ICS 27.160
CCS F 12

NATIONAL STANDARD OF THE PEOPLE'S REPUBLIC OF CHINA

GB/T 43058-2023

Ammonia corrosion testing of photovoltaic(PV)modules

Issued on: September 7, 2023 **Implemented on: January 1, 2024**

Issued by: State Administration for Market Regulation, China National Standardization Administration

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Foreword

This document complies with the provisions of GB/T 1.1-2020 "Standardization Work Guidelines Part 1.Structure and Drafting Rules of Standardization Documents"

Drafting.

This document is modified to adopt IEC 62716.2013 "Ammonia Corrosion Test for Photovoltaic Modules".

Compared with IEC 62716.2013, this document has made the following structural adjustments.

---Chapter 3 "Terms and Definitions" has been added, resulting in the extension of subsequent chapter numbers;

---Added 5.3 "Light Aging Test".

The technical differences between this document and IEC 62716.2013 and their reasons are as follows.

---Replaced IEC 61646.2008 with the normatively quoted GB/T 18911 to adapt to my

country's technical conditions (see 5.3);

---Replaced ISO /IEC 17025 with normatively quoted GB/T 27025 to adapt to my country's technical conditions (see Chapter 12);

---Use the current IEC 61215-1-1.2021, IEC 61215-1-2.2021, IEC 61215-1-3.2021, IEC 61215-1-4.

2021 and IEC 61215-2.2021 replaces IEC 61215.2005 (see Chapter 4, 7.2, 7.3, 10.2, 10.3, 11.2 and

11.3);

---Replaced IEC 61730-2.2004 with the current IEC 61730-2.2016 (see Chapter 4, 7.2, 7.3, 10.2, 10.3, 11.2 and

11.3);

---In order to coordinate with normative reference documents, change "10.2 Maximum Power Determination" to "MQT02 Maximum Power Determination", "10.15

"Wet leakage current test" was changed to "MQT15 wet leakage current test", and "10.6 standard test conditions" was changed to "MQT06.1 standard test"

Conditions" (see Figure 2);

---In order to coordinate with the normative reference documents, the "MST13 grounding continuity test" is changed to "MST13 equipotential grounding continuity test"

"Sexual Experiment" (see Figure 2);

---For ease of use, the specific content of pretreatment technical requirements is listed (see Chapter 6).

The following editorial changes have been made to this document.

---In order to coordinate with the existing standards, the name of the standard is changed to "Ammonia Corrosion Test of Photovoltaic Modules";

--- Figure 1 adds a footnote to preprocessing; Figure 2 deletes Note 4 of the international standard.

Please note that some content in this document may be subject to patents. The publisher of this document assumes no responsibility for identifying patents.

1 Scope

This document establishes a test procedure for evaluating the resistance of photovoltaic modules to ammonia corrosion.

The purpose of this document is to evaluate the possible failures of photovoltaic modules in wet environments with high concentrations of ammonia solutions.

This document is applicable to the detection and testing of ground-based crystalline silicon photovoltaic modules and thin-film photovoltaic modules.

2 Normative reference documents

The contents of the following documents constitute essential provisions of this document through normative references in the text. Among them, the dated quotations

For undated referenced documents, only the version corresponding to that date applies to this document; for undated referenced documents, the latest version (including all amendments) applies to

this document.

GB/T 9789-2008 Sulfur dioxide corrosion test for metals and other inorganic coatings under normal condensation conditions (ISO 6988.

1985,IDT)

GB/T 18911 Design qualification and finalization of ground thin film photovoltaic modules (GB/T 18911-2002, IEC 61646.1996, IDT)

GB/T 27025 General requirements for testing and calibration laboratory capabilities (GB/T 27025-2019, ISO /IEC 17025.2017,

IDT)

IEC 61215-1-1.2021 Design qualification and finalization of terrestrial photovoltaic modules Part 1-1.Special requirements for crystalline silicon photovoltaic modules

IEC 61215-1-2.2021 Design qualification and finalization of terrestrial photovoltaic modules Part 1-2.Special cadmium telluride thin film photovoltaic modules

IEC 61215-1-3.2021 Design qualification and finalization of terrestrial photovoltaic modules Part 1-3.Special amorphous silicon thin film photovoltaic modules

IEC 61215-1-4.2021 Design qualification and finalization of terrestrial photovoltaic modules Part 1-4.Characteristics of copper indium gallium selenide thin film photovoltaic modules

IEC 61215-2.2021 Design qualification and finalization of terrestrial photovoltaic modules Part 2.Test procedures [Terrestrialphoto-

3 Terms and definitions

There are no terms or definitions to be defined in this document.

4 samples

Select 3 identical photovoltaic module samples from products made of the same material and the same process, and perform the tests listed in Figure 1 or Figure 2