TEST REPORT

Reliability Laboratory

Report No.：HE50006/2017
Page： 1 of 5
Date： May 11, 2017

KUNG LONG BATTERIES INDUSTRIAL CO., LTD.
NO. 6, TZU-LI 3 RD, NANTOU CITY, NANTOU HSIEN, TAIWAN

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

Product Description:	Valve Regulated Lead-Acid Battery
Style/ Item No.:	WP50-12NE / No.1
Manufacturer/ Vendor:	Kung Long Batteries Ind. Co., Ltd.
Quantity:	Total 1 set
Testing Period:	May 5, 2017 to May 11, 2017
Note:	(Client's declaration) WP50-12NE, WP50-12N and WP50-12 are identical products with same plate sizes but different active material formulations and terminals.

We have tested the submitted sample(s) as requested and the following results were obtained:
Test Required：☒ Packaging Instruction 872 and Special Provisions A67 in IATA Dangerous Goods Regulations 58th Edition 2017.

Conclusion
Submittals samples comply with the requirement of Packaging Instruction 872 and Special Provisions A67 in IATA Dangerous Goods Regulations 58th Edition 2017.

Signed for and on behalf of SGS TAIWAN Ltd.

Norman Wu
Asst. Manager

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 and, for electronic format documents, subject to Terms and Conditions for Electronic Documents at 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 ± 5) ℃

Ambient humidity: (55 ± 20) % RH

Test Equipment:

Name	Brand	Model	Serial No.
Vacuum-Temperature Cabinet	YEONG SHIN	DOBL-45	YSCB940280E
Vibration Tester	UNHOLTZ-DICKIE	SAI60-H560BAC/2/ST	474
Controller	Dactron	LASER	7110357
Control Accelerometer	PCB	353B34	143549
Vibration Tester	King Design	EM-5000F2K-75N600	10923742
Controller	Crystal	spider	1001664
Control Accelerometer	WR	793-6	A4632
Programmable Temperature & Humidity Chamber	KSON	THS-D6TS-150+LN2	6155K

Images:

1. Appearance of specimen (WP50-12NE)

2. Appearance of specimen (WP50-12NE)

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 and, for electronic format documents, subject to Terms and Conditions for Electronic Documents at 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:

3. Vibration Test

4. Pressure Differential Test

5. High Temperature Test

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 and, for electronic format documents, subject to Terms and Conditions for Electronic Documents at 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:

Packaging Instruction 872 and Special Provisions A67	
Test method:	1. 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 95 ± 5 minutes for each mounting position (direction of vibration) of the battery. The battery must be tested in three mutually perpendicular positions (to include testing with fill openings and vents, if any, in an inverted position) for equal time periods. 2. Pressure differential test — Following the vibration test, the battery is stored for six hours at 24°C ± 4°C while subjected to a pressure differential of at least 88 kPa. The battery must be 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. Note: Non-spillable type batteries which are an integral part of, and necessary for the operation of mechanical or electronic equipment, must be securely fastened in the battery holder on the equipment and protected in such a manner as to prevent damage and short circuits. 3. Non-spillable batteries meeting the requirements of Packing Instruction 872 are not subject to these Regulations when carried as cargo if, at a temperature of 55°C, the electrolyte will not flow from a ruptured or cracked case. The battery must not contain any free or unabsorbed liquid. Any electrical battery or battery powered device, equipment or vehicle having the potential of dangerous evolution of heat must be prepared for transport so as to prevent: (a) a short circuit (e.g. in the case of batteries, by the effective insulation of exposed terminals; or in the case of equipment, by disconnection of the battery and protection of exposed terminals); and (b) unintentional activation The words “Not Restricted” and the Special Provision number must be included in the description of the substance on the Air Waybill as required by 8.2.6, when an Air Waybill is issued.
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 and, for electronic format documents, subject to Terms and Conditions for Electronic Documents at 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 Result:

1. Vibration Test:

Check Item / Style/Item No.	Appearance check (Visual check)
WP50-12NE / No.1	No leakage of battery fluid

2. Pressure Different Test:

Check Item / Style/Item No.	Appearance check (Visual check)
WP50-12NE / No.1	No leakage of battery fluid

3. High Temperature Test:

Check Item / Style/Item No.	Appearance check (Visual check)
WP50-12NE / No.1	No leakage of battery fluid

Test Summary:

Test Item	Test Result	Note
Packaging Instruction 872	Pass	
Special Provisions A67	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 and, for electronic format documents, subject to Terms and Conditions for Electronic Documents at 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.