National Accreditation Board for Testing and Calibration Laboratories

SCOPE OF ACCREDITATION

Laboratory Name : PHOTOVOLTAIC TEST FACILITY, NATIONAL INSTITUTE OF SOLAR ENERGY, GURGAON, HARYANA, INDIA

Accreditation Standard ISO/IEC 17025:2017

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S.No	Discipline / Group	Materials or Products tested	Component, parameter or characteristic tested / Specific Test Performed / Tests or type of tests performed	Test Method Specification against which tests are performed and / or the techniques / equipment used
Permanent Facility				
1	ELECTRICAL- CELLS & BATTERIES	Secondary Cells and Batteries	Ampere-Hour and Watt Hour Efficiency Test	IS 13369 (Cl.11.8)
2	ELECTRICAL- CELLS & BATTERIES	Secondary Cells and Batteries	Ampere-Hour and Watt Hour Efficiency Test	IS 15549 (Cl.12.4 & 12.5)
3	ELECTRICAL- CELLS & BATTERIES	Secondary Cells and Batteries	Capacity Test	IS 13369 (Cl.11.5)
4	ELECTRICAL- CELLS & BATTERIES	Secondary Cells and Batteries	Capacity Test	IS 15549 (Cl. 12.1, 12.2, and 12.3)
5	ELECTRICAL- CELLS & BATTERIES	Secondary Cells and Batteries	Capacity Test	IS 16270 (Cl. 8.1)
6	ELECTRICAL- CELLS & BATTERIES	Secondary Cells and Batteries	Charge (capacity) recovery after long term storage	IS 16047(Part 3) Cl 7.5
7	ELECTRICAL- CELLS & BATTERIES	Secondary Cells and Batteries	Charge (capacity) retention and recovery	IS 16047(Part 3) Cl 7.4
8	ELECTRICAL- CELLS & BATTERIES	Secondary Cells and Batteries	Discharge performance at 20 °C (rated capacity)	IS 16047(Part 3) Cl 7.3.1
9	ELECTRICAL- CELLS & BATTERIES	Secondary Cells and Batteries	Endurance in cycles	IS 16047(Part 3) Cl 7.6
10	ELECTRICAL- CELLS & BATTERIES	Secondary Cells and Batteries	High rate discharge performance at 20 °C	IS 16047(Part 3) Cl 7.3.3:2018
11	ELECTRICAL- CELLS & BATTERIES	Secondary Cells and Batteries	Measurement of the internal DC resistance	IS 16047(Part 3) Cl 7.7.3
12	ELECTRICAL- CELLS & BATTERIES	Secondary Cells and Batteries	Ampere-Hour and Watt Hour Efficiency Test	IS 1651(Cl. 12.9)
13	ELECTRICAL- CELLS & BATTERIES	Secondary Cells and Batteries	Capacity Test	IS 1651 (Cl.12.5)
14	ELECTRICAL- CELLS & BATTERIES	Secondary Cells and Batteries	Charge Retention Test	IS 16270 (Cl.8.3)
15	ELECTRICAL- CELLS & BATTERIES	Secondary Cells and Batteries	Endurance at extreme conditions	IS 16270 (Cl.8.4)
16	ELECTRICAL- CELLS & BATTERIES	Secondary Cells and Batteries	Endurance Test	IS 16270:2014 Cl.8.2
17	ELECTRICAL- CELLS & BATTERIES	Secondary Cells and Batteries	Equilibrium Test	IS 13369 (Cl.11.7)
18	ELECTRICAL- CELLS & BATTERIES	Secondary Cells and Batteries	Sulphation Test	IS 16270 (Cl.8.5)

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19	ELECTRICAL- CELLS & BATTERIES	Secondary Cells and Batteries	Water loss	IS 16270 (Cl.8.6)
20	ELECTRICAL- ROTATING ELECTRICAL MACHINES	20 AC/DC Solar Powered Water Pumps (1hp to 50hp)	Total Water Output per day for Performance Tests-Outdoor Performance Test using sun radiation	IS 17429
21	ELECTRICAL- ROTATING ELECTRICAL MACHINES	AC/DC Solar Powered Water Pumps (0.25 hp to 0.5hp)	Solar Radiation Measurement	MNRE Solar PV Water Pumping Systems for Micro Pumping application
22	ELECTRICAL- ROTATING ELECTRICAL MACHINES	AC/DC Solar Powered Water Pumps (0.25hp to 0.5hp)	Protection Test, Dry Run Test	MNRE Solar PV Water Pumping Systems for Micro Pumping application
23	ELECTRICAL- ROTATING ELECTRICAL MACHINES	AC/DC Solar Powered Water Pumps (0.25hp to 0.5hp)	Protection, Open circuit / No-Load	MNRE Solar PV Water Pumping Systems for Micro Pumping application 2016
24	ELECTRICAL- ROTATING ELECTRICAL MACHINES	AC/DC Solar Powered Water Pumps (1hp to 10hp)	Protection Test, Open circuit / No-Load	Cl. No. 5, 5.1, 5.2 MNRE F. No. 41/3/2018 Annexure - II
25	ELECTRICAL- ROTATING ELECTRICAL MACHINES	AC/DC Solar Powered Water Pumps (1hp to 10hp)	Total Water Output per day for Performance Tests, Hot Profile Performance Test (Simulator Method)	Cl. No. 5.0, 5.1 of MNRE F. No. 41/3/2018 Annexure - II
26	ELECTRICAL- ROTATING ELECTRICAL MACHINES	AC/DC Solar Powered Water Pumps (1hp to 10hp)	Total Water Output per day for Performance Tests, Outdoor Performance Test using sun radiation	Cl. No.5.0, 5.2 of MNRE F. No. 41/3/2018 Annexure - II
27	ELECTRICAL- ROTATING ELECTRICAL MACHINES	AC/DC Solar Powered Water Pumps (1hp to 10hp)	Performance test: Measurement of head and flow	Cl. No. 1 0, 10.1, 10.2, MNRE F. No. 41/3/2018 Annexure - II
28	ELECTRICAL- ROTATING ELECTRICAL MACHINES	AC/DC Solar Powered Water Pumps (1hp to 1h p)	Protection Test, Open circuit / No-Load	MNRE JNNSM SPV Water Pumping Systems for Drinking Water Applications
29	ELECTRICAL- ROTATING ELECTRICAL MACHINES	AC/DC Solar Powered Water Pumps (1hp to 1hp)	Protection Test, Dry Run Test	MNRE JNNSM SPV Water Pumping Systems for Drinking Water Applications:
30	ELECTRICAL- ROTATING ELECTRICAL MACHINES	AC/DC Solar Powered Water Pumps (1hp to 1hp)	Protection Test, Reverse Polarity Test	MNRE JNNSM SPV Water Pumping Systems for Drinking Water Applications:
31	ELECTRICAL- ROTATING ELECTRICAL MACHINES	AC/DC Solar Powered Water Pumps (1hp to 1Ohp)	Performance test: Measurement of total water output per day	Cl. No. 1 0.3 of MNRE F. No. 41/3/2018 Annexure - II

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32	ELECTRICAL- ROTATING ELECTRICAL MACHINES	AC/DC Solar Powered Water Pumps (1hp to 50hp)	Total Water Output per day for Performance Tests, Outdoor Performance Test using sun radiation	Cl 7 IS 17018: (Part 1) IS 9283, IS 3043, IS 9079
33	ELECTRICAL- ROTATING ELECTRICAL MACHINES	AC/DC Solar Powered Water Pumps (1hp to 50hp)	Provision for Earthing	Cl 8 IS 17018: (Part 1) IS 9283, IS 3043, IS 9079
34	ELECTRICAL- ROTATING ELECTRICAL MACHINES	AC/DC Solar Powered Water Pumps (1hp to 50hp)	Total Water Output per day for Performance Tests, Field Conditions Performance Measurement which includes PQ Characterization, HQ Characterization, and Start- up Power Measurements	Cl. No. 5, 5,1, 5.3, 5.3.1, of IEC 62253
35	ELECTRICAL- ROTATING ELECTRICAL MACHINES	AC/DC Solar Powered Water Pumps (1hp to 50hp)	Total Water Output per day for Performance Tests, Hot Profile Performance Test (Simulator Method)	IS 17429
36	ELECTRICAL- ROTATING ELECTRICAL MACHINES	AC/DC Solar Powered Water Pumps (1hp to 50hp)	Total Water Output per day for Performance Tests, Hot Profile Performance Test (Simulator Method)	Cl 7 IS 17018: (Part 1) IS 9283, IS 3043, IS 9079
37	ELECTRICAL- ROTATING ELECTRICAL MACHINES	AC/DC Solar Powered Water Pumps (j hp to 50hp)	C constructional features	Cl 5 IS 17018: (Part 1) IS 9283, IS 3043, IS 9079
38	ELECTRICAL- ROTATING ELECTRICAL MACHINES	AC/DC Solar Powered Watef Pumps (1hp to 50hp)	Total Water Output per day for Performance Tests Under Laboratory Conditions	Cl. No. 5, 5,1, 5.3, 5.3.1, of IEC 62253
39	ELECTRICAL- ROTATING ELECTRICAL MACHINES	AC/DC Solar Powered Water Pumps (0.25hp to 0.5 hp)	Protection-Reverse Polarity Test	MNRE Solar PV Water Pumping Systems for Micro Pumping application
40	ELECTRICAL- ROTATING ELECTRICAL MACHINES	AC/DC Solar Powered Water Pumps (0.25hp to 0.5hp)	Total Water Output per day for Performance Tests: Outdoor Performance Test using Sun Radiation	MNRE Solar PV Water Pumping Systems for Micro Pumping application
41	ELECTRICAL- ROTATING ELECTRICAL MACHINES	AC/DC Solar Powered Water Pumps (0.25hp to 0.5hp)	Protection Test-Output Short Circuit	MNRE Solar PV Water Pumping Systems for Micro Pumping application
42	ELECTRICAL- ROTATING ELECTRICAL MACHINES	AC/DC Solar Powered Water Pumps (0.25hp to 0.5hp)	Total Water Output per day for Performance Tests: Hot Profile Performance Test (Simulator Method)	MNRE Solar PV Water Pumping Systems for Micro Pumping application

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43	ELECTRICAL- ROTATING ELECTRICAL MACHINES	AC/DC Solar Powered Water Pumps (0.25hp to 0.5hp)	Total Water Output per day for Performance Tests: Hot Profile Performance Test (Simulator Method)	MNRE Solar PV Water Pumping Systems for Micro Pumping application
44	ELECTRICAL- ROTATING ELECTRICAL MACHINES	AC/DC Solar Powered Water Pumps (1 hp to 10hp)	Protection-Reverse Polarity Test	Cl. No. 5, 5. 1, 5.2 MNRE F. No. 41/3/2018 Annexure - II
45	ELECTRICAL- ROTATING ELECTRICAL MACHINES	AC/DC Solar Powered Water Pumps (1hp to 1 hp)	Total Water Output per day for Performance Tests: Cold Profile Performance Test (Simulator Method)	MNRE JNNSM SPV Water Pumping Systems for Drinking Water Applications
46	ELECTRICAL- ROTATING ELECTRICAL MACHINES	AC/DC Solar Powered Water Pumps (1hp to 1 hp)	Total Water Output per day for Performance Tests-Outdoor Performance Test using sun radiation	MNRE JNNSM SPV Water Pumping Systems for Drin king Water Applications
47	ELECTRICAL- ROTATING ELECTRICAL MACHINES	AC/DC Solar Powered Water Pumps (1hp to 10hp)	Protection Test-Dry Run Test	Cl. No. 5, 5.1, 5.2 MNRE F. No. 41/3/2018 Annexure - II
48	ELECTRICAL- ROTATING ELECTRICAL MACHINES	AC/DC Solar Powered Water Pumps (1hp to 10hp)	Protection Test-Output Short Circuit, Solar Radiation Measurement	Cl. No. 5, 5.1, 5.2 MNRE F. No. 41/3/2018 Annexure - II
49	ELECTRICAL- ROTATING ELECTRICAL MACHINES	AC/DC Solar Powered Water Pumps (1hp to 1hp)	Protection Test-Output Short Circuit	MNRE JNNSM SPV Water Pumping Systems for Drinking Water Applications
50	ELECTRICAL- ROTATING ELECTRICAL MACHINES	AC/DC Solar Powered Water Pumps (1hp to 50hp)	Tests for hydraulic and electrical performance of pump set	Cl 10 IS 17018: (Part 1) IS 9283, IS 3043, IS 9079
51	ELECTRICAL- ROTATING ELECTRICAL MACHINES	AC/DC Solar Powered Water Pumps (1hp to 50hp)	Total Water Output per day for Performance Tests: Cold Profile Performance Test (Simulator Method)	IS 17429
52	ELECTRICAL- ROTATING ELECTRICAL MACHINES	AC/DC Solar Powered Water Pumps (1hp to 50hp)	Total Water Output per day for Performance Tests-Cold Profile Performance Test (Simulator Method)	Cl 7 IS 17018: (Part 1) IS 9283, IS 3043:, IS 9079
53	ELECTRICAL- ROTATING ELECTRICAL MACHINES	AC/DC Solar Powered Water Pumps (1hp to 10hp)	Performance test: measurement of water outpu1 per day per watt peak	Cl. No. 10.4 of MNRE F. No. 41/3/2018 Annexure - II
54	ELECTRICAL- ROTATING ELECTRICAL MACHINES	AC/DC Solar Powered Water Pumps	Performance Test	Cl 5,7,8 & 10 IS 17018: Part 1 2018 [IS 9283:2018, IS 3043:1987, IS 9079:2018]
55	ELECTRICAL- ROTATING ELECTRICAL MACHINES	AC/DC Solar Powered Water Pumps	Performance Test	IS 17429:2020

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56	ELECTRICAL- ROTATING ELECTRICAL MACHINES	AC/DC Solar Powered Water Pumps	Protection Test (a) Dry Run Test (b) Reverse Polarity Test (c) Open circuit / No-Load (d) Output Short Circuit	MNRE JNNSM SPV Water Pumping Systems for Drinking Water Applications
57	ELECTRICAL- ROTATING ELECTRICAL MACHINES	AC/DC Solar Powered Water Pumps	Protection Test (a) Dry Run Test (b) Reverse Polarity Test (c) Open circuit / No-Load (d) Output Short Circuit, Solar Radiation Measurement	Cl. No. 5, 5.1, 5.2, 5.3, 6, 6.1, 8.1, 8.2, 10.3, 10.4, 10.5, 10.6, 10.7, 10.8, 10.9, 10.10, 10.11 of MNRE F. No. 41/3/2018 Annexure - II
58	ELECTRICAL- ROTATING ELECTRICAL MACHINES	AC/DC Solar Powered Water Pumps	Protection Test (a) Dry Run Test (b) Reverse Polarity Test © Open circuit / No-Load (d) Output Short Circuit	MNRE Solar PV Water Pumping Systems for Micro Pumping application (2016-2017)
59	ELECTRICAL- ROTATING ELECTRICAL MACHINES	AC/DC Solar Powered Water Pumps	Total Water Output per day for Performance Tests (a) Hot Profile Performance Test (b) Cold Profile Performance Test (c) Outdoor Performance Test	Cl. No. 5.0, 5.1, 5.2 & 5.3 of MNRE F. No. 41/3/2018 Annexure - II
60	ELECTRICAL- ROTATING ELECTRICAL MACHINES	AC/DC Solar Powered Water Pumps	Total Water Output per day for Performance Tests (a) Under Laboratory Conditions (b) Field Conditions Performance Measurement which includes PQ Characterization, HQ Characterization and Start-up Power Measurements	Cl. No. 5, 5.1, 5.3, 5.3.1, 5.3.2, 5.3.3 & 5.3.4 of IEC 62253
61	ELECTRICAL- ROTATING ELECTRICAL MACHINES	AC/DC Solar Powered Water Pumps	Verification of Remote Monitoring System	Cl. No. 5.3 of MNRE F. No. 41/3/2018 Annexure - II
62	ELECTRICAL- ROTATING ELECTRICAL MACHINES	AC/DC Solar Powered Water Pumps ((1hp to 10hp)	Performance test: Calculations of mismatch factor of PV array	Cl. No 10.5,10.6 of MNRE F. No. 41/3/2018 Annexure - II
63	ELECTRICAL- ROTATING ELECTRICAL MACHINES	AC/DC Solar Powered Water Pumps (0.25hp to 0.5hp)	Measurement of Head	MNRE Solar PV Water Pumping Systems for Micro Pumping application
64	ELECTRICAL- ROTATING ELECTRICAL MACHINES	AC/DC Solar Powered Water Pumps (0.25hp to 0.5hp)	Measurement of Rate of Flow	MNRE Solar PV Water Pumping Systems for Micro Pumping application
65	ELECTRICAL- ROTATING ELECTRICAL MACHINES	AC/DC Solar Powered Water Pumps (0.25hp to 0.5hp)	Per Day Water Flow Test	MNRE Solar PV Water Pumping Systems for Micro Pumping application
66	ELECTRICAL- ROTATING ELECTRICAL MACHINES	AC/DC Solar Powered Water Pumps (1 HP to 10 HP)	Total Water Output per day for Performance Tests: Hot Profile Performance Test (Simulator Method)	MNRE JNNSM SPV Water Pumping Systems for Drinking Water Applications: 2014

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67	ELECTRICAL- ROTATING ELECTRICAL MACHINES	AC/DC Solar Powered Water Pumps (1hp to 10hp)	Performance test: Per Day Water Flow Test for Submersible and Surface Pumps	Cl. No. 11 of MNRE F. No. 41/3/2018 Annexure - II
68	ELECTRICAL- ROTATING ELECTRICAL MACHINES	AC/DC Solar Powered Water Pumps (1hp to 1Ohp)	Performance test: Calculation of output power of array (Efficiency of Array)	Cl. No. 10.7, 10.8, 10.9, 10.10, 10 11 of MNRE F. No. 41/3/2018 Annexure - II
69	ELECTRICAL- ROTATING ELECTRICAL MACHINES	C/DC Solar Powered Water Pumps (1hp to 10hp)	Total Water Output per day for Performance Tests, Cold Profile Performance Test (Simulator Method)	Cl. No. 5.0, 5.1 of MNRE F. No. 41/3/2018 Annexure - II
70	ELECTRONICS-ENVIRONMENTAL TEST FACILITY	Crystaline Silicon Terrestrial Photovoltaic Modules	Damp heat test	IS 14286 (Part 1/Sec 1) (Cl 11.13)
71	ELECTRONICS-ENVIRONMENTAL TEST FACILITY	Crystalline Silicon Terrestrial Photovoltaic Module	Damp heat test	IEC 61215-1-1 (Cl 4.13)
72	ELECTRONICS-ENVIRONMENTAL TEST FACILITY	Crystalline Silicon Terrestrial Photovoltaic Modules	Humidity-freeze test	IEC 61215-1-1 (Cl 4.12)
73	ELECTRONICS-ENVIRONMENTAL TEST FACILITY	Crystalline Silicon Terrestrial Photovoltaic Modules	Humidity-freeze test	IS 14286 (Part 1/Sec 1) (Cl 11.12)
74	ELECTRONICS-ENVIRONMENTAL TEST FACILITY	Crystalline Silicon Terrestrial Photovoltaic Modules	Salt mist corrosion testing of photovoltaic (PV) modules	IEC 61701
75	ELECTRONICS-ENVIRONMENTAL TEST FACILITY	Crystalline Silicon Terrestrial Photovoltaic Modules	Salt mist corrosion testing of photovoltaic (PV) modules	IS/ IEC 61701 Ed 2.0
76	ELECTRONICS-ENVIRONMENTAL TEST FACILITY	Crystalline Silicon Terrestrial Photovoltaic Modules	Salt mist corrosion testing of photovoltaic (PV) modules	IS/ IEC 61701 Ed 2.0
77	ELECTRONICS-ENVIRONMENTAL TEST FACILITY	Crystalline Silicon Terrestrial Photovoltaic Modules	Salt mist corrosion testing of Photovoltaic modules	IEC 61701
78	ELECTRONICS-ENVIRONMENTAL TEST FACILITY	Crystalline Silicon Terrestrial Photovoltaic Modules	Thermal cycling test	IEC 61215-1-1 (Cl 4.11)
79	ELECTRONICS-ENVIRONMENTAL TEST FACILITY	Crystalline Silicon Terrestrial Photovoltaic Modules	Thermal cycling test	IS 14286 (Part 1/Sec 1) (Cl 11.11)

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80	ELECTRONICS-ENVIRONMENTAL TEST FACILITY	Crystalline Silicon Terrestrial Photovoltaic Modules	UV preconditioning test	IEC 61215-1-1 (Cl 4.10)
81	ELECTRONICS-ENVIRONMENTAL TEST FACILITY	Crystalline Silicon Terrestrial Photovoltaic Modules	UV preconditioning test	IS 14286 (Part 1/Sec 1) (Cl 11.10)
82	ELECTRONICS-ENVIRONMENTAL TEST FACILITY	hin-film Cu (In, Ga) (S, Se)2 Terrestrial Photovoltaic Modules	UV preconditioning test	IS 14286 (Part 1/Sec 4) (Cl 11.10)
83	ELECTRONICS-ENVIRONMENTAL TEST FACILITY	Photovoltaic Power Conditioners- On Grid & Off Grid	Change of Temperature	IEC 60068-2-14
84	ELECTRONICS-ENVIRONMENTAL TEST FACILITY	Photovoltaic Power Conditioners- On Grid & Off Grid	Cold Cycle	IEC 60068-2-1
85	ELECTRONICS-ENVIRONMENTAL TEST FACILITY	Photovoltaic Power Conditioners- On Grid & Off Grid	Damp Heat Cycle	IEC 60068-2-30
86	ELECTRONICS-ENVIRONMENTAL TEST FACILITY	Photovoltaic Power Conditioners- On Grid & Off Grid	Dry Heat Cycle	IEC 60068-2-2
87	ELECTRONICS-ENVIRONMENTAL TEST FACILITY	Thin-film Amorphous Silicon Terrestrial Photovoltaic Modules	Damp heat test	IS 14286 (Part 1/Sec 3) (Cl 11.13)
88	ELECTRONICS-ENVIRONMENTAL TEST FACILITY	Thin-film Amorphous Silicon Terrestrial Photovoltaic Modules	Humidity-freeze test	IS 14286 (Part 1/Sec 3) (Cl 11.12)
89	ELECTRONICS-ENVIRONMENTAL TEST FACILITY	Thin-film Amorphous Silicon Terrestrial Photovoltaic Modules	Thermal cycling test	IS 14286 (Part 1/Sec 3) (Cl 11.11)
90	ELECTRONICS-ENVIRONMENTAL TEST FACILITY	Thin-film Amorphous Silicon Terrestrial Photovoltaic Modules	UV preconditioning test	IS 14286 (Part 1/Sec 3) (Cl 11.10)
91	ELECTRONICS-ENVIRONMENTAL TEST FACILITY	Thin-film Cadmium Telluride (CdTe) Terrestrial Photovoltaic Modules	Damp heat test	IS 14286 (Part 1/Sec 2) (Cl 11.13)
92	ELECTRONICS-ENVIRONMENTAL TEST FACILITY	Thin-film Cadmium Telluride (CdTe) Terrestrial Photovoltaic Modules	Humidity-freeze test	IS 14286 (Part 1/Sec 2) (Cl 11.12)
93	ELECTRONICS-ENVIRONMENTAL TEST FACILITY	Thin-film Cadmium Telluride (CdTe) Terrestrial Photovoltaic Modules	Thermal cycling test	IS 14286 (Part 1/Sec 2) (Cl 11.11)

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94	ELECTRONICS-ENVIRONMENTAL TEST FACILITY	Thin-film Cadmium Telluride (CdTe) Terrestrial Photovoltaic Modules	UV preconditioning test	IS 14286 (Part 1/Sec 2) (Cl 11.10)
95	ELECTRONICS-ENVIRONMENTAL TEST FACILITY	Thin-film Cu (In, Ga) (S, Se)2 Terrestrial Photovoltaic Modules	Damp heat test	IS 14286 (Part 1/Sec 4) (Cl 11.13)
96	ELECTRONICS-ENVIRONMENTAL TEST FACILITY	Thin-film Cu (In, Ga) (S, Se)2 Terrestrial Photovoltaic Modules	Humidity-freeze test	IS 14286 (Part 1/Sec 4) (Cl 11.12)
97	ELECTRONICS-ENVIRONMENTAL TEST FACILITY	Thin-film Cu (In, Ga) (S, Se)2 Terrestrial Photovoltaic Modules	Thermal cycling test	IS 14286 (Part 1/Sec 4) (Cl 11.11)
98	ELECTRONICS-MISCELLANEOUS PRODUCTS	Battery charge controllers for photovoltaic systems	Battery charge controllers for photovoltaic systems - Performance and functioning	IEC 62509: 2010, Cl. 4.3.2,Cl.4.3.3, Cl.4.4,Cl.4.4.2,Cl.4.5
99	ELECTRONICS-MISCELLANEOUS PRODUCTS	Crystalline Silicon Terrestrial Photovoltaic Modules	By pass diode testing	MQT- 18: IS 14286-1-1
100	ELECTRONICS-MISCELLANEOUS PRODUCTS	Crystalline Silicon Terrestrial Photovoltaic Modules	Hail test	MQT-17: IS 14286-1-1
101	ELECTRONICS-MISCELLANEOUS PRODUCTS	Crystalline Silicon Terrestrial Photovoltaic Modules	Static Mechanical Load test	MQT 16: IS 14286-1-1
102	ELECTRONICS-MISCELLANEOUS PRODUCTS	Crystalline Silicon terrestrial photovoltaic module	Hot Spot Endurance test	MQT 09: IS 14286-1-1
103	ELECTRONICS-MISCELLANEOUS PRODUCTS	Crystalline Silicon Terrestrial Photovoltaic Modules	Determination of bifacialities, Determination of the rear irradiance driven power gain yield and I-V characterization of bifacial PV devices in practice	IEC TS 60904-1-2 (Cl 6.2, Cl 6.3.1, Cl 6.3.3 and Cl 7)
104	ELECTRONICS-MISCELLANEOUS PRODUCTS	Crystalline Silicon Terrestrial Photovoltaic Modules	Hot-spot endurance test	IEC 61215-1-1 (Cl 4.9)
105	ELECTRONICS-MISCELLANEOUS PRODUCTS	Crystalline Silicon Terrestrial Photovoltaic Modules	Hot-spot endurance test	IS 14286 (Part 1/Sec 1) (Cl 11.9)
106	ELECTRONICS-MISCELLANEOUS PRODUCTS	Crystalline Silicon Terrestrial Photovoltaic Modules	Insulation test	IEC 61215-1-1 (Cl 4.3)

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107	ELECTRONICS-MISCELLANEOUS PRODUCTS	Crystalline Silicon Terrestrial Photovoltaic Modules	Insulation test	IS 14286 (Part 1/Sec 1) (Cl 11.3)
108	ELECTRONICS-MISCELLANEOUS PRODUCTS	Crystalline Silicon Terrestrial Photovoltaic Modules	Maximum power determination; Measurement of temperature coefficients; Performance at STC; Performance at low irradiance; Stabilization	IEC 61215-1-1 (Cl 4.2, Cl 4.4, Cl 4.6, Cl 4.7, Cl 4.19)
109	ELECTRONICS-MISCELLANEOUS PRODUCTS	Crystalline Silicon Terrestrial Photovoltaic Modules	Maximum power determination; Measurement of temperature coefficients; Performance at STC; Performance at NMOT; Performance at low irradiance; Stabilization	IS 14286 (Part 1/Sec 1) (Cl 11.1, Cl 11.4, Cl 11.6, Cl 11.7, Cl 11.19)
110	ELECTRONICS-MISCELLANEOUS PRODUCTS	Crystalline Silicon Terrestrial Photovoltaic Modules	Measurement of Nominal module operating temperature (NMOT)	IS 14286 (Part 1/Sec 1) (Cl 11.5)
111	ELECTRONICS-MISCELLANEOUS PRODUCTS	Crystalline Silicon Terrestrial Photovoltaic Modules	Outdoor exposure test	IEC 61215-1-1 (Cl 4.8)
112	ELECTRONICS-MISCELLANEOUS PRODUCTS	Crystalline Silicon Terrestrial Photovoltaic Modules	Outdoor exposure test	IS 14286 (Part 1/Sec 1) (Cl 11.8)
113	ELECTRONICS-MISCELLANEOUS PRODUCTS	Crystalline Silicon Terrestrial Photovoltaic Modules	Photovoltaic module performance testing and energy rating	IEC 61853-1 (Cl 7, Cl 8, Cl 9))
114	ELECTRONICS-MISCELLANEOUS PRODUCTS	Crystalline Silicon Terrestrial Photovoltaic Modules	Robustness of terminations; Wet leakage current test; Static mechanical load test; Hail test; Bypass diode testing	IEC 61215-1-1 (Cl 4.14, Cl 4.15, Cl 4.16, Cl 4.17, Cl 4.18)
115	ELECTRONICS-MISCELLANEOUS PRODUCTS	Crystalline Silicon Terrestrial Photovoltaic Modules	Robustness of terminations; Wet leakage current test; Static mechanical load test; Hail test; Bypass diode testing	IS 14286 (Part 1/Sec 1) (Cl 11.14, Cl 11.15, Cl 11.16, Cl 11.17, Cl 11.18)
116	ELECTRONICS-MISCELLANEOUS PRODUCTS	Crystalline Silicon Terrestrial Photovoltaic Modules	Visual inspection (Inspection of Visual Defects, MQT 01)	IEC 61215-1-1 (Cl 4.1)
117	ELECTRONICS-MISCELLANEOUS PRODUCTS	Crystalline Silicon Terrestrial Photovoltaic Modules	Visual inspection (Inspection of Visual Defects, MQT 01)	IS 14286 (Part 1/Sec 1) (Cl 11.1)

SCOPE OF ACCREDITATION

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Accreditation Standard ISO/IEC 17025:2017

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S.No	Discipline / Group	Materials or Products tested	Component, parameter or characteristic tested / Specific Test Performed / Tests or type of tests performed	Test Method Specification against which tests are performed and / or the techniques / equipment used
118	ELECTRONICS-MISCELLANEOUS PRODUCTS	Photovoltaic Power Conditioners- ON Grid & Off Grid	Rated output efficiency Partial output efficiency	IS/IEC 61683
119	ELECTRONICS-MISCELLANEOUS PRODUCTS	Photovoltaic Power Conditioners-On grid & Off-grid	Static Maximum Power point tracking (MPPT) efficiency, Dynamic MPPT efficiency, Static Power Conversion efficiency, Calculation of overall Power conversion efficiency.	EN 50530:2010+A1
120	ELECTRONICS-MISCELLANEOUS PRODUCTS	Photovoltaic Modules	Post-Stress Tests (Visual Inspection, Maximum Power determination, Performance at Low irradiance, Wet Leakage Current Test, Electro-Luminescence at Isc and .02-ISc)	IEC TS 62804-1 (Cl.4.4) or Potential Induced Degradation Testing as per MNRE
121	ELECTRONICS-MISCELLANEOUS PRODUCTS	Photovoltaic Modules	Voltage Stress Tests	IEC 62804-1 (Cl.4.3) or Potential Induced Degradation Testing as per MNRE
122	ELECTRONICS-MISCELLANEOUS PRODUCTS	Thin-film Amorphous Silicon Terrestrial Photovoltaic Modules	Robustness of terminations; Wet leakage current test; Static mechanical load test; Hail test; Bypass diode testing	IS 14286 (Part 1/Sec 3) (Cl 11.14, Cl 11.15, Cl 11.16, Cl 11.17, Cl 11.18)
123	ELECTRONICS-MISCELLANEOUS PRODUCTS	Thin-film Amorphous Silicon Terrestrial Photovoltaic Modules	Hot-spot endurance test	IS 14286 (Part 1/Sec 3) (Cl 11.9)
124	ELECTRONICS-MISCELLANEOUS PRODUCTS	Thin-film Amorphous Silicon Terrestrial Photovoltaic Modules	Insulation test	IS 14286 (Part 1/Sec 3) (Cl 11.3)
125	ELECTRONICS-MISCELLANEOUS PRODUCTS	Thin-film Amorphous Silicon Terrestrial Photovoltaic Modules	Maximum power determination; Measurement of temperature coefficients; Performance at STC; Performance at NMOT; Performance at low irradiance; Stabilization	IS 14286 (Part 1/Sec 3) (Cl 11.1, Cl 11.4, Cl 11.6, Cl 11.7, Cl 11.19)
126	ELECTRONICS-MISCELLANEOUS PRODUCTS	Thin-film Amorphous Silicon Terrestrial Photovoltaic Modules	Measurement of Nominal module operating temperature (NMOT)	IS 14286 (Part 1/Sec 3) (Cl 11.5)
127	ELECTRONICS-MISCELLANEOUS PRODUCTS	Thin-film Amorphous Silicon Terrestrial Photovoltaic Modules	Outdoor exposure test	IS 14286 (Part 1/Sec 3) (Cl 11.8)

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S.No	Discipline / Group	Materials or Products tested	Component, parameter or characteristic tested / Specific Test Performed / Tests or type of tests performed	Test Method Specification against which tests are performed and / or the techniques / equipment used
128	ELECTRONICS-MISCELLANEOUS PRODUCTS	Thin-film Amorphous Silicon Terrestrial Photovoltaic Modules	Visual inspection (Inspection of visual defects, MQT 01)	IS 14286 (Part 1/Sec 3) (Cl 11.1)
129	ELECTRONICS-MISCELLANEOUS PRODUCTS	Thin-film Cadmium Telluride (CdTe) Terrestrial Photovoltaic Modules	Robustness of terminations; Wet leakage current test; Static mechanical load test; Hail test; Bypass diode testing	IS 14286 (Part 1/Sec 2) (Cl 11.14, Cl 11.15, Cl 11.16, Cl 11.17, Cl 11.18)
130	ELECTRONICS-MISCELLANEOUS PRODUCTS	Thin-film Cadmium Telluride (CdTe) Terrestrial Photovoltaic Modules	Hot-spot endurance test	IS 14286 (Part 1/Sec 2) (Cl 11.9)
131	ELECTRONICS-MISCELLANEOUS PRODUCTS	Thin-film Cadmium Telluride (CdTe) Terrestrial Photovoltaic Modules	Insulation test	IS 14286 (Part 1/Sec 2) (Cl 11.3)
132	ELECTRONICS-MISCELLANEOUS PRODUCTS	Thin-film Cadmium Telluride (CdTe) Terrestrial Photovoltaic Modules	Maximum power determination; Measurement of temperature coefficients; Performance at STC; Performance at NMOT; Performance at low irradiance; Stabilization	IS 14286 (Part 1/Sec 2) (Cl 11.1, Cl 11.4, Cl 11.6, Cl 11.7, Cl 11.19)
133	ELECTRONICS-MISCELLANEOUS PRODUCTS	Thin-film Cadmium Telluride (CdTe) Terrestrial Photovoltaic Modules	Measurement of Nominal module operating temperature (NMOT)	IS 14286 (Part 1/Sec 2) (Cl 11.5)
134	ELECTRONICS-MISCELLANEOUS PRODUCTS	Thin-film Cadmium Telluride (CdTe) Terrestrial Photovoltaic Modules	Outdoor exposure test	IS 14286 (Part 1/Sec 2) (Cl 11.8)
135	ELECTRONICS-MISCELLANEOUS PRODUCTS	Thin-film Cadmium Telluride (CdTe) Terrestrial Photovoltaic Modules	Visual inspection (Inspection of Visual Defects, MQT 01)	IS 14286 (Part 1/Sec 2) (Cl 11.1)
136	ELECTRONICS-MISCELLANEOUS PRODUCTS	Thin-film Cu (In, Ga)(S, Se)2 Terrestrial Photovoltaic Modules	Robustness of terminations; Wet leakage current test; Static mechanical load test; Hail test; Bypass diode testing	IS 14286 (Part 1/Sec 4) (Cl 11.14, Cl 11.15, Cl 11.16, Cl 11.17, Cl 11.18)
137	ELECTRONICS-MISCELLANEOUS PRODUCTS	Thin-film Cu (In, Ga)(S, Se)2 Terrestrial Photovoltaic Modules	Hot-spot endurance test	IS 14286 (Part 1/Sec 4) (Cl 11.9)
138	ELECTRONICS-MISCELLANEOUS PRODUCTS	Thin-film Cu (In, Ga)(S, Se)2 Terrestrial Photovoltaic Modules	Insulation test	IS 14286 (Part 1/Sec 4) (Cl 11.3)

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S.No	Discipline / Group	Materials or Products tested	Component, parameter or characteristic tested / Specific Test Performed / Tests or type of tests performed	Test Method Specification against which tests are performed and / or the techniques / equipment used
139	ELECTRONICS-MISCELLANEOUS PRODUCTS	Thin-film Cu (In, Ga)(S, Se)2 Terrestrial Photovoltaic Modules	Maximum power determination; Measurement of temperature coefficients; Performance at STC; Performance at NMOT; Performance at low irradiance; Stabilization	IS 14286 (Part 1/Sec 4) (Cl 11.1, Cl 11.4, Cl 11.6, Cl 11.7, Cl 11.19)
140	ELECTRONICS-MISCELLANEOUS PRODUCTS	Thin-film Cu (In, Ga)(S, Se)2 Terrestrial Photovoltaic Modules	Measurement of Nominal module operating temperature (NMOT)	IS 14286 (Part 1/Sec 4) (Cl 11.5)
141	ELECTRONICS-MISCELLANEOUS PRODUCTS	Thin-film Cu (In, Ga)(S, Se)2 Terrestrial Photovoltaic Modules	Outdoor exposure test	IS 14286 (Part 1/Sec 4) (Cl 11.8)
142	ELECTRONICS-MISCELLANEOUS PRODUCTS	Thin-film Cu (In, Ga)(S, Se)2 Terrestrial Photovoltaic Modules	Visual inspection (Inspection of Visual Defects, MQT 01)	IS 14286 (Part 1/Sec 4) (Cl 11.1)
143	ELECTRONICS-MISCELLANEOUS PRODUCTS	Utility Interconnected Photo-voltaic Inverters	DC injection Harmonics and wave from distortion Power factor Over/Under voltage Over/Under frequency Islanding Protection response utility recovery	IEC 61727(Cl: 4.4,4.6,4.7,5.3,5.2.1,5.2.2,5.4)
144	ELECTRONICS-MISCELLANEOUS PRODUCTS	Utility Interconnected Photovoltaic Inverters	Trip time test as per test procedure of islanding prevention and measurement for utility interconnected photovoltaic inverters	IEC 62116
145	ELECTRONICS-MISCELLANEOUS PRODUCTS	Utility Interconnected Photovoltaic Inverters	Trip time test as per test procedure of islanding prevention and measurement for utility interconnected photovoltaic inverters	IS 16169