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**NATIONAL STANDARD OF THE
PEOPLE'S REPUBLIC OF CHINA**

GB/T 20047.2-2025

**Photovoltaic (PV) module safety qualification - Part 2:
Requirements for testing**

光伏组件安全鉴定 第2部分：测试要求

(English Translation)

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References

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 Part 2 of GB/T 20047 "Safety Assessment of Photovoltaic Modules". GB/T 20047 has already published the following parts.

---Part 1: Structural Requirements;

---Part 2: Test Requirements.

This document adopts IEC 61730-2:2023 "Safety qualification of photovoltaic modules - Part 2: Test requirements".

Please note that some content in this document may involve patents. The issuing organization of this document assumes no responsibility for identifying patents.

This document was proposed by the Ministry of Industry and Information Technology of the People's Republic of China.

This document is under the jurisdiction of the National Technical Committee on Standardization of Solar Photovoltaic Energy Systems (SAC/TC90).

Introduction

GB/T 20047 "Safety Assessment of Photovoltaic Modules" provides protection against electric shock, fire, and personal injury caused by mechanical and environmental stresses.

The assessment requirements provide positive guidance for the safety assessment of photovoltaic modules. GB/T 20047 is proposed to consist of the following parts.

---Part 1: Structural Requirements. The purpose is to specify the structural requirements for the safety assessment of photovoltaic modules.

---Part 2: Testing Requirements. The purpose is to specify the testing requirements for the safety qualification of photovoltaic modules.

Note: The correspondence between each part and the IEC 61730 series of international standards is as follows.

---Part 1 corresponds to IEC 61730-1;

---Part 2 corresponds to IEC 61730-2.

The purpose of this document is to provide some basic structural guidelines for photovoltaic modules to pass the safety qualification test of GB/T 20047.2.

This guideline outlines requirements designed to reduce the risk of fire, electric shock, and other hazards caused by misuse, improper handling, or breakage of internal components due to component application level misuse.

Personal injury. This document specifies the basic safety structural requirements necessary to meet the end-use performance of components.

For the requirements of ground-mounted photovoltaic modules with a 98th percentile operating temperature greater than 70°C for long-term operation under outdoor climatic conditions, please refer to IEC 63126.

Photovoltaic modules combined with power conversion equipment, monitoring or control devices (such as integrated inverters, converters or output limiting function modules) for specific requirements, please refer to IEC 62109-3.

The lifespan of a component depends on its design, environment, and operating conditions; therefore, test results cannot quantitatively predict the lifespan of a component.

Some content in this document may apply to flat-panel photovoltaic modules with a concentration ratio of less than 3 times, but this content is not specifically for...

This type of concentrating component is specified.

This document is consistent with the test sequence of GB/T 9535 (IEC 61215), so one set of samples can be used simultaneously for the safety testing of photovoltaic modules.

Qualification tests and design finalization qualification tests.

Any structural modifications to photovoltaic module materials, design, or internal spacing shall be evaluated and re-evaluated in accordance with this series of standards and IEC TS62915.

Test (where applicable).

The basic requirements outlined in this document do not cover all national and regional regulations. In addition to the requirements outlined in this document, relevant ISO standards may also be adopted.

The installation and use of photovoltaic modules in a local area are governed by the structural requirements in the relevant national or local regulations.

Photovoltaic Module Safety Assessment Part 2: Test Requirements

1 Scope

This document specifies the testing requirements for the safety assessment of photovoltaic modules. GB/T 20047.1-2025 specifies the basic structural requirements for photovoltaic modules.