



IEC 62716:2013

Ammonia corrosion testing of photovoltaic (PV) modules Confirmation of test results

Ref.: 10036/2021-40045

Applicant: LG Electronics Inc.
168, Suchul-daero, Gumi-si, Gyeongsangbuk-do, 730-903,
South Korea

Product: Crystalline Silicon Photovoltaic (PV)-Modules

Type: A) LGXXXQ1K-N5
B) LGXXXN1K-L5
C) LGXXXN1K-N5
D) LGXXXN1K-A6
E) LGXXXQ1K-A6
F) LGXXXQAK-A6

XXX in the type replaces the power in Watt at STC and can be any number between 360-380 for A), 310-370 for B), C), 345-370 for D), 375-390 for E) and 415-430 for F).

Manufacturer: LG Electronics Inc.

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:	36 %

Total testing time 480 h (20 cycles)



Pass criteria

Visual inspection:	No findings which may affect safety.
Power degradation:	<5 %
Dry Insulation:	>40 MΩm ²
Wet insulation:	>40 MΩm ²
Bonding path resistance:	<0,1 MΩ
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 1,23 %

The measured degradation is below the allowed degradation.

Dry insulation resistance: required $\geq 23,1 \text{ M}\Omega$
measured min. 500 MΩ

The measured dry insulation resistance is above the limit.

Wet insulation resistance: required $\geq 23,1 \text{ M}\Omega$
measured min. 500 MΩ

The measured wet insulation resistance is above the limit.

Bonding path resistance: required <0,1 MΩ
measured <0,01 MΩ

The measured resistance is below the limit.

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-2021-40045-6.

VDE Renewables GmbH


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