

## TEST REPORT

Reliability Laboratory

Report No. : HE10015C/2013

Page : 1 of 5

Date : February 8, 2013

KUNG LONG BATTERIES INDUSTRIAL CO., LTD.  
NO. 6, TZU-LI 3<sup>RD</sup> RD., NANTOU CITY, TAIWAN

The following merchandise was submitted and identified by the vendor as:

Product Description: Sealed Lead-Acid Battery  
Style/ Item No.: WP18-12I/ No.1  
Manufacturer/Vendor: Kung Long Batteries Industrial Co., Ltd.  
Quantity: Total 1 set  
Testing Period: Jan. 23, 2013 to Feb. 4, 2013  
Note: (Client's declaration) WP18-12I, WP18-12 and WP18-12N are identical product with different terminals.

We have tested the submitted sample(s) as requested and the following results were obtained:

Test Required :  Special Provision 238 in International Maritime Dangerous Goods Code  
Version 2012 Edition

### Conclusion

Submittals samples comply with the requirement of Special Provision 238 in International Maritime Dangerous Goods Code 2012 Edition.

\* HE10015/2013A, dated on February 6, 2013, is hereby canceled and replaced by HE10015C/2013.

Signed for and on behalf of  
SGS TAIWAN Ltd.



Norman Wu  
Supervisor

Unless otherwise stated the results shown in this test report refer only to the sample(s) tested and such sample(s) are retained for 90 days only. This test report cannot be reproduced, except in full, without prior written permission of the Company. 除非另有說明，此報告結果僅對測試之樣品負責，同時此樣品僅保留 90 天。本報告未經本公司書面許可，不可部份複製。  
This document is issued by the Company subject to its General Conditions of Service printed overleaf, available on request or accessible at [www.sgs.com/terms\\_and\\_conditions.htm](http://www.sgs.com/terms_and_conditions.htm) and, for electronic format documents, subject to Terms and Conditions for Electronic Documents at [www.sgs.com/terms\\_e-document.htm](http://www.sgs.com/terms_e-document.htm). Attention is drawn to the limitation of liability, indemnification and jurisdiction issues defined therein. Any holder of this document is advised that information contained hereon reflects the Company's findings at the time of its intervention only and within the limits of Client's instructions, if any. The Company's sole responsibility is to its Client and this document does not exonerate parties to a transaction from exercising all their rights and obligations under the transaction documents. This document cannot be reproduced except in full, without prior written approval of the Company. Any unauthorized alteration, forgery or falsification of the content or appearance of this document is unlawful and offenders may be prosecuted to the fullest extent of the law.

### Lab Environmental Conditions:

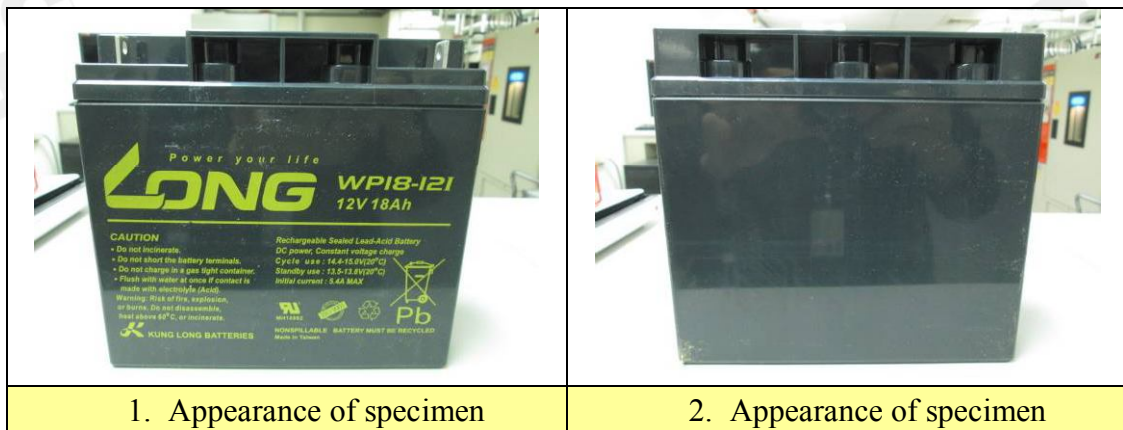
Ambient temperature:  $(20 \pm 5) ^\circ\text{C}$

Ambient humidity:  $(55 \pm 20) \% \text{RH}$

### Test Equipment:

Name	Brand	Model	Serial No.
Vibration Test System	UNHOLTZ-DICKIE	SAI60-H560BAC/2/ST	474
Controller	Dactron	LASER	7110357
Control Accelerometer	PCB	353B34	143549
Altitude Chamber	GIANT FORCE	GTP-1260-50-CP-AR	MAF1206-008

### Images:

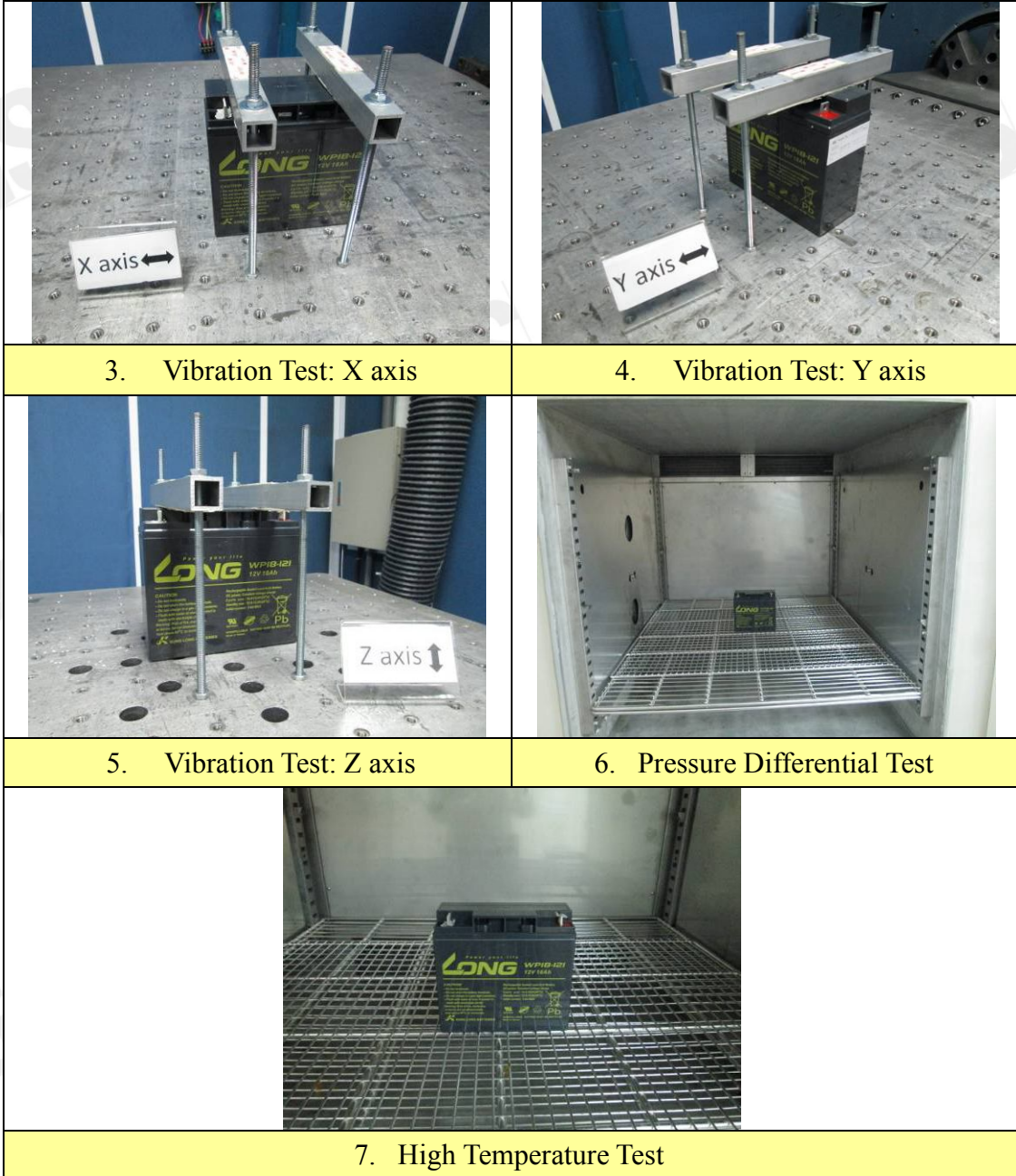


1. Appearance of specimen

2. Appearance of specimen

Unless otherwise stated the results shown in this test report refer only to the sample(s) tested and such sample(s) are retained for 90 days only. This test report cannot be reproduced, except in full, without prior written permission of the Company. 除非另有說明，此報告結果僅對測試之樣品負責，同時此樣品僅保留 90 天。本報告未經本公司書面許可，不可部份複製。  
This document is issued by the Company subject to its General Conditions of Service printed overleaf, available on request or accessible at [www.sgs.com/terms\\_and\\_conditions.htm](http://www.sgs.com/terms_and_conditions.htm) and, for electronic format documents, subject to Terms and Conditions for Electronic Documents at [www.sgs.com/terms\\_e-document.htm](http://www.sgs.com/terms_e-document.htm). Attention is drawn to the limitation of liability, indemnification and jurisdiction issues defined therein. Any holder of this document is advised that information contained hereon reflects the Company's findings at the time of its intervention only and within the limits of Client's instructions, if any. The Company's sole responsibility is to its Client and this document does not exonerate parties to a transaction from exercising all their rights and obligations under the transaction documents. This document cannot be reproduced except in full, without prior written approval of the Company. Any unauthorized alteration, forgery or falsification of the content or appearance of this document is unlawful and offenders may be prosecuted to the fullest extent of the law.

**Images--Continued:**



Unless otherwise stated the results shown in this test report refer only to the sample(s) tested and such sample(s) are retained for 90 days only. This test report cannot be reproduced, except in full, without prior written permission of the Company. 除非另有說明，此報告結果僅對測試之樣品負責，同時此樣品僅保留 90 天。本報告未經本公司書面許可，不可部份複製。  
 This document is issued by the Company subject to its General Conditions of Service printed overleaf, available on request or accessible at [www.sgs.com/terms\\_and\\_conditions.htm](http://www.sgs.com/terms_and_conditions.htm) and, for electronic format documents, subject to Terms and Conditions for Electronic Documents at [www.sgs.com/terms\\_e-document.htm](http://www.sgs.com/terms_e-document.htm). Attention is drawn to the limitation of liability, indemnification and jurisdiction issues defined therein. Any holder of this document is advised that information contained hereon reflects the Company's findings at the time of its intervention only and within the limits of Client's instructions, if any. The Company's sole responsibility is to its Client and this document does not exonerate parties to a transaction from exercising all their rights and obligations under the transaction documents. This document cannot be reproduced except in full, without prior written approval of the Company. Any unauthorized alteration, forgery or falsification of the content or appearance of this document is unlawful and offenders may be prosecuted to the fullest extent of the law.

**Test Method/ Specification:**

Special Provisions 238	
Test method:	<p>1. Batteries can be considered as non-spillable provided that they are capable of withstanding the vibration and pressure differential tests given without leakage of battery fluid:</p> <p>Vibration test: The battery is rigidly clamped to the platform of a vibration machine and a simple harmonic motion having an amplitude of 0.8 mm (1.6 mm maximum total excursion) is applied. The frequency is varied at the rate of 1 Hz/min between the limits of 10 Hz to 55 Hz. The entire range of frequencies and return is traversed in <math>95 \pm 5</math> minutes for each mounting position (direction of vibrator) of the battery. The battery is tested in three mutually perpendicular positions (to include testing with fill openings and vents, if any, in an inverted position) for equal time periods.</p> <p>Pressure differential test: Following the vibration test, the battery is stored for six hours at <math>24^{\circ}\text{C} \pm 4^{\circ}\text{C}</math> while subjected to pressure differential of at least 88 kPa. The battery is tested in three mutually perpendicular positions (to include testing with fill openings and vents, if any, in an inverted position) for at least six hours in each position.</p> <p>Non-spillable type batteries which are an integral part of and necessary for the operation of mechanical or electronic equipment shall be securely fastened in the battery holder on the equipment and protected in such a manner as to prevent damage and short circuits.</p> <p>2. Non-spillable batteries are not subject to the provisions of this Code if, at a temperature of <math>55^{\circ}\text{C}</math>, the electrolyte will not flow from a ruptured or cracked case and there is no free liquid to flow and if, when packaged for transport, the terminals are protected from short circuit.</p>
Requirement:	No leakage of battery fluid

Unless otherwise stated the results shown in this test report refer only to the sample(s) tested and such sample(s) are retained for 90 days only. This test report cannot be reproduced, except in full, without prior written permission of the Company. 除非另有說明，此報告結果僅對測試之樣品負責，同時此樣品僅保留 90 天。本報告未經本公司書面許可，不可部份複製。  
 This document is issued by the Company subject to its General Conditions of Service printed overleaf, available on request or accessible at [www.sgs.com/terms\\_and\\_conditions.htm](http://www.sgs.com/terms_and_conditions.htm) and, for electronic format documents, subject to Terms and Conditions for Electronic Documents at [www.sgs.com/terms\\_e-document.htm](http://www.sgs.com/terms_e-document.htm). Attention is drawn to the limitation of liability, indemnification and jurisdiction issues defined therein. Any holder of this document is advised that information contained hereon reflects the Company's findings at the time of its intervention only and within the limits of Client's instructions, if any. The Company's sole responsibility is to its Client and this document does not exonerate parties to a transaction from exercising all their rights and obligations under the transaction documents. This document cannot be reproduced except in full, without prior written approval of the Company. Any unauthorized alteration, forgery or falsification of the content or appearance of this document is unlawful and offenders may be prosecuted to the fullest extent of the law.

# TEST REPORT

Reliability Laboratory

Report No. : HE10015C/2013

Page : 5 of 5

## Test Result:

### 1. Vibration Test:

Check Item Style/Item No.	Appearance check (Visual check)
WP18-12I/ No.1	No leakage of battery fluid

### 2. Pressure Different Test:

Check Item Style/Item No.	Appearance check (Visual check)
WP18-12I/ No.1	No leakage of battery fluid

### 3. High Temperature Test:

Check Item Style/Item No.	Appearance check (Visual check)
WP18-12I/ No.1	No leakage of battery fluid

## Test Summary:

Test Item	Test Result	Note
Special Provision 238	Pass	

— — — The End of Test Report — — —

Unless otherwise stated the results shown in this test report refer only to the sample(s) tested and such sample(s) are retained for 90 days only. This test report cannot be reproduced, except in full, without prior written permission of the Company. 除非另有說明，此報告結果僅對測試之樣品負責，同時此樣品僅保留 90 天。本報告未經本公司書面許可，不可部份複製。  
This document is issued by the Company subject to its General Conditions of Service printed overleaf, available on request or accessible at [www.sgs.com/terms\\_and\\_conditions.htm](http://www.sgs.com/terms_and_conditions.htm) and, for electronic format documents, subject to Terms and Conditions for Electronic Documents at [www.sgs.com/terms\\_e-document.htm](http://www.sgs.com/terms_e-document.htm). Attention is drawn to the limitation of liability, indemnification and jurisdiction issues defined therein. Any holder of this document is advised that information contained hereon reflects the Company's findings at the time of its intervention only and within the limits of Client's instructions, if any. The Company's sole responsibility is to its Client and this document does not exonerate parties to a transaction from exercising all their rights and obligations under the transaction documents. This document cannot be reproduced except in full, without prior written approval of the Company. Any unauthorized alteration, forgery or falsification of the content or appearance of this document is unlawful and offenders may be prosecuted to the fullest extent of the law.