



सत्यमेव जयते

भारत सरकार
Government of India

राष्ट्रीय परीक्षण शाला (पूर्वी क्षेत्र)
National Test House (Eastern Region)

11/1 जजसेस कोर्ट रोड, अलीपुर, कोलकाता - 700 027
11/1, Judges' Court Road, Alipore, Kolkata - 700 027

FORM NO : NTH/ALP/F/5



TEST CERTIFICATE

Test certificate no
NTH(ER)/EL(B)/2018/004

Date of Issue
16/05/2018

Code No
1517388459032

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"BAT-13369"

Marking: (i) Printed on both wider sides of a Battery :

OKAYA
Chalti Rahe Yeh Zindagi
SOLAR
TUBULAR BATTERY
Zindagi Ka Roop
Badhaye Shaandar Dhoop
ST120S
Capacity 120Ah @ C₁₀ Sp. Gr.:1.240±0.005 (27°C)

(ii) Paper sticker pasted on top of the Battery :

Capacity : 120 Ah @ 10h rate
Battery Model : ST120S
Country of Origin: India
Mfg. Address – Fujikawa Power,Baddi (H.P.)

(iii) On the top of a Battery :

Positive polarity embossed with '+' symbol & marked with red colour.
Negative polarity embossed with '-' symbol & marked with blue colour.

(iv) Engraved on the top of a Battery :

ASUM058503064683

The marking of the other Batteries are same & identical except Nos. ASUM058503065157, FSUN058503492323, FSUN058503492303 & FSUN058503508519. Five nos. 12V,120Ah Batteries were marked randomly as FW1,FW2,FW3,FW4 & FW5 by this laboratory for identification purpose.

Tested By

Sayantan Das
SO (Electrical)

Checked By

Pradip Kumar Bera
Scientist - B (Electrical)

Approved By

Biswa Ranjan Mandal
Scientist - B (Electrical)



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Tests :

[Carried out as per IS:13369-1992 (Amndt. no.1 to 3) & customer requirements]

Sl. No.	Test Name	Requirements	Test Result					Remarks
			Battery marked					
			FW1	FW2	FW3	FW4	FW5	
1.	Verification of marking: (Carried out as per Cl.11.3 of the specification)							Unsatisfactory
	a) Indicating the source of manufacturer	The information shall be indelibly and durably marked on the outside of the Battery			Fujikawa Power,Baddi(H.P.) (Provided on paper sticker)			
	b) Ah capacity at 10-h rate				12V120Ah (Provided on paper sticker)			
	c) Year of manufacture				---			
	d) Country of origin				India (Provided on paper sticker)			
	e)Electrolyte level indicator				Opaque container, level indicator provided.			
2.	Verification of dimensions : (Carried out as per Cl.11.4 of the specification)							Satisfactory
	(i) Length (in mm) :	535 (Max.)	508	509	508	509	509	
	(ii) Width (in mm):	295 (Max.)	193	193	194	193	194	
	(iii) Height (in mm):	450 (Max.)	410	409	410	411	411	

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Sl. No.	Test Name	Requirements	Test Result					Remarks
			Battery marked					
			FW1	FW2	FW3	FW4	FW5	
3	First charge: (Carried out as per Cl.10.3 of the specification & customer requirements)	Samples shall be filled with electrolyte and shall be given first charging as per manufacturer's instruction. After full charge specific gravity of electrolyte shall be 1.240 ± 0.005 corrected to 27°C .	The samples were received in electrolyte filled condition. Samples were given freshening charge as per manufacturer's instruction. After full charge specific gravity of electrolyte was found 1.240 ± 0.005 corrected to 27°C .					
4	Test for Capacity : (Carried out as per Cl.11.5 of the specification)							Satisfactory
	Capacity in ampere-hours (Ah) at C_{10} rate corrected to 27°C	On the First discharge the cell shall give not less than 85% of the rated capacity i.e. Min.102Ah and shall not be more than 130% of the rated capacity i.e. Max.156Ah & the rated capacity shall be reached within 10 discharges	Battery marked					
			FW1	FW2	FW3	FW4		
			150.117	152.876	143.003	146.940		
5.	Ampere-hour & Watt-hour efficiency Test : (Carried out as per CL.11.8 of the specification)							Satisfactory
			Battery marked					
			FW1					
	(i) Ampere-Hour efficiency:(in %)	Shall not be less than 90%	94.01					
	(ii) Watt-Hour efficiency : (in %)	Shall not be less than 75%	82.26					

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Sl. No.	Test Name	Requirements	Test Result		Remarks
6	Test for loss of capacity on storage : (Carried out as per Cl.11.6 of the specification)				Satisfactory
	Loss of capacity (in %) :	Shall not exceed 10%	Battery marked		
			FW2	FW3	
			1.97	2.98	

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Smm.
Sayantan Das
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Rora
Pradip Kumar Bera
Scientist - B (Electrical)

Approved By

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Biswa Ranjan Mandal
Scientist - B (Electrical)



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Sl. No.	Test Name	Requirements	Test Result	Remarks
3.	Test for Equilibrium Float Current : (Carried out as per Cl.11.10 of the specification & customer requirements)			Satisfactory.
	Equilibrium Float Current (in mA/Ah/Battery) :	10 (Maximum)	Battery marked FW4 2.42	
4.	Endurance Test : (Carried out as per Cl.11.7 of the specification & customer requirements)			Satisfactory.
	Final Discharge duration in hrs. at C ₁₀ rate at the end of the Endurance cycles period of 2000 Hrs.	The battery shall give not less than 9 Hrs.of discharge at the final test discharge of the last period of charge	Battery marked FW5 13.33	

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Sayantn Das
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Pradip Kumar Bera
Scientist - B (Electrical)

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Biswa Ranjan Mandal
Scientist - B (Electrical)