IPC-8701
2014 - June

Final Acceptance Criteria Standard for PV Modules-Final Module Assembly

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Association Connecting Electronics Industries

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IPC-8701

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Developed by the Visual Acceptance Criteria for Solar Panel-Final Module Assembly Subcommittee (E-15) of the IPC PV Module Technical Standards Committee (E-10) of IPC

Users of this publication are encouraged to participate in the development of future revisions.

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Acknowledgment

Any document involving a complex technology draws material from a vast number of sources. While the principal members of the Visual Acceptance Criteria for Solar Panel-Final Module Assembly Subcommittee (E-15) of the IPC PV Module Technical Standards Committee (E-15) are shown below, it is not possible to include all of those who assisted in the evolution of this standard. To each of them, the members of the IPC extend their gratitude.

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Chris Yang, CEP Solar Ltd.

We would like to provide special acknowledgment to the following members for providing pictures and illustrations that are used in this standard.

Domenico Buono, Italia Solare Industrie

Gary Cicero, CEP Solar Ltd.

David Falk, TUV Rheinland PTL

Vivek Gade, Jabil Circuit, Inc.

Jim Hisert, Indium Corporation of America

Y. Harshavardhana Rao, Titan Energy Systems Ltd.

Dennis Willie, Flextronics International

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Final Acceptance Criteria Standard for PV Modules-Final Module Assembly

1 SCOPE AND CLASSIFICATION

This IPC standard presents acceptance guidelines for the solar panel in final module assembly. The intent of this standard is to cover crystalline solar modules. The modules can vary in size and cell number. Some of the content may be applicable to other photovoltaic modules such as thin film. This includes junction boxes and other attributes that need to be inspected. For example, junction boxes used in solar panels include inspection criteria for sealants and potting compounds used in the attachment. The sealants and potting compounds used could have cracking and moisture ingress so a visual inspection quality system would need to be put in place to determine acceptability which this subcommittee will help to address.

This document covers the most common designs; however, designs vary greatly and continue to evolve. Consequently, exceptions or other standards may need to be specified. For example, sections on frames would not apply to frameless modules. Also, modules for Building Integrated Photovoltaic (BIPV) applications should comply with relevant building code standards. Electrical performance and safety are outside of the scope of this standard and can be referred to in the relevant IEC, UL, IEEE and region specific standards.

2 APPLICABLE DOCUMENTS

2.1 IPC[1]

IPC-A-610 Acceptability of Electronic Assemblies

IPC-A-620 Requirements and Acceptance for Cable and Wire Harness Assemblies

J-STD-609 Marking and Labeling of Components, PCBs, and PCBAs to Identify Lead (Pb), Lead-Free (Pb-Free), and Other Attributes

2.2 British Standards Institution (BSI)[2]

BS EN 12020-2 Aluminium and aluminium alloys. Extruded precision profiles in alloys EN AW-6060 and EN AW-6063. Tolerances on dimensions and form

2.3 Underwriters Laboratories (UL)[3]

UL 1703 Flat-Plate Photovoltaic Modules and Panels

2.4 IEC[4]

IEC 61215 Crystalline silicon terrestrial photovoltaic (PV) modules - Design qualification and type approval

IEC 61730 Photovoltaic (PV) module safety qualification

IEC 60904-9 Photovoltaic devices - Part 9: Solar simulator performance requirements

2.5 ISO[5]

ISO/IEC 15416 Information technology - Automatic identification and data capture techniques - Bar code print quality test specification - Linear symbols

1. www.ipc.org
2. www.bsigroup.com
3. www.ul.com
4. www.iec.ch
5. www.iso.org