# IEC 62716:2013

## Ammonia corrosion testing of photovoltaic (PV) modules

Confirmation of test results

| | | |
|---|---|---|
| **Ref.:** | **10036/2021-40357** | |
| **Applicant:** | **LG Electronics Inc.**<br>**168, Suchul-daero, Gumi-si, Gyeongsangbuk-do,**<br>**730-903, South Korea** | |
| **Product:** | **Crystalline Silicon Photovoltaic (PV)-Modules** | |
| **Type:** | **A) LGXXXN3C-V6**<br>**B) LGXXXN3W-V6**<br>**C) LGXXXN3K-V6**<br>XXX in the type replace the power in Watt and can be any number between: 395 - 415 for A), B) and 390 - 410 for C) | |
| **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: | 25°C |
| | Rel. humidity: | 36 % |
| **Total testing time** | | 480 h (20 cycles) |

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**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 MΩ |
| Bypass diode functionality test: | Bypass diodes shall remain functional |

**Summary of test results:**

**Visual inspection:** No findings which affect safety.

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|---|---|---|
| **Maximum power degradation:** | allowed | <5 % |
| | measured | 0,92 % |

The measured degradation is below the allowed degradation.

| | | |
|---|---|---|
| **Dry insulation resistance:** | required | ≥18,2 MΩ |
| | measured | min. 999 MΩ |

The measured dry insulation resistance is above the limit.

| | | |
|---|---|---|
| **Wet insulation resistance:** | required | ≥18,2 MΩ |
| | measured | min. 999 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 bills of materials are given in the Test Reports No. TRPVM-2021-40357-1.

**VDE Renewables GmbH**

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63755 Alzenau, 2021-05-28