

## Standard Information

**Standard Number:** UL 1703

**Standard Name:** Flat-Plate Photovoltaic Modules and Panels

**Standard Edition and Issue Date:** 3<sup>rd</sup> Edition Dated March 15, 2002

**Date of Revision:** June 22, 2016

**Date of Previous Revision to Standard:** 3<sup>rd</sup> Edition Revised October 12, 2015

## Effective Date of New/Revised Requirements

**Effective Date (see Schedule below):** **September 29, 2017**

## Impact, Overview, Fees and Action Required

**Impact Statement:** A review of all Listing Reports is necessary to determine which products comply with new/revised requirements and which products will require re-evaluation. **NOTE:** Effective immediately, this revised standard will be exclusively used for evaluation of new products unless the Applicant requests in writing that current requirements be used along with their understanding that their listings will be withdrawn on Effective Date noted above, unless the product is found to comply with new/revised requirements.

**Overview of Changes:** The revisions dated June 22, 2016 were issued to incorporate the Addition of Allowable PV Cable Connectors to Module Documentation and Revising the Reference to the Standard for Component Connectors for Use in Data, Signal, Control and Power Applications, UL 1977, to the Standard for Connectors for Use in Photovoltaic Systems, UL 6703. Specific details of new/revised requirements are found in table below.

**If the applicable requirements noted in the table are not described in your report(s), these requirements will need to be confirmed as met and added to your report(s) such as markings, instructions, test results, etc. (as required).**

**Schedule:** So that shipping of products with Listing Marks will not be interrupted, an **approximate** schedule has been established to ensure Listing Reports are found compliant by Effective Date:

- January 27, 2017 = 8 Month Report Review – Intertek will review all Reports. Update if compliance is verified or issue Findings Letter/Quote for any re-evaluations needed
- July 28, 2017 = 6 Month Quote Cut-off – Quotes returned for necessary re-evaluations
- **September 29, 2017** = Effective Date – ATM Suspended for all non-compliant Reports

**Fees:** An initial review of Listing Report (s) will be covered by a direct billing project and will be invoiced at not more than \$1000 per report.

### Client Action Required:

**Information** – To assist our Engineer with review of your Listing Reports, please submit technical information in response to the new/revised paragraphs noted in the attached or explain why these new/revised requirements do not apply to your product (s).

**Current Listings Not Active? – Please immediately identify any current Listing Reports or products that are no longer active and should be removed from our records. We will do this at no charge as long as Intertek is notified in writing prior to the review of your reports.**



# Standards Update Notice (SUN)

Issued: October 10, 2016

## Description of New/Revised Technical Requirements

Clause	Verdict	Comment
10	Info	<b>Connection Means</b>
10.8		<p><i>Additions to existing requirements are <u>underlined</u> and deletions are shown <del>lined-out</del> below.</i></p> <p>A connector intended for use on the output wiring of a module or panel only shall comply with:</p> <p>a) <del>the Standard for Component Connectors for Use in Data, Signal, Control and Power Applications, UL 1977,</del></p> <p>b) <del>Temperature Cycling Test, Section 35, excluding the Wiring Compartment Securement Test and the following Wet Insulation Resistance Test, and</del></p> <p>c) <del>Humidity Test, Section 36, excluding the Wiring Compartment Securement Test and the following Wet Insulation Resistance Test.</del></p> <p><u>A connector intended for use on the output wiring of a module or panel shall comply with the Standard for Connectors for use in Photovoltaic Systems, UL 6703.</u></p>
47	Info	<b>Details (MARKING)</b>
47.1		<p><i>Additions to existing requirements are <u>underlined</u> and deletions are shown <del>lined-out</del> below.</i></p> <p>A module or panel shall have a plain, legible, permanent marking that includes:</p> <p>a) The manufacturer's name, trademark, or other descriptive marking by which the organization responsible for the product can be identified;</p> <p>b) The model number or the equivalent;</p> <p>c) The electrical ratings – see 46.1; <del>and</del></p> <p>d) The date or other dating period of manufacture not exceeding any three consecutive months; <u>and</u></p> <p><u>e) If the module is equipped with PV wiring connectors that comply with the Standard for Connectors for Use in Photovoltaic Systems, UL 6703, the specific allowable mating connector manufacturer(s) and model number(s).</u></p> <p>Exception No. 1: The manufacturer's identification may be in a traceable code if the product is identified by the brand or trademark owned by a private labeler.</p> <p>Exception No. 2: The date of manufacture may be abbreviated; or may be in a nationally accepted conventional code or in a code affirmed by the manufacturer, provided that the code:</p> <p>a) Does not repeat in less than 10 years; and</p> <p>b) Does not require reference to the production records of the manufacturer to determine when the product was manufactured.</p> <p><u>Exception No. 3: With regards to part (e), if it is deemed impractical to include this information directly on the module product itself, the statement "See module literature for appropriate mating connectors" or equivalent may be used.</u></p>
48.11		<i>Additions to existing requirements are <u>underlined</u> and deletions are shown <del>lined-out</del> below.</i>



# Standards Update Notice (SUN)

Issued: October 10, 2016

Clause	Verdict	Comment
		<p>The electrical installation instructions shall include a detailed description of the wiring method to be used in accordance with the National Electrical Code, ANSI/NFPA 70. This description shall include:</p> <p>a) The grounding method to be used, and where a specific grounding device is supplied or suggested, the following statements:</p> <ol style="list-style-type: none"> <li>1) "Where common grounding hardware (nuts, bolts, star washers, split-ring lock washers, flat washers and the like) is used to attach a listed grounding/bonding device, the attachment must be made in conformance with the grounding device manufacturer's instructions."</li> <li>2) PV module manufacturers recommending such a method must either 1) thoroughly detail the attachment means in the module installation instructions or 2) refer the installer to readily available manufacturer's instructions for the grounding/bonding device.</li> <li>3) "Common hardware items such as nuts, bolts, star washers, lock washers and the like have not been evaluated for electrical conductivity or for use as grounding devices and should be used only for maintaining mechanical connections and holding electrical grounding devices in the proper position for electrical conductivity. Such devices, where supplied with the module and evaluated through the requirements in UL 1703, may be used for grounding connections in accordance with the instructions provided with the module."</li> </ol> <p>b) For modules with a wiring compartment intended for use with field-installed wiring:</p> <ol style="list-style-type: none"> <li>1) The size, type, and temperature rating of the conductors to be used,</li> <li>2) The maximum rating of any overcurrent protection, if required,</li> <li>3) The minimum and maximum cable diameters when the wiring method is cable, and</li> <li>4) Any limitations on wiring methods that apply to the wiring compartment or box.</li> </ol> <p>c) <u>Modules equipped with PV wiring connectors that comply with the Standard for Connectors for Use in Photovoltaic Systems, UL 6703, shall have the specific allowable mating connector manufacturer(s) and model number(s) listed, as well as contact information and/or website of the PV connector manufacturer. If a specific module product is available with multiple PV wiring connectors from various manufacturers, then the following shall be included:</u></p> <ol style="list-style-type: none"> <li><u>1) Means to identify each distinct PV connector manufacturer's product - such as a picture or illustration, unique physical features, markings, company logos, etc, and</u></li> <li><u>2) Allowable mating connector manufacturer and model number(s) listed for each distinct cable connector manufacturer's product(s), as well as contact information and/or website of the PV connector manufacturer.</u></li> </ol>



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Clause	Verdict	Comment
		CUSTOMERS PLEASE NOTE: This Table and column "Verdict" can be used in determining how your current or future production is or will be in compliance with new/revised requirements.