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Project No. 2018/02951

Responsible committee: GEL/82 Photovoltaic Energy Systems

Interested committees:

Title: Draft BS EN IEC 61730-2 Amd.1 Amendment 1 - Photovoltaic (PV) module safety qualification. Part 2: Requirements for testing.

Please notify the secretary if you are aware of any keywords that might assist in classifying or identifying the standard or if the content of this standard

- i) has any issues related to 3rd party IPR, patent or copyright
- ii) affects other national standard(s)
- iii) requires additional national guidance or information

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This draft is issued to allow comments from interested parties; all comments will be given consideration prior to publication. No acknowledgement will normally be sent. **See overleaf for information on the submission of comments.**

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Full document details: 20/30383945 DC

## Introduction

This draft standard is based on national and international discussions. Your comments on this draft are invited and will assist in the preparation of the consequent standard.

For international standards, comments will be reviewed by the relevant UK national committee before sending the consensus UK vote and comments to the international committee, which will then decide appropriate action. If the international standard is approved, it is usual for the text to be published as a British Standard.

For national standards, comments will be reviewed by the relevant UK national committee and the resulting standards published as a British Standard.

## UK Vote

Please indicate whether you consider the UK should submit a negative (with supporting technical reasons) or positive vote on this draft. Please indicate if you are aware of any reason why this draft standard should not be published as a British Standard.

## Submission of Comments

- **Annotated drafts are not acceptable and will be rejected.**
- All comments should be submitted online at <https://standardsdevelopment.bsigroup.com/>. You will need to register in order to comment.

## Template for comments and secretariat observations

|                  |                        |
|------------------|------------------------|
| Date: xx/xx/20xx | Document: ISO/DIS xxxx |
|------------------|------------------------|

| 1  | 2                                          | (3)                          | 4               | 5                                                                                                                                  | (6)                                                                      | 7                                                  |
|----|--------------------------------------------|------------------------------|-----------------|------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------|----------------------------------------------------|
| MB | Clause No./ Subclause No./Annex (e.g. 3.1) | Paragraph/Figure/ Table/Note | Type of comment | Commend (justification for change) by the MB                                                                                       | Proposed change by the MB                                                | Secretariat observations on each comment submitted |
|    | 3.1                                        | Definition 1                 | ed              | Definition is ambiguous and needs clarifying.                                                                                      | Amend to read '...so that the mains connector to which no connection...' |                                                    |
|    | 6.4                                        | Paragraph 2                  | te              | The use of the UV photometer as an alternative cannot be supported as serious problems have been encountered in its use in the UK. | Delete reference to UV photometer.                                       |                                                    |

PROJECT NUMBER:

**IEC 61730-2/AMD1 ED2**

DATE OF CIRCULATION:

**2019-12-13**

CLOSING DATE FOR COMMENTS:

**2020-03-06**

SUPERSEDES DOCUMENTS:

**82/1483/RR**

IEC TC 82 : SOLAR PHOTOVOLTAIC ENERGY SYSTEMS

SECRETARIAT:

United States of America

SECRETARY:

Mr George Kelly

OF INTEREST TO THE FOLLOWING COMMITTEES:

PROPOSED HORIZONTAL STANDARD:



Other TC/SCs are requested to indicate their interest, if any, in this CD to the secretary.

FUNCTIONS CONCERNED:

☐ EMC☐ ENVIRONMENT☐ QUALITY ASSURANCE☒ SAFETY

This document is still under study and subject to change. It should not be used for reference purposes.

Recipients of this document are invited to submit, with their comments, notification of any relevant patent rights of which they are aware and to provide supporting documentation.

TITLE:

**Amendment 1 – Photovoltaic (PV) module safety qualification – Part 2: Requirements for testing**

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**Amendment 1 to IEC 61730-2 ED2 (2016),  
Photovoltaic (PV) module safety qualification – Part 2: Requirements for testing****FOREWORD**

This amendment has been prepared by IEC technical committee 82: Solar photovoltaic energy systems.

The text of this amendment is based on the following documents:

| FDIS        | Report on voting |
|-------------|------------------|
| 82/xxx/FDIS | 82/xxx/RVD       |

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

**Replace j) for MST 21 by:**

j) MST 21 has been removed from this draft because modules tested individually in unrestricted mounting systems in open-air climates below 40 °C operate at or below a 98th-percentile temperature of 70 °C.

**Add following sentence in n) Module breakage test:**

No longer required for Class 0 modules.

**5 Classes and their necessary test procedures****Table 1 – Required tests, depending on the Class****Replace line 6 of Table 6 by the following line:**

|                  |                  |                  | Mechanical stress tests:       |
|------------------|------------------|------------------|--------------------------------|
| X                | -                | X                | MST 32 Module breakage test    |
| X                | X                | X                | MST 33 Screw connection test   |
| X                | X                | X                | MST 34 Mechanical load test    |
| X <sup>3,5</sup> | X <sup>3,5</sup> | X <sup>3,5</sup> | MST 35 Peel test               |
| X <sup>4,5</sup> | X <sup>4,5</sup> | X <sup>4,5</sup> | MST 36 Lap shear strength test |
| X                | X                | X                | MST 37 Materials creep test    |

**6 Sampling****Replace the first 2 paragraphs by:**

Minimum 10 PV modules and two unframed PV modules are used for safety testing (plus spares as desired). In order to prove reduction of Pollution Degree to PD 1, one additional PV module is required. If tests of Sequence F are performed in parallel, one up to three additional modules are required.

If cemented joints are to be qualified, one of the following is required:

- Two unframed PV modules are tested in sequence B, one with the front-side facing the light and one with the back-side facing the light. The front-side exposed specimen shall be used in the evaluation. One additional unframed PV module is required to test initial adhesion strength if a peel test is used for evaluation. This option is the preferred option.
- For Glass/Glass constructions 20 additional samples according to 10.24.2 are required for the lap shear strength test (MST 36) to prove cemented joints

**Add following sentences at the end of paragraph:**

For sampling in the context of retesting, e.g. multiple BOM (bill of material), please see clause 8 "Testing".

**8 Testing****Replace the 4<sup>th</sup> paragraph**

35 The PV module for sequence B shall be irradiated during the first 60 kWh/m<sup>2</sup> cycle from the front side of  
36 the specimen and from the backside during the second 60 kWh/m<sup>2</sup> cycle (MST 54). By doing so, the front  
37 side and back side of the PV module will be exposed to the same UV dose.

38 **by:**

39 One PV module for sequence B shall be irradiated from the front side of the specimen and another from  
40 the backside during the 60 kWh/m<sup>2</sup> cycle (MST 54).

41

42

43 **Add following sentences at the end of paragraph:**

44 Retesting, e.g. multiple BOM, shall be performed according to IEC TS 62915. The recommended test  
45 sequences have been selected to identify adverse changes to the modified product

46

47 **Replace Figure 1 by the following figure:**

48

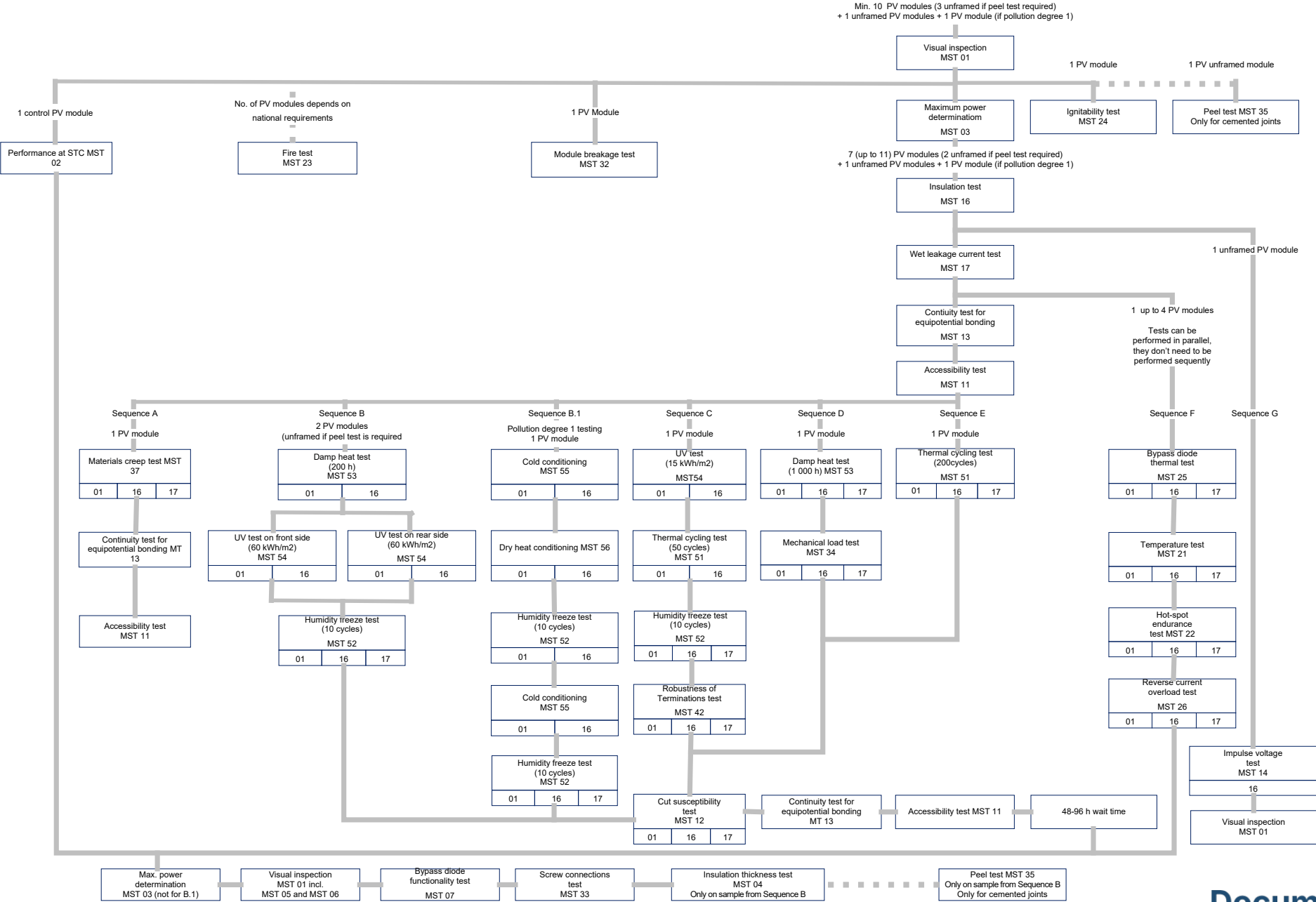


Figure 1 – Test sequences