

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) LGXXXN2W-L5 G) LGXXXQ1C-N5
B) LGXXXN2W-N5 H) LGXXXN1C-A6
C) LGXXXN1C-L5 I) LGXXXN1W-A6
D) LGXXXN1W-L5 J) LGXXXQ1C-A6
E) LGXXXN1C-N5 K) LGXXXQAC-A6

F) LGXXXN1W-N5

XXX in the type replaces the power in Watt at STC and can be any number between: 390-430 for A), B), 310-365 for C), D), 310-370 for E), F), 370-390 for G), 355-385 for H), I), 390-405 for J) and 430-445 for K).

Manufacturer: LG Electronics Inc.

Standard: IEC 62716:2013

Test conditions: As given in IEC 62716:2013

1st test section: Testing time 8 h

NH₃ Concentration: 6667 ppm

Chamber temperature: 60°C

Rel. humidity: 100%

2nd test section: Testing time 16 h

NH₃ Concentration: 0 ppm

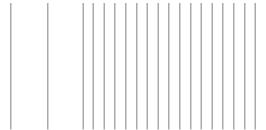
Chamber temperature: 23°C

Rel. humidity: 36 %

Total testing time 480 h (20 cycles)

BIC: DEUTDEFFXXX





Pass criteria

Visual inspection: No findings which may affect

safety.

Power degradation: <5 %

Dry Insulation: $>40 \text{ M}\Omega\text{m}^2$

Wet insulation: $>40 \text{ M}\Omega\text{m}^2$

Bonding path resistance: $<0,1 \text{ M}\Omega$

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 0,58 %

The measured degradation is below the allowed degradation.

Dry insulation resistance: required $\geq 19.4 \text{ M}\Omega$

measured min. 500 $M\Omega$

The measured dry insulation resistance is above the limit.

Wet insulation resistance: required ≥19,4 MΩ

measured min. 500 $M\Omega$

The measured wet insulation resistance is above the limit.

Bonding path resistance: required <0.1 $M\Omega$

measured <0,01 $M\Omega$

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-2021-40045-5.

VDE Renewables GmbH

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