TS IEC 62804-1:2015

Photovoltaic (PV) Modules - Test Methods for the detection of potential-induced degradation
Part 1: Crystalline silicone
Confirmation of test results

VDE Renewables File Ref.: 10045/2017-40085-2

Applicant: Sunman (Hong Kong) Limited
Room 1401, 14/F., World Commerce Centre, Harbour City, 7-11 Canton Road, Tsimshatsui, Kowloon, Hong Kong, P.R. China

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

Type:

A) SMDXXXP-6X12
B) SMAXXXP-6X10
D) SMDXXXP-4X10
E) SMAXXXP-4X06
G) SMDXXXP-2X10
H) SMAXXXP-2X06

A) SMAXXXP-6X12
C) SMDXXXP-4X12
D) SMAXXXP-4X10
F) SMDXXXP-2X12
G) SMAXXXP-2X10

B) SMDXXXP-6X10
C) SMAXXXP-4X12
E) SMDXXXP-4X06
F) SMAXXXP-2X12
H) SMDXXXP-2X06

XXX in the type replaces the power in watt and can be any number between:

275 - 340 for A)
155 - 190 for D)
75 - 95 for G)

230 - 280 for B)
90 - 110 for E)
45 - 55 for H)

185 - 225 for C)
90 - 110 for F)

Manufacturer: Sunman (Hong Kong) Limited

Standard: TS IEC 62804-1:2015

Test conditions

Testing time:	192 h
Chamber temperature:	85°C
Relative Humidity:	85 %
Potential to ground:	- 1000 V

Pass criteria

Power degradation:	< 5%
Dry Insulation:	> 40 MΩm²
Wet insulation:	> 40 MΩm²

VDE Renewables GmbH
Siemensstrasse 30, D-63755 Alzenau
Telefon +49 (0) 69 6308-5300
Telefax +49 (0) 69 6308-5320

TS IEC 62804-1:2015

Photovoltaic (PV) Modules - Test Methods for the detection of potential-induced degradation
Part 1: Crystalline silicone
Confirmation of test results

Summary of test results:

Maximum power degradation:	required	max. 5 %
	measured	max. 0.64 %

The measured degradation is below the allowed degradation.

Dry insulation resistance:	required	19.8 MΩ
	measured	>500 MΩ

The measured dry insulation resistance is above the limit.

Wet insulation resistance:	required	19.8 MΩ
	measured	>500 MΩ

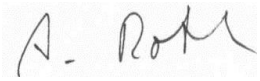
The measured wet insulation resistance is above the limit.

Visual inspection: No findings

The complete test results are given in Test Report No.: TRPVM-2017-40085-2.

VDE Renewables GmbH

Roland Herbert



Arnd Roth

63755 Alzenau, 2018-01-15

VDE Renewables GmbH

Siemensstrasse 30, D-63755 Alzenau

Telefon +49 (0) 69 6308-5300
Telefax +49 (0) 69 6308-5320