



सत्यमेव जयते

भारत सरकार
Government of India

FORM NO : NTH/ALP/F/5



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

11/1 जजेस कोर्ट रोड, अलीपर, कोलकाता - 700 027
11/1, Judges Court Road, Alipore, Kolkata - 700 027

TEST CERTIFICATE

INTERIM/FINAL REPORT

परीक्षण प्रमाण पत्र सं Test Certificate No NTH(ER)/EL(B)/2017/0010	जारी होने की तिथि Date of Issue 09/02/2018	कोड नं Code No 1508839603465	पृष्ठ Page 1	पृष्ठों की संख्या No of Pages 2
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जिसे जारी करना है
Issued To : OKAYA POWER PRIVATE LIMITED

पता
Address : D-7,Udyog Nagar,Rohtak Road, New Delhi - 110041.

ग्राहक का संदर्भ सं एवं दिनांक
Customer's Ref. No. : Email : Date: 25/08/2017

पंजिका सं एवं दिनांक
Register No & Date : 0010/NTH(ER)/EL(B)/27/10/2017

परीक्षण सामग्री का विवरण
Description of Test Item : One sample consisting of five nos. stationary Lead Acid Batteries stated to be 12V,20Ah @C10 rate,Brand:Okaya.

परीक्षण सामग्री का पहचान
Identification of Test Item : Marking: As in the attached sheet "BAT-13369".

नमूना का विशिष्टि (यदि हों)
Product Specification (If any) : Not Applicable

नमूना प्राप्ति की तिथि
Date of Receipt of the Test Item : 24/10/2017

कार्य सम्पादन की तिथि
Date(s) of Performance of Tests : From: 01/11/2017 To: 31/01/2018

व्यावृत्त प्रणाली का पहचान
Method(s) used for Test : IS:13369-1992(Amndt. 1 to 3)

नमूना प्रक्रिया जहाँ प्रासंगिक हों
Sampling Procedure where relevant : Not Applicable

Tested By

San

Sayantan Das
SO Electrical

Checked By

Pradip

Pradip Kumar Bera
Scientist-SB(Electrical)

Approved By

Biswa

Biswa Ranjan Mandal
Scientist-SB(Electrical)



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परीक्षण प्रमाण पत्र सं
Test Certificate No
NTH(ER)/EL(B)/2017/0010

जारी होने की तिथि
Date of Issue
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Sl. No.

Test Name

Test Result

Limit

1

Interim Report

As in the attached sheet "BAT-13369".

As in the attached sheet

टिप्पणी
Note

'Final Report' will be issued after completion of 'Endurance Test'.

कॉन्फिर्म
Remarks

The sample so far as it has been examined and tested conforms the requirements of IS:13369-1992 (amends 1 to 3) in respect of tests carried out.

Tested By

Sayantan Das
SO Electrical

Checked By

Pradip Kumar Bera
Scientist-SB(Electrical)

Approved By

Biswa Ranjan Mandal
Scientist-SB(Electrical)



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TEST CERTIFICATE

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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
ST020H
Capacity 20Ah @ C₁₀ , Sp. Gr.:1.240±0.005 (27°C)

(ii) sticker pasted on body of the Battery :

Source of manufacturer : Fujikawa Power
Ah Capacity at 10-h rate: 20Ah
Year of manufacturing : 2017
Country of origin : India

(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) Embossed on the top of a Battery :

OKAYA
OB-50Z
HSUHR01602817662

The marking of the other Batteries are same & identical except Nos. HSUHR01602811424, HSUHR01602812693, HSUHR01602817653 & HSUXR01603340313. Five nos. 12V,20Ah Batteries were marked randomly as FN1,FN2,FN3,FN4 & FN5 by this laboratory for identification purpose.

Tested By

Sayantan Das
SO (Electrical)

Checked By

Pradip Kumar Bera
Scientist-SB(Electrical)

Approved By

Biswa Ranjan Mandal
Scientist-SB(Electrical)



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"BAT-13369"

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					
			FN1	FN2	FN3	FN4	FN5	
1	Verification of marking: (Carried out as per CI.11.3 of the specification)							Satisfactory
	a) Indicating the source of manufacturer	The information shall be indelibly and durably marked on the outside of the Battery	Fujikawa Power					
	b) Ah capacity at 10-h rate		12V20Ah	12V20Ah	12V20Ah	12V20Ah	12V20Ah	
	c) Year of manufacture		2017					
	d) Country of origin		India	India	India	India	India	
	e) Electrolyte level indicator		Opaque container, level indicator provided.					
2	Verification of dimensions : (Carried out as per CI.11.4 of the specification)							Satisfactory
			Test Result					
			Battery marked					
			FN1	FN2	FN3	FN4	FN5	
	(i) Length (in mm) :	535 (Max.)	267	266	267	266	267	
	(ii) Width (in mm):	295 (Max.)	171	170	171	171	170	
	(iii) Height (in mm):	450 (Max.)	239	238	239	239	239	

Tested By

Sayan

Sayantana Das
SO (Electrical)

Checked By

Pradip

Pradip Kumar Bera
Scientist-SB(Electrical)

Approved By

Biswa

Biswa Ranjan Mandal
Scientist-SB(Electrical)



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"BAT-13369"

Sl. No.	Test Name	Requirements	Test Result					Remarks
			Battery marked					
			FN1	FN2	FN3	FN4	FN5	
3	First charge: (Carried out as per Cl.10.3 of the specification)	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 within 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	Shall not be less than the rated capacity and not more than 130% of the rated capacity.	Battery marked					
			FN1	FN2	FN3	FN5		
			25.340 (126.7%)	24.008 (120%)	24.412 (122.1%)	25.562 (127.8%)		
5	Ampere-hour & Watt-hour efficiency Test : (Carried out as per CL.11.8 of the specification .)							Satisfactory
			Battery marked					
	(i) Ampere-Hour efficiency:(in %)	Shall not be less than 90%	FN1					
			94					
	(ii) Watt-Hour efficiency :(in %)	Shall not be less than 75%	84					

Tested By

Sayantan Das
SO (Electrical)

Checked By

Pradip Kumar Bera
Scientist-SB(Electrical)

Approved By

Biswa Ranjan Mandal
Scientist-SB(Electrical)



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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
			Battery marked	
			FN2	FN3
	Loss of capacity (in %) :	Shall not exceed 10%	7	7
7	Loss of Water Test : (Carried out as per Cl.11.9 of the specification)			Satisfactory.
			Battery marked	
	Loss of Water (in g/Ah/Battery) :	18 (Maximum)	FN5	
			10	
8	Test for Equilibrium Float Current : (Carried out as per Cl.11.10 of the specification)			Satisfactory.
			Battery marked	
	Equilibrium Float Current (in mA/Ah/Battery) :	10 (Maximum)	FN5	
			3	

Tested By

Sayantan Das
SO (Electrical)

Checked By

Pradip Kumar Bera
Scientist-SB(Electrical)

Approved By

Biswa Ranjan Mandal
Scientist-SB(Electrical)



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Test Certificate No
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जिसे जारी करना है
Issued To

OKAYA POWER PRIVATE LIMITED

पता
Address

D-7,Udyog Nagar,Rohtak Road, New Delhi - 110041.

ग्राहक का संदर्भ सं. एवं दिनांक
Customer's Ref. No.

Email

Date: 25/08/2017

पंजिका सं. एवं दिनांक
Register No & Date

0010/NTH(ER)/EL(B)/27/10/2017

परीक्षण सामग्री का विवरण
Description of Test Item

One sample consisting of five nos stationary lead acid batteries stated to be 12V,20Ah @ C10 rate,Brand:Okaya.

परीक्षण सामग्री का पहचान
Identification of Test Item

Marking: Refer "Interim Test Certificate" vide no.NTH(ER)/EL(B)/2017/0010 dated:09/02/2018.

नमूना का विशिष्टि (यदि हों)
Product Specification (If any)

Not Applicable.

नमूना प्राप्ति की तिथि
Date of Receipt of the Test Item

24/10/2017

कार्य सम्पादन की तिथि
Date(s) of Performance of Tests

From: 01/11/2017

To: 22/03/2018

व्यावहृत प्रणाली का पहचान
Method(s) used for Test

IS:13369-1992(Amndt.1 to 3)

नमूना प्रक्रिया जहाँ प्रासंगिक हों
Sampling Procedure where relevant

Not Applicable.

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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Sl. No.	Test Name	Test Result	Limit
1	Interim Report	As in the attached sheet "BAT-13369".	As in attached sheet "BAT-13369".
2	Final Report	As in attached sheet "BAT-13369".	As in attached sheet "BAT-13369".

टिप्पणी
Note

कैफियत
Remarks

The sample so far as it has been examined and tested meets the requirements of IS:13369-1992 (amends 1 to 3).

Tested By

Sayan

Sayanant Das
SO Electrical

Checked By

Pradip

Pradip Kumar Bera
Scientist- B (Electrical)

Approved By

Biswa

Biswa Ranjan Mandal
Scientist- B (Electrical)



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"BAT-13369"

Tests :

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

Sl. No.	Test Name	Requirements	Test Result					Remarks
			Battery marked					
			FN1	FN2	FN3	FN4	FN5	
1.	Verification of constructional requirements : (Carried out as per Cl.11.2 of the specification)							Satisfactory.
	(i) Electrolyte level Indicator :	Each cell shall be provided level indicator	Level Indicators provided in each case.					
	(ii) Terminal Posts:	Positive and negative terminal posts shall be clearly and unmistakably identifiable	Positive and negative terminal posts were clearly embossed in each case					
	(iii) Connections:	Shall be made of lead plated aluminium /copper strips or of flexible cables	Lead plated in each case					
	(iv) Terminal Connectors :	Shall be effectively lead coated	Lead coated in each case					
2.	Endurance Test : (Carried out as per Cl.11.7 of the specification)							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 FN4 15.91 Hrs.					

Tested By

Sayan

Sayantana Das
SO (Electrical)

Checked By

Pradip

Pradip Kumar Bera
Scientist-B(Electrical)

Approved By

Biswa

Biswa Ranjan Mandal
Scientist-B(Electrical)