

STANDARD INFORMATION

Standard: UL 6703

Standard ID: Connectors for Use in Photovoltaic Systems [UL 6703:2014 Ed.1+R:08Dec2020]

Previous Standard ID: Connectors for Use in Photovoltaic Systems [UL 6703:2014 Ed.1+R:22Dec2017]

EFFECTIVE DATE OF NEW/REVISED REQUIREMENTS

Effective Date: **December 8, 2022**

IMPACT, OVERVIEW, AND ACTION REQUIRED

Impact Statement: Per our accreditation, Intertek is required to review reports against the standard revisions to confirm compliance. Once compliance is confirmed, the standard reference in the report is updated to show continued compliance to the technical requirements of the standard.

Overview of Changes: Additional requirements to address the field assembly of PV connectors onto cables. Specific details of new/revise requirements are found in table below.

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 – Please immediately identify any current Listing Reports or products that are no longer active and should be removed from our records.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.



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CLAUSE	VERDICT	COMMENT
		<i>Additions to existing requirements are <u>underlined</u> and deletions are shown lined-out below.</i>
8A	Info	Field Assembled Connectors <i>New clause added;</i> For field assembled connectors, the manufacturer shall provide all connector components, and assembly instructions in accordance with Assembly Instructions, Section 12. If any special or nonstandard tools are required for installation of the connector to the cable in the field, the connector manufacturer shall ensure the availability of these tools for installers, by either providing the required tools with the components shipment, or providing reliable supplier's information in the assembly instructions.
9	Info	PV Connector Tests
9.1	Info	General
9.1.2	Info	Preparation of specimens <i>New clause added</i> For field assembled connectors, all test samples required by this standard shall be assembled from the connector components provided by the manufacturer. The sample assembly process shall be performed precisely according to the manufacturer's assembly instructions, including using manufacturer specified special or nonstandard tools, as described in 8A.1.
12	Info	Assembly Instructions
12.2	Info	Required content The instructions shall include the following in addition to any other information required by this standard: d) The following technical information: 1) The minimum and maximum outer wire insulation diameter; 2) The minimum and maximum number of conductor strands; 3) The minimum and maximum wire size or wire range; 4) Conductor strip length for each allowable conductor size; 5) For a compression type connector, the specific tool(s) or specific removable tool part(s) (pressing die), where required for assembly, identified by: i) Manufacturer, Catalog or type designation; ii) Color coding; iii) Die index number; or iv) Other equivalent means.



CLAUSE	VERDICT	COMMENT
		<p>6) For a mechanical type connector, the torque requirements for the setscrew;</p> <p>7) For factory or other assembly using a press, a table showing tool pressure and crimp height for each conductor size;</p> <p>8) <u>For locking type connectors, the appropriate tool and its disconnect operation, see 4.6, and</u></p> <p>9) <u>If the PV connector is intended to be field assembled and terminated to the cable in the field, additional procedures and requirements shall be provided as follows:</u></p> <ul style="list-style-type: none">i) <u>For electrical connections between connector parts and conductor cables, detailed cable end preparation shall be provided.</u> <u>NOTE: Dedicated tools are recommended.</u>ii) <u>For polymer material sealing and strain relief, if a specific torque value is required for proper assembly, proper tightening torque values shall be provided through one of following means:</u><ul style="list-style-type: none">1) <u>If special tools are used, especially plastics tools, the proper temperature range or temperature limitations for the use of the tool shall be provided; or</u>2) <u>If a generic torque tool is permitted, the tool calibration requirement shall be specified, and the torque adjustment for different temperatures shall be provided by equations, tables, or charts;</u>iii) <u>Application means of adhesive or sealant, if it is provided as part of the connector;</u>iv) <u>A statement outlining additional assembly instructions or procedures if assembly occurs in adverse environmental conditions. Examples of adverse environmental conditions include, but are not limited to, extreme rain or snowfall, extremely hot or cold ambient temperatures, or in an area where there is excessive dust; and</u>v) <u>A statement requiring special precautions if assembly occurs at a time without the other mating connector, such that a connector's contacts are left unmated and exposed. The statement should specify necessary precautions to prevent occurrences including, but not limited to, corrosion, contamination, icing, etc. that may compromise the integrity of the connector in its final use.</u>