



**Sacred Sun**

**Supplier statement of product range test results**

**IEC 60896-21&22**

**1)General product type information**

Product manufacturer	Shandong Sacred Sun Power Sources Industry Co.,Ltd
Manufacturing site of tested product	No1,Shengyang Road, Qufu city, Shandong Province, China
Product name	Valve Regulate Lead-acid Battery
Product model range	SP Series
Product comprising the above model range	SP12-24/ SP12-27/ SP12-33/ SP12-40/ SP12-42/ SP12-45/ SP12-65/ SP12-80/ SP12-90/ SP12-100/ SP12-120/ SP12-150/ SP12-200/ SP12-245
Product tested	SP12-100

**2)Product test performance information**

<b>Product safe operation in service</b>	<b>IEC 60896-21 test clause result</b>			
6.1 Gas emission	Ge(maxi in float charge)= 0.0010(ml/ h · Ah) C <sub>3</sub>		Ge(over-charge)= 0.09(ml/ h · Ah)C <sub>3</sub>	
6.2 High current tolerance	Pass			
6.3 Short circuit and d.c. internal resistance	A-mOhm (See Specification Sheet in the website)			
6.4 Internal ignition from external spark sources	Pass			
6.5 Protection against ground short propensity	Pass			
6.6 Content and durability of required markings	Pass			
6.7 Material identification	information still remain readable after exposure to chemical and remain in place			
6.8 Valve operation	Before: Pass		After: Pass	
6.9 Flammability rating of materials	BOX FR V0		Lid FR V0	
6.10 Intercellular connector performance	50℃			
<b>Product performance in service</b>	<b>IEC 60896-21 test clause result</b>			
6.11 Discharge capacity	108% C <sub>10</sub>	107% C <sub>8</sub>	109% C <sub>3</sub>	110% C <sub>1</sub> 109% C <sub>0.25</sub>
6.12 Charge retention during storage	94%~96%			
6.13 Float service with daily discharges	580Cycles	C <sub>af</sub> =46.6%	C <sub>ab</sub> =53.2%	
6.14 Recharge behavior	24h: >93%		168h: >99.2%	
<b>Product durability in service</b>	<b>IEC 60896-21 test clause result</b>			
6.15 Float service life at 40℃	In progress			
6.16 Impact of stress temperature of 55℃ or 60℃	Days at C3 at 60℃: 320 to 340days			
6.17 Abusive over-discharge	C <sub>aod</sub> :0.90		C <sub>aoc</sub> :0.95	
6.18 Thermal runaway sensitivity	168h/2.45V: 40℃		168h/2.60V: 48℃	
6.19 Low temperature sensitivity	Cals:1.03-1.05		No damage	
6.20 Dimensional stability at elevated internal pressure and temperature	Pass			
6.21 Stability against mechanical abuse of units during installation	Pass		No leakage	

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 Document established as reply for RFI:

	Date	Visa
Established by	2007-3-2	<b>Wei Nengrong</b>
Approved by	2007-3-2	<b>Zhu Jiaowei</b>