



MICROGENERATION PRODUCT STANDARD: MCS 005

MCS Product Certification
Scheme Requirements:

Solar Photovoltaic Modules

This Microgeneration Product Standard is the property of MCS Charitable Foundation, Suite F40, Innovation Centre, Sci-Tech Daresbury, Keckwick Lane, Cheshire, WA4 4FS. Registered Charity No. 1165752

This guidance has been approved by the Standards Management Group of the Microgeneration Certification Scheme.

This standard was prepared by the Microgeneration Certification Scheme Working Group 2 'Solar Photovoltaic systems'.

REVISION OF MICROGENERATION STANDARDS

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FOREWORD

The following document contains provisions which, through reference in this text, constitute normative or informative provisions of this document MCS 005. At the time of publication, the editions indicated were valid. All documents are subject to revision, and parties applying this document MCS 005 are encouraged to investigate the possibility of applying the most recent editions of the documents referenced.

The following document (MCS 005 Issue 3) is a major update to MCS 005 Issue 2.5. It is available for reference from the date of publication 10/10/2018. Although the latest edition of the BS EN standards should take precedence, the previous edition is still applicable during the transition period until 11/10/2020. Manufacturers or importers of microgeneration systems who have already certificated a microgeneration product, prior to the date of publication of this document, in accordance with MCS 005 shall comply with the latest edition of relevant BS EN standard(s) from 11/10/2020.

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1. INTRODUCTION

1.1 This document identifies the evaluation and assessment requirements and practices for the purposes of certification and listing of Solar Photovoltaic (PV) modules. Certification and listing of products are based on evidence acceptable to the certification body:

- that the product meets the standard;
- that the manufacturer has staff, processes and systems in place to ensure that the product delivered meets the standard.

and on:

- periodic audits of the manufacturer including testing as appropriate;
- compliance with the contract with the certification body for listing and approval including agreement to rectify faults as appropriate.

2. SCOPE

2.1 This scheme provides ongoing independent, third party assessment and approval of companies who wish to demonstrate that their Solar PV module(s) meet and continue to meet the requirements of:

- BS EN 61215-1:2016 Terrestrial photovoltaic (PV) modules. Design qualification and type approval. Test requirements
- BS EN 61215-1-1:2016 Terrestrial photovoltaic (PV) modules. Design qualification and type approval. Special requirements for testing of crystalline silicon photovoltaic (PV) Modules
- BS EN 61215-1-2:2017 Terrestrial photovoltaic (PV) modules – Design qualification and type approval. Part 1-2: Special requirements for testing of thin-film Cadmium Telluride (CdTe) based photovoltaic (PV) modules
- BS EN 61215-1-3:2017 Terrestrial photovoltaic (PV) modules - Design qualification and type approval. Part 1-3: Special requirements for testing of thin-film amorphous silicon based photovoltaic (PV) modules
- BS EN 61215-1-4:2017 Terrestrial photovoltaic (PV) modules. Design qualification and type approval. Special requirements for testing of thin-film Cu (In,Ga)(S,Se)₂ based photovoltaic (PV) modules
- BS EN 61215-2:2017 Terrestrial photovoltaic (PV) modules. Design qualification and type approval. Test procedures

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Note 1: This scheme has some additional requirements for roof-integrated PV modules (see 5.2 b).

3. APPLICATIONS TO JOIN THE SCHEME

3.1 Applications should be made to an accredited certification body operating this scheme, who will provide the appropriate application form and details of the applicable fees.

4. MANAGEMENT SYSTEMS CERTIFICATION

4.1 Manufacturers shall operate a certified documented manufacturing quality control system, in accordance with the requirements of MCS 010 "Generic Factory Production Control Requirements"

5. CERTIFICATION AND APPROVAL

5.1 Certification and approval is based on the following:

a) Evidence of compliance with:

- BS EN 61215-1:2016 Terrestrial photovoltaic (PV) modules. Design qualification and type approval. Test requirements
- BS EN 61215-1-1:2016 Terrestrial photovoltaic (PV) modules. Design qualification and type approval. Special requirements for testing of crystalline silicon photovoltaic (PV) Modules
- BS EN 61215-1-2:2017 Terrestrial photovoltaic (PV) modules – Design qualification and type approval. Part 1-2: Special requirements for testing of thin-film Cadmium Telluride (CdTe) based photovoltaic (PV) modules
- BS EN 61215-1-3:2017 Terrestrial photovoltaic (PV) modules – Design qualification and type approval. Part 1-3: Special requirements for testing of thin-film amorphous silicon based photovoltaic (PV) modules
- BS EN 61215-1-4:2017 Terrestrial photovoltaic (PV) modules. Design qualification and type approval. Special requirements for testing of thin-film Cu(In,Ga)(S,Se)₂ based photovoltaic (PV) modules

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- BS EN 61215-2:2017 Terrestrial photovoltaic (PV) modules. Design qualification and type approval. Test procedures

5.2 Evidence of compliance is generally accepted as independent third-party testing by a UKAS (or equivalent) accredited test laboratory. However, other evidence of compliance may be considered at the discretion of the certification body (see document MCS 011 'Testing acceptance criteria').

- b) For roof-integrated PV modules (i.e. those that replace part of the roof covering and hence perform some of the functions of the roof covering) the installation instructions shall specify:
 - 1) the types of roof constructions (e.g. slate, shingle, seam, concrete tile etc) with which the PV modules can be integrated and, for each of these roof types, shall give full instructions of how the module is to be installed to provide a weatherproof installation (i.e. details of any flashing or sealing kits and how these are fitted to the module and to the adjoining roof covering). Particular attention should be paid into roof-integration with double lap plain clay tiles.
 - 2) any limitations in the use of the PV modules required to meet building regulation requirements, in particular those relating to external fire spread.
- c) Verification of the establishment and maintenance of the manufacturing company's quality management system in accordance with the Factory Production Control requirements (FPC).
- d) Review of the technical documentation relating to the material or product.

5.3 Applications for a range of common products (product families) will be dealt with on a case by case basis. For example, where one or more characteristics are the same for products with similar design, construction and functionality then the results of tests for these characteristics on one product may be applied to other similar products.

5.4 A certificate is awarded following demonstration of satisfactory compliance with the standard and this scheme document, taking into account any limitations imposed by the standard and other appropriate guidelines and satisfactory verification/assessment of the manufacturer's Factory Production Control and technical documentation.

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5.5 Certificates contain the name and address of the manufacturer, model and reference number of the solar PV module, the test standard, a unique certificate reference number and the issue number and date.

5.6 Certificates are valid from the date of issue and are maintained and held in force subject to satisfactory completion of the requirements for maintenance of certification (see clause 8) but remain the property of the issuing certification body.

5.7 Details of the manufacturer and the certificated product(s) are listed on the website at www.mcscertified.com

6. TECHNICAL DOCUMENTATION

6.1 Technical documentation for the product must be submitted for review. This documentation shall be presented in English and shall be such that it can be assured that the products submitted for test are equivalent to those that are to be manufactured for normal production. The documentation must consist of the following as a minimum;

- a) Details of intended use, application and classifications (if any) required
- b) Manufacturing drawings and/or specifications including tolerances, issue and revision numbers
- c) The revision number of the product.
- d) Raw material and components specifications
- e) Details of the quality plan applied during manufacture to ensure ongoing compliance
- f) Where historical test data is requested to be considered for the application, full test report and details of any existing approvals (Note: each application will be dealt with on a case by case basis and further information about the acceptance of previous testing is available on request)
- g) Installation use and maintenance instructions.

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7. PERFORMANCE AND TESTING CRITERIA

7.1 Module maximum power (P_{mpp} stc) tolerances as declared on the data sheet and label shall be either:

- a) A value either side of zero (e.g. +/- 5%) or
- b) A value relative to zero (e.g. 0% to +3%)

7.2 Module maximum power tolerance brackets above zero are not permitted (e.g. +5% to +10%).

7.3 A variation of more than +10% and -5% is not permitted.

8. MAINTENANCE OF CERTIFICATION AND LISTING

Certificates and listing are maintained and held in force subject to satisfactory completion of the following requirements for maintenance of certification:

8.1 FACTORY AUDITS

8.1.1 Certification is maintained through annual FPC quality system audits, which shall include a detailed check that the product being manufactured is to the same specification as the product tested.

8.2 PRODUCT AUDITS

Product audits will be conducted as follows:

- 8.2.1 review of the product technical data files including materials
- 8.2.2 review of end of line tests in accordance with the manufacturer's quality plan
- 8.2.3 repeat testing of elements from the product standard as appropriate to confirm that the product continues to meet the requirements for certification and listing.

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9. CERTIFICATION MARK AND LABELLING

All approved products listed under this Scheme shall be traceable to identify that they have been tested and certificated in accordance with the requirements of the test standard. See below for details.

The Supplier shall use the Certification Mark(s) only in accordance with their Certification Body's instructions.

An example of the Certification Mark(s) that can be used for this Scheme is as follows:

From the 1st December 2019 the new MCS Certification Mark is available for use:



Prior to the 1st December 2019 but still in use until a product is phased out or a Manufacturer wishes to migrate over to the new MCS Certification Mark:



Certificate Number MCS "XXX"

"Description of the Technology certificated"

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Where 'XXX' is the certificate number, and the logo of the Certification Body issuing the certification would sit on the right-hand side of the logo.

Companies may only use the Mark while the certification is maintained.

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AMENDMENTS ISSUED SINCE PUBLICATION

DOCUMENT NUMBER	AMENDMENT DETAILS	DATE
1.1	'UK' removed from scheme name; 'Department of Trade and Industry' MCS mark replaced by 'BERR' MCS mark	11/01/2008
1.2	Revision details added; BRE Certification Limited mark replaced by BRE Global mark	25/02/2008
2.0	Requirements for roof integrated modules added – For immediate implementation. N.B. These changes do not affect products already certificated	15/07/2008
2.1	Gemserv details added as Licensee. Document reformatted to reflect brand update. References to BERR updated to DECC, MCS logo updated accordingly. Website and email addresses updated to reflect new name.	01/12/2008
2.2	Quality review	10/01/2009
2.3	MCS Marks Updated	25/02/2009
2.4	Addition of new section 7 outlining module tolerances.	18/09/2015
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2.5	Removal of Note 2 from Scope.	16/06/2017
3.0	Changes made to clauses 2.1 and 5.1 to correct external reference. Amend the module variation within Clause 7.3	10/10/2018
3.1	MCS Mark Updated. Rebranding of document, update of email and website addresses and cosmetic changes	01/12/2019