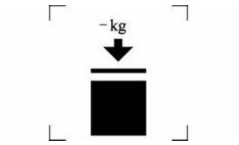
Stacking Test

堆码测试



Name of Goods: **物品名称：**	Cylindrical Lithium-ion Rechargeable Cell 圆柱形锂离子可充电电池
Model: **型号：**	HYLN IMR18650-1200mAh
Type: **规格：**	3.7V 1200mAh 4.44Wh
Client: **委托单位：**	Henan Hengyi lithium energy technology Co., Ltd 河南恒一锂能科技有限公司
Commissioner's Address **委托单位地址**	Building 3, Xinhua Industrial Park, Longmen Avenue, Xinhua District, Pingdingshan City, Henan, P.R.China 中国河南平顶山市新华区龙门大道新华区产业园 3 号楼
Classification of test: **检测类别：**	Commission Test 委托测试

Tested by 主检人：
(Testing Engineer 测试工程师)
Meiko Ma 马方威
Meiko Ma 马方威

Approved by 批准人：
(Technical Director 技术总监)
Barry He 何清
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Inspected by 审核人：
(Department Manager 部门经理)
Dylan Dou 窦明波
Dylan Dou 窦明波

Seal of CMC:
CMC 印章：

Date of Issue：
签发日期：
2025.04.11

CMC Testing International (Shenzhen) Co., Ltd.
众检检验认证（深圳）有限公司

Manufacturer of Package 包装件生产商	Henan Hengyi lithium energy technology Co., Ltd 河南恒一锂能科技有限公司		
Manufacturer's Address of Package 包装件厂商地址	Building 3, Xinhua Industrial Park, Longmen Avenue, Xinhua District, Pingdingshan City, Henan, P.R.China 中国河南平顶山市新华区龙门大道新华区产业园 3 号楼		
Manufacturer of Packaging 包装生产商	Jiaxian Jingkai Packing Co., Ltd. 郏县经开包装有限公司		
Manufacturer's Address of Packaging 包装厂商地址	No.1 East Road, 150 meters north of the intersection of Longshan and Chuangye Road, Jiaxian County, Pingdingshan City, Henan Province, China 河南省平顶山市郏县龙山大道与创业路交叉口向北 150 米路东 1 号		
Carton manufacturing method 纸箱制造方法	--	Sample characteristics and status 样品特性和状态	Intact 完好
Case material 箱子材质	K=K	Package size 包装件尺寸(mm)	355×225×155
Carton thickness 纸箱厚度	5mm	Maximum capacity 最大容积	10.8L
Battery number per packaging 每包装件电池数量	200PCS	Padding materials for packaging 包装的衬垫材料	Carton 纸盒
Package weight 包装件重量	7.65kg	Sealing device 密闭装置	Tapes 胶带
Stacking height 堆码高度	3.1m	Temperature and humidity during pretreatment 预处理时温湿度	23.4°C 48.9%
Number of samples sent 送样数量	Three boxes 3 箱	Testing Date 测试日期	2025.04.07 - 2025.04.10
Test standard 检测标准	United Nations《Recommendations on the Transport of Dangerous Goods-Model Regulations》(Rev.23) Provisions 6.1.5.6. 联合国《关于危险货物运输的建议书-规章范本》（23 修订版）6.1.5.6 条款		
Test environment conditions: 检测环境条件：	环境温度: 23±2°C，环境湿度: 50%±2%。 Ambient temperature: 23±2°C, Ambient humidity: 50%±2%.		
Test Conclusion 检测结论	The test results are qualified. 检测结果为合格。		
Statement 陈述	Packaging prepared as for transport was tested in accordance with the appropriate requirements of this Chapter and that the use of other packaging methods or components may render it invalid. A copy of the test report shall be available to the competent authority. 准备提交运输的包装已按照本章的有关要求进行试验,使用其他包装方法或部件可能使其失效。试验报告应有一份送交主管部门。		
Remarks 备注	Packaging production unit information: only the unit that finally completes the packaging, generally the battery manufacturer. 包装件生产单位信息: 只是最终完成打包的单位，一般是电池生产厂商。 Packaging production unit information: refers to the production unit of the outer packaging, generally refers to the carton production factory. 包装生产单位信息: 是指外包装的生产单位，一般是指纸箱生产厂。		

Test item 检测项目

1) Stacking test 堆码试验

Test method 测试方法

All design types of packagings other than bags are subject to a stacking test.
除袋以外，所有设计类型的包装都应进行堆码试验。

6.1.5.6.1

Number of test samples: three test samples per design type and manufacturer.
试验样品数量: 每种设计类型和每个制造厂家 3 个试验样品。

6.1.5.6.2

Test method: the test sample shall be subjected to a force applied to the top surface of the test sample equivalent to the total weight of identical packages which might be stacked on it during transport; where the contents of the test sample are liquids with relative density different from that of the liquid to be transported, the force shall be calculated in relation to the latter. The minimum height of the stack including the test sample shall be 3 meters. The duration of the test shall be 24 hours except that plastics drums, jerricans, and composite packagings 6HH1 and 6HH2 intended for liquids shall be subjected to the stacking test for a period of 28 days at a temperature of not less than 40 °C.

试验方法: 在试验样品的顶部表面施加一力量，此力相当于运输时可能堆叠在它上面的同样数量包装件的总重量。如果试验样品内装的液体相对密度与待运液体的不同，则该力应按后者计算。包括试验样品在内的最小堆码高度应是 3 米。试验时间为 24 小时，但拟装液体的塑料桶、罐和复合包装 6HH1 和 6HH2, 应在不低于 40℃的温度下经受 28 天的堆码试验。

6.1.5.6.3

Criterion for passing the test: no test sample may leak. In composite packagings or combination packagings, there shall be no leakage of the filling substance from the inner receptacle or inner packaging. No test sample may show any deterioration which could adversely affect transport safety or any distortion liable to reduce its strength or cause instability in stacks of packages. Plastics packagings shall be cooled to ambient temperature before the assessment.

通过试验的标准: 试验样品不得泄漏。对复合或组合包装而言，不得有所装的物质从内贮器和内包装中漏出。试验样品不得显出可能对运输安全有不利影响的损坏，或者可能降低其强度或造成包装件堆码不稳定的变形。在进行评估之前，塑料包装应冷却至环境温度。

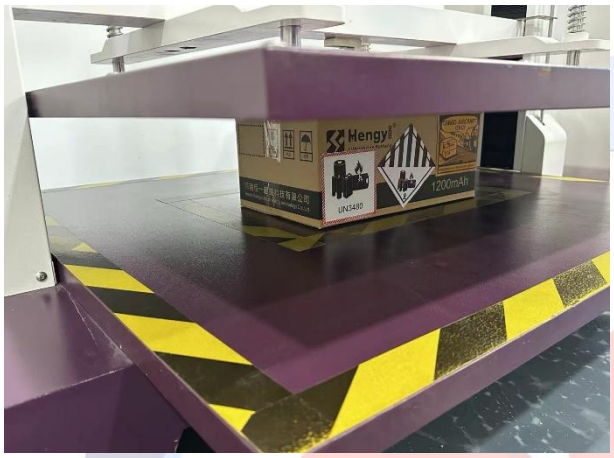
1) Test Apparatus
检测仪器

Serial No. 设备编号	Name of Equipment 设备名称	Model 型号	Calibration Date /Due Date 校准日期/到期日
CMC-YQ-021	Electronic platform scale 电子台秤	TCS-200KG	2024-09-23 2025-09-22
CMC-YQ-036	Tape 卷尺	7.5m	2024-09-23 2025-09-22
CMC-YQ-091	Battery Carton Stacking Tester 电池纸箱堆码试验机	GX-6010-M1T	2024-08-02 2025-08-01
CMC-YQ-092	Battery Carton Stacking Tester 电池纸箱堆码试验机	GX-6010-M1T	2024-08-02 2025-08-01
CMC-YQ-093	Battery Carton Stacking Tester 电池纸箱堆码试验机	GX-6010-M1T	2024-09-23 2025-09-22

2) Packing weight test
包装重量测试

Test item 测试项目	Applied Weight 施加重量（N）	Test status 测试结果	Conclusion 结论
Stacking test 堆码试验	1424.43	包装件无泄漏、无物质从包装件中漏出、外箱无变形。 The package has no leakage, no material leaks out of the package, and the outer box has no deformation.	Pass 合格

Photos 照片













Important
注意事项

1. The test report is invalid if it is not affixed the official seal of the laboratory to it.
   检测报告无本实验室公章（或检验检测专用章）无效。
2. Copies of the test report without the official seal of the laboratory are invalid.
   复制检测报告未重新加盖本实验室公章(或检验检测专用章)无效。
3. It is forbidden to copy the test report partially without the written approval of the laboratory.
   未经本实验室书面批准不得部分复制检测报告。
4. The test report is invalid without the signatures of Approver, Reviewer and Testing engineer.
   检测报告无检测、审核、批准人签名无效。
5. The test report is invalid if it is blotted out.
   检测报告涂改无效。
6. Objections to the test report must be submitted to CMC Testing International (Shenzhen) Co., Ltd. within 15 days.
   对检测报告若有异议，应于收到报告之日起十五天内向众检检验认证（深圳）有限公司提出。
7. The test report is valid for the tested samples only.
   本检测报告仅对检测样品负责。
8. As for the Verdict, “--” means “no need for judgment”, “P” means “pass”, “F” means “fail” and “N/A” means “not applicable”.
   判定栏中“--”表示“不需要判定”，“P”表示“通过”，“F”表示“不通过”，“N/A”表示“不适用”。

*** End of Report ***
*** 报告结束 ***