PD IEC/TS 62788-7-2:2017

BSI Standards Publication

Measurement procedures for materials used in photovoltaic modules

Part 7-2: Environmental exposures - Accelerated weathering tests of polymeric materials

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National foreword

This Published Document is the UK implementation of IEC TS 62788-7-2:2017.

The UK participation in its preparation was entrusted to Technical Committee GEL/82, Photovoltaic Energy Systems.

A list of organizations represented on this committee can be obtained on request to its secretary.

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TECHNICAL SPECIFICATION

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MEASUREMENT PROCEDURES FOR MATERIALS USED IN PHOTOVOLTAIC MODULES –

Part 7-2: Environmental exposures – Accelerated weathering tests of polymeric materials

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Technical specifications are subject to review within three years of publication to decide whether they can be transformed into International Standards.

IEC TS 62788-7-2, which is a technical specification, has been prepared by IEC technical committee 82: Solar photovoltaic energy systems.

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The text of this technical specification is based on the following documents:

Enquiry draft	Report on voting
82/1212/DTS	82/1262A/RVDTS

Full information on the voting for the approval of this technical specification can be found in the report on voting indicated in the above table.

This document has been drafted in accordance with the ISO/IEC Directives, Part 2.

A list of all parts in the IEC 62788 series, published under the general title *Measurement procedures for materials used in photovoltaic modules*, can be found on the IEC website.

The committee has decided that the contents of this publication will remain unchanged until the stability date indicated on the IEC website under "http://webstore.iec.ch" in the data related to the specific publication. At this date, the publication will be

- transformed into an International standard,
- reconfirmed,
- withdrawn,
- replaced by a revised edition, or
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MEASUREMENT PROCEDURES FOR MATERIALS USED IN PHOTOVOLTAIC MODULES –

Part 7-2: Environmental exposures – Accelerated weathering tests of polymeric materials

1 Scope

This part of IEC 62788 defines test procedures to characterize the weatherability of polymeric component materials used in photovoltaic (PV) modules or systems. The methods in this document have been focused on polymeric backsheets and encapsulants, but may be applied to other materials; however, these were not verified as part of the preparation.

This document includes a suite of artificial weathering exposures, consisting of a steady-state application of simulated solar irradiance, temperature, and humidity conditions maintained at stable levels through the weathering test. Cyclic stresses, including thermal and wet/dry cycles are left for future specifications.

Exposures in this document are intended for reference by other standards and as a tool to support research and product development for PV components and modules. Different exposures may be used to target specific climate/mounting configurations, with the specifics of how to apply the exposures left to those standards (e.g. component characterization standards, module qualification standards).

An informative annex including parametric descriptions of a range of climate/application configurations used in developing the exposure suites is provided as a reference.

2 Normative references

The following documents are referred to in the text in such a way that some or all of their content constitutes requirements of this document. For dated references, only the edition cited applies. For undated references, the latest edition of the referenced document (including any amendments) applies.

IEC 60904-3, *Photovoltaic devices – Part 3: Measurement principles for terrestrial photovoltaic (PV) solar devices with reference spectral irradiance data*

IEC 61730-1, *Photovoltaic (PV) module safety qualification – Part 1: Requirements for construction*

IEC TS 61836, *Solar photovoltaic energy systems – Terms, definitions and symbols*

IEC 62788-1-4, *Measurement procedures for materials used in photovoltaic modules – Part 1-4: Encapsulants – Measurement of optical transmittance and calculation of the solar weighted photon transmittance, yellowness index and UV cut-off wavelength*

IEC TS 62788-2, *Measurement procedures for materials used in photovoltaic modules – Part 2: Polymeric materials – Frontsheets and backsheets*

ASTM G151, *Standard Practice for Exposing Nonmetallic Materials in Accelerated Test Devices that Use Laboratory Light Sources*

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