

DOC No. : MCIND/2023/LB/051.V1 Plot 5 and 6, Swastik Industrial Estate, Vill: Sari, Tal:  
Telephone : +91 9871742221 Sanand, Ahmedabad, Ahmadabad, Gujarat, India -  
FAX : 41204299 382220  
E-Mail : [puneet.kumar@mitsuicchemicals.com](mailto:puneet.kumar@mitsuicchemicals.com)  
BO Code : NA

**Test REPORT AS PER : IS/IEC 61730 : PART 2  
(2004)****QR Code/Barcode : 129194CRS****REPORT NO : SC22EPI13884\_1**

DATE : 04 Aug, 2023

PART A. PARTICULARS OF SAMPLE SUBMITTED

a) Customer Name & Address : NOVASYS GREENERGY PRIVATE LIMITED  
KHASRA NO. 185, MOUZA: MAHALGAON, TAHSIL:  
KAMPTEE, NAGPUR-441202, MAHARASHTRA,  
INDIA, NA, MAHARASHTRA, India - 441202

b) Nature of sample : -

c) Grade/Variety/Type/Class Size etc : NA

d) Declare values, if any : -

e) Batch No. & Date of Manufacture : /

f) Quantity : 8

g) Date of Receipt : 01 Dec, 2022

h) BIS Seal : Verified by Sample Cell

i) IO's Signature : Verified by Sample Cell

j) Any other Information / Expiry Date, If any : /

k) Date of Commencement of Testing : 04 Aug, 2023

l) Date of Completion of Testing : 04 Aug, 2023

m) Section Code : 22E9101N

n) Section Report No. : 22E9101N\_1

o) Report Type : New

p) Reference Report No. :

q) Remarks : Please refer attached test report

**Vinay Singh**  
**OIC SAMPLE CELL**  
(Authorized Signatory)  
Authorized on: 04 Aug, 2023 19:09 PM

1. Mitsui Chemicals India Pvt. Ltd.

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PART B. SUPPLEMENTARY INFORMATION

- |  |                |
|--|----------------|
| 1. Reference to sampling procedure, wherever applicable.   | Not Applicable |
| 2. Supporting documents for the measurements taken and results derived like graphs, table sketches and or photographs as appropriate to test report, if any. | Yes            |
| 3. Deviation from the test methods as prescribed in relevant ISS/Work instruction, if any.   | Not Applicable |
| 3. NABL Report required ?  | Yes            |

**Vinay Singh**  
**OIC Electrical**  
(Authorized Signatory)  
Authorized on: 04 Aug, 2023 19:05 PM

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## PART C. TEST RESULT

S.No.	Clause No Table No. Sl. No	Parameter - Method of test	Test Description	Min Limit	Max Limit	Unit	Result/ Observation
1	Cl.5, Table 7	Mechanical load test (MST 34)	MΩ, Visual inspection	-	-	-	Test Not Applicable
2	Cl.5, Table 7	Hot spot test (MST 22)	°C, MΩ, Visual inspection	-	-	-	Module -MCIND/ 2022/0517, Hot spot test date: 16/12/2022. Max temperature: 68.6 °C. Module passed 1. Visual Inspection, 2. Dielectric withstand test, 3. Wet leakage current test. For more details, please refer attached test report.
3	Cl.5, Table 7	Robustness of termination test (MST 42)	MΩ, Visual inspection	-	-	-	Test Not Applicable
4	Cl.5, Table 7	Wet leakage current test (MST 17)	MΩ	-	-	-	Wet leakage current test (After Preconditioning), date: 30/11/2022. modules passed the test. For more details, refer attached test report.
5	Cl.5, Table 7	UV resistance (MST 54)	MΩ, Visual inspection	-	-	-	Test Not Applicable
6	Cl.5, Table 7	Damp heat (DH1000) (MST 53)	MΩ, Visual inspection	-	-	-	Damp heat (DH1000) test date: 30/11/2022 to 16/1/2023. All modules passed 1. Visual Inspection, 2. Dielectric withstand test, 3. Wet leakage current test. For more details, refer attached test report.
7	Cl.5, Table 7	Humidity freeze (10HF) (MST 52)	MΩ, Visual inspection	-	-	-	Test Not Applicable
8	Cl.5, Table 7	Thermal cycling (T50) (MST 51)	MΩ, Visual inspection	-	-	-	Test Not Applicable
9	Cl.5, Table 7	Thermal cycling (T200) (MST 51)	MΩ, Visual inspection	-	-	-	Test Not Applicable
10	11.3	Terminal box knockout tests (MST 44)	mm, Visual inspection	-	-	-	Test Not Applicable
11	11.2	Conduit Bending test (MST 33)	Visual inspection	-	-	-	Test Not Applicable
12	11.1	Partial discharge-test (MST 15)	kV	-	-	-	Test Not Applicable
13	10.10	Module breakage test (MST 32)	mm, g, sq. cm., Visual inspection	-	-	-	Test Not Applicable

14	10.9	Reverse Current overload test (MST 26)	Visual inspection, MΩ	-	-	-	Reverse Current overload test date: 26/12/2022. The module passed the test without any flaming on cheesecloth, or tissue paper. For more details, please refer attached test report
15	10.8	Fire test (MST 23)	Visual inspection, m.	-	-	-	Test Not Applicable
16	10.7	Temperature test (MST 21)	°C	-	-	-	Temperature test date: 22/12/2022 All the measured temperatures are with the standard criteria. For more details, please refer attached test report for more details.
17	10.6	Dielectric withstand test (MST 16)	MΩ	-	-	-	Dielectric withstand test (after Preconditioning) date: 30/11/2022. All modules passed the test. For more details, please refer attached test report.
18	10.5	Impulse voltage test (MST 14)	Visual inspection, MΩ	-	-	-	Impulse voltage test date: 18/01/2023, No evidence of dielectric breakdown or surface tracking observed. For more details, please refer attached test report.
19	10.4	Ground Continuity Test (MST 13)	Ω	-	-	-	Ground Continuity test (after preconditioning) date: 30/11/2022. All modules passed the Ground Continuity test. For more details, please refer attached test report
20	10.3	Cut susceptibility test (MST 12)	Ω, MΩ	-	-	-	Test date: 19/1/2023 All modules passed 1. Visual Inspection, 2. Dielectric withstand test, 3. Wet leakage current test, 4. Ground Continuity test. For more details, refer attached test report.
21	10.2	Accessibility test (MST 11)	Ω	-	-	-	All the modules passed the test. For more details, please refer to the attached test report.
22	10.1	Visual Inspection (MST 01)	as per cl.10.1.3	-	-	-	All the modules met the visual inspection (Initial & Final) requirements as per the standard. For further details, please refer to the attached test report.

**Vinay Singh**  
**OIC Electrical**  
 (Authorized Signatory)  
 Authorized on: 04 Aug, 2023 19:05 PM

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PART D. REMARKS

Please refer attached test report

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**Vinay Singh**  
**OIC Electrical**  
(Authorized Signatory)  
Authorized on: 04 Aug, 2023 19:05 PM

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Test Report issued under the responsibility of:



### SUMMARY OF TEST REPORT

TEST REPORT NO: MCIND/2023/LB/051.V1

ULR NO: TC890623000000051F

DATED (dd/mm/yyyy): 04/08/2023

Number of pages in test report: Page no.4 to 73

TEST FORMAT AS PER IS/IEC 61730-2:2004 (First Edition) +A1:2017

1. Name of manufacturer:	Novasys Greenergy Private Limited
2. Product:	Crystalline Silicon Terrestrial Photovoltaic Modules (Si wafer based)
3. Test Request Number:	SC22EPI13884
4. Model:	<p><b>Mono Crystalline (PERC):</b> <b>NOVA550MP144 (Representative Model)</b> <b>Series Models:</b> <b>144 Half-cut Cell Family- 182mm Cell (1500V System voltage):</b> NOVA545MP144, NOVA540MP144, NOVA535MP144, NOVA530MP144, NOVA525MP144, NOVA520MP144, NOVA515MP144, NOVA510MP144, NOVA505MP144, NOVA500MP144, NOVA495MP144</p> <p><b>132 Half-cut Cell Family- 182mm Cell (1500V System voltage):</b> NOVA505MP132, NOVA500MP132, NOVA495MP132, NOVA490MP132, NOVA485MP132, NOVA480MP132, NOVA475MP132, NOVA470MP132, NOVA465MP132, NOVA460MP132, NOVA455MP132</p> <p><b>120 Half-cut Cell Family- 182mm Cell (1500V System voltage):</b> NOVA460MP120, NOVA455MP120, NOVA450MP120, NOVA445MP120, NOVA440MP120, NOVA435MP120, NOVA430MP120, NOVA425MP120, NOVA420MP120, NOVA415MP120</p>



TC-8906

ULR No. : TC890623000000051F



Report No.: MCIND/2023/LB/051.V1

		<b>108 Half-cut Cell Family- 182mm Cell (1500V System voltage):</b> NOVA415MP108, NOVA410MP108, NOVA405MP108, NOVA400MP108, NOVA395MP108, NOVA390MP108, NOVA385MP108, NOVA380MP108, NOVA375MP108  <b>96 Half-cut Cell Family- 182mm Cell (1500V System voltage):</b> NOVA365MP96, NOVA360MP96, NOVA355MP96, NOVA350MP96, NOVA345MP96, NOVA340MP96, NOVA335MP96, NOVA330MP96, NOVA325MP96  <b>72 Half-cut Cell Family- 182mm Cell (1500V System voltage):</b>  NOVA275MP72, NOVA270MP72, NOVA265MP72, NOVA260MP72, NOVA255MP72, NOVA250MP72, NOVA245MP72	
5. Model differences provided (if applicable): Yes/No		YES	
6. Model differences verified as per MNRE Guidelines for series formulation: Yes/No		YES	
7. Test Results:		Please Refer to original test report no. 4790378653.1.1-BIS-S3 dated on 30/08/2022 issued by UL India Pvt. Ltd. for full investigation	
SL.NO.	TEST REQUIREMENTS	CLAUSE	VERDICT
1	MQT 01- Visual Inspection	10.1	P
2	MST 11- Accessibility Test	10.2	P
3	MST 12- Cut Susceptibility Test	10.3	P
4	MST 13- Ground Continuity Test	10.4	P
5	MST 14- Impulse Voltage Test	10.5	P
6	MST 16- Dielectric Withstand Test	10.6	P
7	MST 21- Temperature Test	10.7	P
8	MST 26- Reverse Current overload	10.9	P
9	MST 17- Wet Leakage Test	10.15	P
10	MST 22- Hot-Spot Test	10.9	P
11	MST 53- Damp Hest Test	10.13	P

-	Component Test	-	-
19	Partial Discharge Test	As per test report submitted by manufacturer, Partial Discharge rating has been verified for the back sheet (Manufactured By: Jolywood (Suzhou) Sunwatt Co., Ltd.; Type: KFB 30 (Plus)	P
20	Conduit Bending Test	As there is no Conduits in Junction Box, Conduit bending test was not applicable.	N/A
21	Terminal Box Knock out Test	As there is no Terminal box in Junction Box, Terminal box knockout test was not applicable.	N/A

### General Information:

1. The conformity certificates of critical components are verified to ensure complete testing of product under test and details regarding harmonized IEC/UL Standards (where IS standards are not available) are also provided in the list of critical component.

### CONCLUSION:

1. Sample meets all relevant requirements of IS/IEC 61730-2: 2004 +A1:2017
2. ~~Sample fails to meet the following test requirements:~~

I, hereby, undertake that the verdict stated in the test reports for all the tests matches with the test results. The sample meets all relevant requirements of IS/IEC 61730-2:2004 +A1:2017: ~~/does not meet the requirements stated above at 2) of conclusion.~~ If any deviation is found, suitable punitive action may be taken by BIS.



Date(dd/mm/yyyy): 04/08/2023

(Signature of Authorized person)