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DOC No. : MCIND/22-23/LB/BIS/ Plot 5 and 6, Swastik Industrial Estate, Vill: Sari, Tal:
090.V1 Sanand, Ahmedabad, Ahmadabad, Gujarat, India -
Telephone : +91 9871742221 382220
FAX : 41204299
E-Mail : puneet.kumar@mitsuic
hemicals.com
BO Code : NA

**Test REPORT AS PER : IS/IEC 61730 : PART 1
(2004)****QR Code/Barcode : 131544CRS****REPORT NO : SC22SPI01030_2**

DATE : 19 Dec, 2022

PART A. PARTICULARS OF SAMPLE SUBMITTED

a) Customer Name & Address : UNIQUE SUN POWER LLP
BL NO. 2281/2/1/1, SUB PLOT. 1-A,
TADKESHWAR, NEAR ARETH MINNOR CANAL,
MANDVI, SURAT, NA, GUJARAT, India - 394170

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 : 26

g) Date of Receipt : 19 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 : 19 Dec, 2022

l) Date of Completion of Testing : 19 Dec, 2022

m) Section Code : 22E0351N

n) Section Report No. : 22E0351N_1_A1

o) Report Type : Revised

p) Reference Report No. : SC22SPI01030_1

q) Remarks : Please refer attached test report

Gita Kumari
OIC SAMPLE CELL
(Authorized Signatory)
Authorized on: 19 Dec, 2022 17:36 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 |

Hebin Manuel
OIC Electrical
(Authorized Signatory)
Authorized on: 19 Dec, 2022 17:34 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	11	Marking	-	-	-	-	Provided in inside laminate in front side of the module and on backside marking plate. The Date of manufacturing is traceable through Serial number provided in inside laminate marking plate.
2	10	Field wiring compartments with covers	mm, Cu. cm.	-	-	-	Certified Junction box used. See Annex 2 for constructional details.
3	9	Creepage and clearance distances	mm	-	-	-	Minimum measured clearance: 12.22 mm, measured on sample no: MCIND/2022/0388 with Sl. No. US2209P550120028) [min. required distance is 11mm]
4	8	Bonding and grounding	Ω	-	-	-	Grounding provision has been provided on the frame and is explained in the user manual.
5	7	Connections	mm, °C. or certificate verification	-	-	-	Connectors are certified as per IEC 62852:2014 Refer to the attached test report, See Annex 2 for construction details.
6	6	Internal wiring and current-carrying parts	mm sq., mm. or certificate verification	-	-	-	Cell Connector: Primary: Manufactured by: A B Industries Item code-Neocab-PV 60Sn40Pb Width: 0.60 mm \pm 0.08 mm Thickness: 0.210 mm \pm 0.008 mm coating thickness: 16-25 μ m Alternate: 1. Vidya Wire Pvt. Ltd. 2. Valeo Products LLP. String connector: Primary: Manufactured by: A B Industries Item code-Neocab-PV 5.00 X 0.400mm 60Sn/40Pb Width: 5.0 mm \pm 0.08 mm Thickness: 0.400 mm \pm 0.008 mm coating thickness: 16-25 μ m Alternate: 1. Vidya Wire Pvt. Ltd. 2. Valeo Products LLP

7	5	Polymeric materials °C, mm. or certificate verification	-	-	-	-	All materials are at least 20°C above maximum measured temperature. Tested as per temperature test clause MST-21 in IS/IEC 61730-2 refer report No. MCIND/22-23/LB/BIS/091.V1
8	4	Construction requirements	-	-	-	-	Sample is tested as per Environmental stress testing procedure and under relevant conditions mentioned in IS14286:2010 and IS/IEC 61730-2:2004. Module is with frame and completely assembled.
9	3	Application classes	-	-	-	-	Application Class: Class A

Hebin Manuel
OIC Electrical
 (Authorized Signatory)
 Authorized on: 19 Dec, 2022 17:34 PM

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PART D. REMARKS

Please refer attached test report MCIND/22-23/LB/BIS/090.V1

Hebin Manuel
OIC Electrical
(Authorized Signatory)
Authorized on: 19 Dec, 2022 17:34 PM

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Test Report issued under the responsibility of:



SUMMARY OF TEST REPORT

TEST REPORT NO: MCIND/22-23/LB/BIS/090.V1
 ULR NO: TC890622000000090F
 DATED (dd/mm/yyyy): 19/12/2022

(Number of pages in test report: Page no.1 to 72)
 TEST FORMAT AS PER IS/IEC 61730-1:2004 (First Edition) +A1:2017 + A2:2017

1. Name of manufacturer:	UNIQUE SUN POWER LLP
2. Product:	Crystalline Silicon Terrestrial Photovoltaic Modules (Si wafer based)
3. Test Request Number:	SC22SPI01030
4. Model:	<p>144 CELL FAMILY: Mono (Half-Cut Cell)</p> <p>SUN144P550 (Representative Model) SUN144P545, SUN144P540, SUN144P535, SUN144P530, SUN144P525, SUN144P520</p> <p>132 CELL FAMILY: Mono (Half-Cut Cell)</p> <p>SUN132P505, SUN132P500, SUN132P495, SUN132P490, SUN132P485, SUN132P480, SUN132P475, SUN132P470</p> <p>120 CELL FAMILY: Mono (Half-Cut Cell)</p> <p>SUN120P465, SUN120P460, SUN120P455, SUN120P450, SUN120P445, SUN120P440, SUN120P435</p> <p>108 CELL FAMILY: Mono (Half-Cut Cell)</p> <p>SUN108P420, SUN108P415, SUN108P410, SUN108P405, SUN108P400</p>
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:	

SL.NO.	TEST REQUIREMENTS	CLAUSE	VERDICT
1	Application Classes	3	P
2	Construction Requirements	4	P
3	Polymeric Materials	5	P
4	Internal wiring and current carrying parts	6	P
5	Connections	7	P
6	Bonding and Grounding	8	P
7	Creepage and clearance distances	9	P
8	Field wiring Compartments with covers	10	P
9	Marking	11	P
10	Requirements for supplied documents	12	P

General Information:

- 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 components.

CONCLUSION:

I, hereby, undertake that the verdict stated in the test reports for all the tests matches with the test results.

- Sample meets all relevant requirements of IS/IEC 61730-1: 2004 (First Edition) + A1:2017: + A2:2017.
- ~~Sample fails to meet the following test requirements:~~
- "If any deviation is found, suitable punitive action may be taken by BIS".

Date(dd/mm/yyyy): 19/12/2022


 (Signature of Authorized person)

This report is issued for test request number "SC22SPI00760". The lab couldn't upload the report due to a technical issue. Hence, the customer raised a new test request number "SC22SPI01030" to upload the reports.

This test report is uploaded under the test request number "SC22SPI01030" with the results of "SC22SPI00760".




TC-8906

Test Report issued under the responsibility of:



Solar PV Laboratory


TEST REPORT IS/IEC 61730-1:2004+A1:2017+A2:2017 PV Module Safety Qualification Part 1: Requirements for construction	
Report Number	: MCIND/22-23/LB/BIS/090.V1
ULR Number	: TC890622000000090F
Test Request No	: SC22SPI01030
Date of issue (dd/mm/yyyy)	: 19/12/2022
Total number of pages	: 72
Test report QR code	: 
Applicant's name	: UNIQUE SUN POWER LLP
Address	: BL No. 2281/2/1/1, Sub Plot. 1-A, Tadkeshwar, Near Areth Minnor Canal, Mandvi, Surat, Gujarat - 394170
Test specification:	
Standard	: IS/IEC 61730-1:2004 + A1:2017+A2:2017
Test procedure	: IS/IEC 61730-1:2004 + A1:2017+A2:2017
Non-standard test method	: N/A
Test Report Form No	: IS/IEC 61730-1_V1.0
Test Report Form(s) Originator	: BIS
Master TRF (dd/mm/yyyy)	: Dated 19.02.2018
General disclaimer:	
The test results presented in this report relate only to the object tested.	



TC-8906

ULR No.: TC89062200000090F

Report No.: MCIND/22-23/LB/BIS/090.V1

Test item description	: Crystalline Silicon Photovoltaic Modules (Si wafer based)
Trademark	: 
Manufacturer	: UNIQUE SUN POWER LLP
Address	: BL No. 2281/2/1/1, Sub Plot. 1-A, Tadkeshwar, Near Areth Minnor Canal, Mandvi, Surat, Gujarat - 394170
Model/Type reference	: 144 CELL FAMILY: Mono (Half-Cut Cell) SUN144P550 (Representative Model) SUN144P545, SUN144P540, SUN144P535, SUN144P530, SUN144P525, SUN144P520 132 CELL FAMILY: Mono (Half-Cut Cell) SUN132P505, SUN132P500, SUN132P495, SUN132P490, SUN132P485, SUN132P480, SUN132P475, SUN132P470 120 CELL FAMILY: Mono (Half-Cut Cell) SUN120P465, SUN120P460, SUN120P455, SUN120P450, SUN120P445, SUN120P440, SUN120P435 108 CELL FAMILY: Mono (Half-Cut Cell) SUN108P420, SUN108P415, SUN108P410, SUN108P405, SUN108P400
Ratings	: <u>Maximum System Voltage: 1500 VDC</u> <u>Maximum over current protection rating: 25 A</u> 144 CELL FAMILY: Mono (Half-Cut Cell) SUN144P550 (Representative Model) SUN144P545, SUN144P540, SUN144P535, SUN144P530, SUN144P525, SUN144P520 132 CELL FAMILY: Mono (Half-Cut Cell) SUN132P505, SUN132P500, SUN132P495, SUN132P490, SUN132P485, SUN132P480, SUN132P475, SUN132P470 120 CELL FAMILY: Mono (Half-Cut Cell) SUN120P465, SUN120P460, SUN120P455, SUN120P450, SUN120P445, SUN120P440, SUN120P435 108 CELL FAMILY: Mono (Half-Cut Cell) SUN108P420, SUN108P415, SUN108P410, SUN108P405, SUN108P400



TC-8906

ULR No.: TC89062200000090F

Report No.: MCIND/22-23/LB/BIS/090.V1

Testing procedure and testing location:

Testing Laboratory	:	MITSUI CHEMICALS INDIA PRIVATE LIMITED.
Testing location/ address	:	Plot No: 5 & 6, Swastik Industrial Estate, Sarkhej – Bavla Highway, Village: Sari, Tal: Sanand, Ahmedabad – 382220, Gujarat, India.
Tested by (name + signature)	Mr. Hebin Manuel	
Reviewed by (name+ signature)	Mr. Praveen Kumar	
Authorized & Issued by (name+ signature)	Mr. Gowri Ganesh	

List of Attachments (including a total number of pages in each attachment):

Please refer to Page No: 42 to 72 for Certificates and Installation Manual

Summary of testing: Model: **SUN144P550**, 550 Wp is considered as representative of all series family with same components except different output power and has undergone testing as per test sequence prescribed under relevant standard.

Tests performed (name of test and test clause):	Testing location:
3. Application Classes	MITSUI CHEMICALS INDIA PRIVATE LIMITED Plot No: 5 & 6, Swastik Industrial Estate, Sarkhej – Bavla Highway, Village: Sari, Tal: Sanand, Ahmedabad – 382220, Gujarat, India.
4. Construction Requirements	
5. Polymeric Materials	
6. Internal Wiring and current-carrying Parts	
7. Connections	
8. Bonding and Grounding	
9. Creepage and clearance distances	
10. Field Wiring compartments with covers	
11. Marking	
12. Requirements for supplied documents	

The product fulfils the requirements of IS/IEC 61730-1:2004 (First Edition) + A1:2017 + A2:2017