



IEC 60068-2-68

Blowing Sand Test Lc 2

Confirmation of test results

Ref.: 10118/2017-40287

Applicant: SolarWorld Industries GmbH
Martin-Luther-King-Str. 24, 53175 Bonn, Germany

Product: Crystalline Photovoltaic (PV)-Modules

Type: : A) Sunmodule Plus SW XXX mono Y
A) Sunmodule Plus SW XXX poly Y
B) Sunmodule SW XXX XL mono Y
B) Sunmodule SW XXX XL poly Y
C) Sunmodule Protect SW XXX mono Y
C) Sunmodule Protect SW XXX poly Y
D) Sunmodule Bisun protect XXX Y
E) Sunmodule Bisun XXX XL Y

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

200 – 320 for A), C), D); 260 – 360 for B), E).

Y in the type replaces a potential suffix and can be black or clear.

Manufacturer: SolarWorld Industries GmbH

Standard: IEC 60068-2-68, Test method Lc 2 plus
TechnoLab Sand Test PA03/01 and AECTP 300,
method 313

Test sequence and pass/fail criteria: Based on IEC 61701:2011

Average particle size: 380µm

Concentration: (2,5 ± 0,5) g/m³

Sand composition: ASIA Desert Rub'al Khali, Saudi Arabia, 97% SiO₂

Wind speed: 9 m/s

Testing time: 6 h (4 positions, 90 minutes testing time each)



Summary of test results:

Maximum power degradation:	allowed	max. 5 %
	measured	1,51 %

The measured degradation is below the allowed degradation.

Dry insulation resistance:	required	23,81 MΩ
	measured	>500 MΩ

The measured dry insulation resistance is far above the limit.

Wet insulation resistance:	required	23,81 MΩ
	measured	>500 MΩ

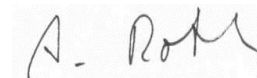
The measured wet insulation resistance is far above the limit.

Visual inspection:	No findings
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The complete test results are given in Test Report No.: TRPVM-201-40287-7.

VDE Renewables GmbH


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Arnd Roth

63755 Alzenau, 2017-08-30