

No. QG1400338A



(2012)(粤)质监验字008号

检 验 报 告

Test Report

产品名称: Sealed Lead Acid Battery
Name of sample

型号规格: BPG12-120
Specifications

受检单位: WISDOM INDUSTRIAL POWER CO., LTD
Inspected unit

检验类别: Commission test
Test purpose

广东产品质量监督检验研究院
Guangdong Testing Institute of Product Quality Supervision



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产品名称 Name of sample (型号、规格、商标、等级) (Type, Trade mark, Class)	Sealed Lead Acid Battery BPG12-120	生产日期 Produced date	—
		编号或批号 No. of sample tested	—
		抽(送)样单号 No. of testing plan	YQJ13/006452
受检单位 Inspected unit	WISDOM INDUSTRIAL POWER CO., LTD	检验类别 Test purpose	Commission test
生产单位 Produced by	WISDOM INDUSTRIAL POWER CO., LTD	样品数量 Quantity of sample	6 piece
委托单位 Commission unit	WISDOM INDUSTRIAL POWER CO., LTD	抽样基数 Basic quantity of sampling	—
抽样地点 Space of sampling	—	抽(送)样日期 Date of sampling / receiving	2013.06.20
来样方式 Way of incoming sample 抽(送)样者 Person of sampling / sending	Person of sending(胡益)	验讫日期 Date of tested	2014.02.28
检验依据 Based on	IEC 61427-1:2013 《Secondary cells and batteries for renewable energy storage-General requirements and methods of test-Part 1: Photovoltaic off-grid application》		
检验结论 Remarks	See the next page.		
备注 Notes	—		



批准: 梁景志
Approved by:

审核: 连丽玲
Checked by:

主检: 李春菊
Tested by:

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IEC 61427:2013			
Clause	Requirement-Test	Result-Remark	Verdict
6	Functional characteristics		
8.1	Capacity test		
C ₁₀ Capacity	Test samples shall be set up in accordance with the applicable standards IEC 60896-21. Tests to verify the rated capacity shall be performed using a current of I ₁₀ (A) for lead-acid batteries, to a cut-off voltage $U_f = 10.80V$ according to the relevant clauses in the standard IEC 60896-21. The requirement of C ₁₀ ≥ 100,0% Crt.	1#: 103,4% Crt 2#: 103,8% Crt 3#: 104,3% Crt 4#: 104,1% Crt 5#: 104,5% Crt 6#: 104,8% Crt	P
C ₁₂₀ Capacity	For the capacity test using a current of I ₁₂₀ (A) for lead-acid batteries, to a cut-off voltage $U_f = 11.10V$ and the charging procedure shall be carried out according to the relevant clauses in the IEC 60896-21. The requirement of C ₁₂₀ ≥ 100,0% Crt.	1#: 100,3% Crt 2#: 100,4% Crt 3#: 100,3% Crt 4#: 100,4% Crt 5#: 100,6% Crt 6#: 100,4% Crt	P
8.2	Charge retention test		
Charge retention during storage	The test methods are according to clause 6.12.1 to 6.12.7 which are stated in the standard IEC 60896-21 Requirement and application: Determine charge retention factor C _{rt} after 6 months of storage; Comply for all applications: C _{rt} ≥ 70%	3#: 81,9% Crt	P
Float service with daily discharges	Test samples shall follow the procedures of the applicable standards IEC 60896-21/22. The test methods are according to clause 6.13.1 to 6.13.5 which are stated in the standard IEC 60896-21 Requirement and application: See table 9 and table 17 in the standard IEC 60896-22	5#: Cycles: 21 Caf(%): 90.8% Crt	—



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IEC 61427:2013			
Clause	Requirement-Test	Result-Remark	Verdict
Service life at an operating temperature of 40 °C Brief duration exposure time	<p>The test methods are according to clause 6.15.1 to 6.15.5 which are stated in the standard IEC 60896-21</p> <p>Brief duration exposure time: ≥ 500days; Medium duration exposure time: ≥ 750days; Long duration exposure time: ≥ 1100days; Very long duration exposure time: ≥ 1700days;</p>	<p>6[#]:duration exposure time: 200days 3h rated test:87.5% Crt</p>	—
Impact of stress temperature of 55 °C or 60 °C	<p>The test methods are according to clause 6.16.1 to 6.16.5 which are stated in the standard IEC 60896-21</p> <p>At 60 °C Capacity monitored whit 3h rate discharge test: Brief duration exposure time: ≥ 150days; Medium duration exposure time: ≥ 170days; Long duration exposure time: ≥ 250days; Very long duration exposure time: ≥ 350days;</p>	<p>4[#]: 200days, 3h rated test:86.9% Crt</p>	—
8.4	Cycle endurance test in photovoltaic application (extreme conditions)		
	<p>The battery shall be conducted by submitting the cells or monobloc batteries to a period of 150 cycles (50 cycles with the phase A and 100 cycles with the phase B).</p> <p>Phase A: shallow cycling at low state of charge</p> <p>a) Discharge the battery with a current I_{10} (A) during 9 h or until 1,75 V/cell is reached. b) Recharge 3 h with a current 1,03 I_{10} (A) c) Discharge 3 h with a current I_{10} (A).</p> <p>Phase B: shallow cycling at high state of charge</p> <p>a) Discharge the battery for 2 h with a current 1,25 I_{10} (A) b) Recharge 6 h with a current I_{10} (A). The charge voltage shall be limited to 2,40 V/cell.</p> <p>After the phase B, the battery is cooled down, The capacity test C_{10} for lead-acid batteries is carried out according to the relevant standard as described in 7.2.</p>	<p>1[#]: ≥ 2 periods, C_{10} rated test:92.6% Crt 2[#]: ≥ 2 periods, C_{10} rated test:92.2% Crt</p>	<p>P (*)</p>

*The manufacturer stated that two cycle sequences (150 cycles) shall be achieved at the end of the test.



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APPENDIX:

1. Place of test (if not the same with the address of this report): _____
2. Add.& Postcode of commission unit: 广东佛山高明区杨和镇沧江工业园东侧
3. Testing ambient conditions: _____
Temperature: (20~25) °C, Relative humidity: (55~75) %, Others: _____
4. Sampling procedure (if applicable): _____
5. Statement of deviating standard method (if applicable): _____
6. Uncertainty statement of test results (if applicable): _____
7. Subcontracted items and subcontractors (if applicable)

