.6	45.0
6	39.8	38.8	47.4	44.5	43.8	54.5	59.9
7	35.7	33.6	36.3	38.2	40.7	55.8	44.7
8	30.3	32.9	39.2	39.7	36.0	43.2	40.8
9	38.4	37.6	43.4	37.2	36.2	37.2	50.4
10	36.3	39.5	40.3	42.4	44.4	47.7	45.5
11	34.5	33.6	39.8	35.5	38.1	39.9	38.0
12	34.8	37.3	42.6	29.4	39.6	44.1	44.4
13	35.2	32.2	33.9	34.7	37.3	47.1	54.2
14	35.7	32.6	36.9	37.6	41.5	49.1	48.9
15	34.6	24.5	30.0	26.6	34.4	36.8	33.9
16	26.5	35.4	37.8	37.9	44.2	46.5	45.3
MEANS	36.5	34.2	39.1	37.8	39.6	44.9	46.2
STD. DEV.	4.7	4.5	4.8	5.8	4.0	6.4	6.2
MEAN - SD	31.7	29.7	34.2	32.0	35.5	38.5	40.1

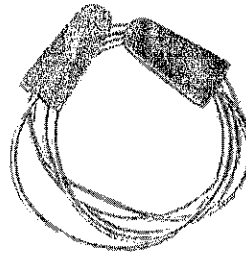
SNR = 36 dB
 H = 36 dB
 M = 33 dB
 L = 32 dB

Comparison tests were performed on your client's EP33D (test ID Q3170A) and EP33F (test ID Q3171A) insert-type hearing protectors. Noise attenuation was measured on eight human subjects according to EN352-2. The attenuation measurements for test ID Q3170A are presented in Appendix A-1, the attenuation measurements for test ID Q3171A are presented in Appendix A-2, and the attenuation measurements for test ID Q3093A are presented in Appendix A-3.

The original test on these foam earplugs was performed in September of 2013, test ID Q3023A. From these data, in my opinion the difference in the attenuation measurements between test ID Q3170A and test ID Q3023A is negligible. Similarly, the difference in the attenuation measurements between test ID Q3171A and test ID Q3023A is negligible. Similarly, the difference in the attenuation measurements between test ID Q3093A and test ID Q3023A is negligible. It is reasonable to use the test data from test ID Q3023A for all of these products.



Test ID Q3170A



Test ID Q3171A



Test ID Q3093A

Appendix A. Attenuation Data
 Individual and Summary Attenuation Data for
 Hearing Protective Devices

Test Method: EN 352-2:2002
 Manufacturer:
 Model: EP-33D

Position: Insert
 Date: 2/3/14
 Test ID # Q3170A

SUBJECT	Attenuation in dB						
	FREQUENCY IN HERTZ						
	125	250	500	1000	2000	4000	8000
1	42.3	37.1	39.2	41.7	38.3	44.5	44.8
2	36.9	34.6	39.0	39.2	42.4	47.9	43.9
3	34.3	34.1	35.0	37.8	35.0	40.7	46.4
4	36.2	36.1	41.7	41.0	38.6	38.5	42.9
5	26.6	29.1	33.1	35.2	34.8	37.9	45.4
6	38.7	34.6	42.3	41.0	36.2	47.9	42.5
7	39.0	35.4	38.2	39.6	38.9	40.2	50.5
8	40.0	33.8	38.8	34.9	36.8	42.6	40.0
MEANS	36.7	34.3	38.4	38.8	37.6	42.5	44.5
STD. DEV.	4.8	2.4	3.1	2.6	2.5	3.9	3.1

Appendix A. Attenuation Data
**Individual and Summary Attenuation Data for
Hearing Protective Devices**

Test Method: EN 352-2:2002
Manufacturer:
Model: EP-33F

Position: Insert
Date: 2/3/14
Test ID # Q3171A

SUBJECT	Attenuation in dB						
	FREQUENCY IN HERTZ						
	125	250	500	1000	2000	4000	8000
1	37.9	32.5	35.8	46.5	39.4	42.4	45.7
2	37.4	33.2	38.7	37.1	42.8	46.4	43.2
3	37.4	36.9	40.3	36.7	39.5	45.1	44.3
4	39.6	37.7	45.0	42.9	43.4	45.5	44.2
5	30.3	25.8	26.8	32.4	35.5	36.7	41.6
6	32.3	31.8	37.8	40.0	39.2	49.3	43.0
7	35.9	29.9	39.2	37.2	35.9	40.4	45.5
8	36.6	34.0	39.3	37.6	38.6	39.5	44.4
MEANS	35.9	32.7	37.9	38.8	39.3	43.2	44.0
STD. DEV.	3.1	3.8	5.2	4.3	2.8	4.1	1.4

Appendix A. Attenuation Data
 Individual and Summary Attenuation Data for
 Hearing Protective Devices

Test Method: EN 352-2:2002
 Manufacturer:
 Model: EP33c

Position: Insert
 Date: 11/15/13
 Test ID # Q3093A

SUBJECT	Attenuation in dB						
	125	250	500	1000	2000	4000	8000
1	34.4	28.0	32.0	33.7	37.4	45.0	43.5
2	30.8	26.7	34.4	32.6	33.0	37.7	46.4
3	39.9	35.4	41.8	43.7	46.7	44.7	48.9
4	28.9	30.0	33.6	35.0	38.4	38.3	48.4
5	40.3	38.3	37.6	33.1	39.7	41.6	48.8
6	33.3	36.2	41.5	37.5	37.1	43.2	42.7
7	41.9	35.4	44.7	43.9	40.4	47.9	53.2
8	39.5	41.0	46.4	42.8	41.6	44.6	49.8
MEANS	36.1	33.9	39.0	37.8	39.3	42.9	47.7
STD. DEV.	4.9	5.1	5.4	4.9	4.0	3.5	3.4