Confirmation of Test Results

Ref.: **10018/2024-40428**

Applicant: **REC SOLAR PTE. LTD.**
20 Tuas South Avenue 14, 637312 Singapore

Product: **Crystalline Silicon Photovoltaic (PV)-Modules**

Type:

A)	RECxxxAA Pure-R	REC Alpha Pure-R Series
B)	RECxxxAA Pro L	REC Alpha Pro L Series
C)	RECxxxAA Pro XL	REC Alpha Pro XL Series
D)	RECxxxAA Pro MG	REC Alpha Pro MG Series
E)	RECxxxAA Pure-RX	REC Alpha Pure-RX Series
F)	RECxxxNP3	REC N-Peak 3 Series
G)	RECxxxAA Pure2	REC Alpha Pure 2 Series
H)	RECxxxAA Pro M	REC Alpha Pro M Series
I)	RECxxxAA Pro S	REC Alpha Pro S Series
K)	RECxxxAA Pure-RXG	REC Alpha Pure-RXG Series
L)	RECxxxAA Pure 2G	REC Alpha Pure 2G Series

xxx in the type number replaces the power in Watt at STC, Refer to Annex 100 of Certificate 40055660 for certified watt classes.

Manufacturer: **REC SOLAR PTE. LTD.**

This Confirmation of Test Results includes

Standard: IEC 61701:2011 (page 2)

IEC 62716:2013 (page 4)

IEC 61701:2011

Salt mist corrosion testing of photovoltaic (PV) modules

Manufacturer:	REC SOLAR PTE. LTD.	
Standard:	IEC 61701:2011	
Test conditions:	As given in IEC 61701:2011	
	Severity:	6
	Testing time:	56 days
	Mist ph level:	7
	Angle of inclination from horizontal:	75

Pass criteria:

Visual inspection:	No findings which may affect safety.
Power degradation:	< 5 %
Dry Insulation:	> 40 MΩm²
Wet insulation:	> 40 MΩm²
Bonding path resistance:	< 0,1 Ω
Bypass diode functionality test:	Bypass diodes shall remain functional.

Summary of test results:

Visual inspection: No findings which affect safety.

Maximum power degradation:

allowed	< 5 %
measured	max. 1,68 %

The measured degradation is below the max. allowed degradation.

Dry insulation resistance:

required	≥13,00 MΩ
measured	min. 500 MΩ

The measured dry insulation resistance is above the min. required insulation resistance.

Wet insulation resistance:

required	≥13,00 MΩ
measured	min. 500 MΩ

The measured wet insulation resistance is above the min. required wet insulation resistance.

Bonding path resistance:

required	< 0,1 Ω
measured	max. 0,01 Ω

The measured bonding path resistance is below max. allowed resistance.

Bypass diode functionality test: Bypass diodes remain functional.

The complete test results and the related bill of materials are given in the Test Report No. TRPVM-2024-40428-4
The overview of the already approved modules with the approved bill of materials is given in Annex 1 to 10018/2024-40428-4, dated 2024-08-12

VDE Renewables GmbH

Jose Jojo

Arnd Roth

63755 Alzenau, 2024-08-12

IEC 62716:2013

Ammonia corrosion testing of photovoltaic (PV) modules

Manufacturer:	REC SOLAR PTE. LTD.	
Standard:	IEC 62716:2013	
Test conditions:	As given in IEC 62716:2013	
1st test section:	Testing time	8 h
	NH_3 Concentration:	6667 ppm
	Chamber temperature:	60°C
	Rel. humidity:	100%
2nd test section:	Testing time	16 h
	NH_3 Concentration:	0 ppm
	Chamber temperature:	23°C
	Rel. humidity:	70 %
Total testing time		480 h (20 cycles)

Pass criteria:

Visual inspection:	No findings which may affect safety.
Power degradation:	< 5 %
Dry Insulation:	> 40 MΩm²
Wet insulation:	> 40 MΩm²
Bonding path resistance:	< 0,1 Ω
Bypass diode functionality test:	Bypass diodes shall remain functional

Summary of test results:

Visual inspection: No findings which affect safety.

Maximum power degradation:	allowed	< 5 %
	measured	max. 2,58 %

The measured degradation is below the max. allowed degradation.

Dry insulation resistance:	required	≥13,00 MΩ
	measured	min. 500 MΩ

The measured dry insulation resistance is above the min. required insulation resistance.

Wet insulation resistance:	required	≥13,00 MΩ
	measured	min. 500 MΩ

The measured wet insulation resistance is above the min. required wet insulation resistance.

Bonding path resistance:	required	< 0,1 Ω
	measured	max. 0,01 Ω

The measured bonding path resistance is below max. allowed resistance.

Bypass diode functionality test: Bypass diodes remain functional.

The complete test results and the related bill of materials are given in the Test Report No. TRPVM-2024-40428-5
The overview of the already approved modules with the approved bill of materials is given in Annex 1 to 10018/2024-40428-5, dated 2024-08-12

VDE Renewables GmbH

Jose Jojo ***Arnd Roth***

63755 Alzenau, 2024-08-12