



Descriptive Report

MASTER CONTRACT: 0000264073
REPORT: 80213958
PROJECT: 80213958

EDITION

Edition	Issued On	Project	Location	Prepared By	Authorized By
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PRODUCTS

Class 5313 85 POWER SUPPLIES - PHOTOVOLTAICS - Photovoltaic Hazard Control - US

Racking systems for bonding and grounding of photovoltaic modules. The systems listed are designed to provide hazard controls for PV arrays mounted on roofs. The modules are bonded to the racking system and wire management to reduce hazard due to fire fighter interactions during various fault conditions. All components in array shall be compliant with its given standards and rates shall meet requirements of installation and applicable standards per end use of system design of array.

Model(s)
Power Rail™ P6, Power Rail™ P6+, Power Rail™ P8, Power Rail™ P14

The grounding of the system is intended to comply with the latest edition of the National Electrical Code, including NEC 250 & 690 or in accordance with CSA C22.1, Safety Standard for Electrical Installations, Canadian Electrical Code, Part I. Local codes compliance is required, in addition to national codes

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CONDITIONS OF ACCEPTABILITY

Installation is subject to acceptance of the local inspection authorities having jurisdiction. The certification of these products relates only to the methods of installation, bonding, and grounding as outlined in the Installation Manual for each product.

APPLICABLE REQUIREMENTS

Standards Used	Description
ANSI/CAN/UL 3741 (First Edition)	UL Standard for Safety Photovoltaic Hazard Control

MARKINGS

The manufacturer is required to apply the following markings:

- Products shall be marked with the markings specified by the particular product standard.

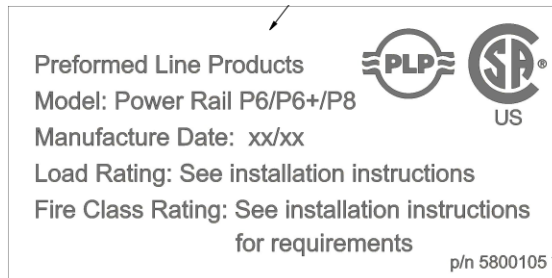
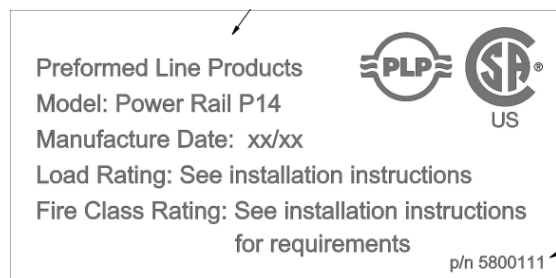
Additional markings not covered by the product standard(s) may be required by the Authorities Having Jurisdiction. It is the responsibility of the manufacturer to provide and apply these additional markings, where applicable, in accordance with the requirements of those authorities.

The products listed are eligible to bear the CSA Mark shown with adjacent 'US' indicator for US only (indicating that products have been manufactured to the requirements of U.S. Standards).

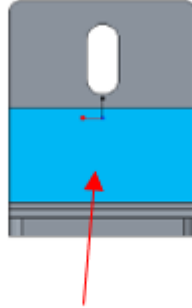
The following markings appear on the L-Foot (for Power Rail P6, P6+, P8, and P14 systems) by adhesive label or stamping:

1. Submitter’s name and/or CSA Master Contract number “264073”;
2. Model designation;
3. Manufacturing date;
4. The following statement or equivalent verbiage: “System Fire Class Rating: See Installation Instructions for Installation Requirements to Achieve a Specified System Fire Class Rating with this product.”
5. Design load rating/designation of information location in Installation Manual;

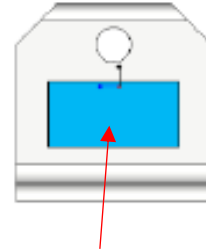
Marking Labels



Location of Marking



Power Rail P6/P8 1.0 x 2.0



Power Rail P14 1.0 x 2.0

LABEL SERVICE

Not Applicable

NAMEPLATE ADHESIVE LABEL MATERIAL APPROVAL INFORMATION

Flexcon Co. Inc. Model Number "THERMLfilm CHEMGARD 21361". UL Certified under file number PGJI2.MH16635. Rating when adhered to Galvanized Steel: 125°C to -40°C, suitable for use in indoor/outdoor locations.

Or

Markings permanent per stamping, etching, or machining into metal components.

ALTERATIONS

None

FACTORY TESTS

Not Applicable

SPECIAL INSTRUCTIONS FOR FIELD SERVICES

1. Component descriptions marked with either the "(INT)" or "(INT*)" identifiers may be substituted with other components providing the requirements specified under the notes in the "Description" are complied with.

COMPONENT SPECIAL PICKUP

1. Component descriptions marked with the identifier "(CT)" are subject to annual pickup and Conformity Testing.

DESCRIPTION

Notes:

1. Component Substitution
 - a) Critical components (those identified by mfr name, cat no), which are NOT identified with either "INT" or "INT*" are not eligible for substitution without evaluation and report updating
 - b) The term "INT" means a "Certified" and/or "Listed" (or a "Recognized" and/or "Accepted") component may be replaced by one "Certified" and/or "Listed" by another certification organization accredited by the appropriate accreditation body or scheme requirements to the correct standard, for the same application; providing the applicable country identifiers are included and requirements in item "d" below are complied with.
 - c) The Term "(INT*)" means a "Recognized" and/or "Accepted" component may be replaced by a component that is CSA Certified. The applicable country identifiers shall be included, the requirements in item "d" below as well as any "conditions of suitability" for the component (as recorded in this descriptive report) shall be complied with;
 - d) Components which have been substituted, must be of an equivalent rating, configuration (size, orientation, mounting) and the applicable minimum creepage and clearance distances are to be maintained from live parts to bonded metal parts and secondary parts.
 - e) Substitution of a "Certified" and/or "Listed" component with a component that is "Recognized" or "Accepted" is not permitted without evaluation and report updating.
 - f) Substitution of a "Recognized" and/or "Accepted" component by one that is not CSA Certified is not permitted without a proper evaluation as well as a report update because the Conditions of Acceptance of the original component may be different than the Conditions of Acceptance of the substitute component.

MODULE RACKING SYSTEM TYPE/S		
Model(s)	Power Rail™ P6, Power Rail™ P6+, Power Rail™ P8, Power Rail™ P14	
Module Fire Type	Class A, Steep Slope, using Type 1, Listed Modules. Tested at 5” interstitial gap, the rating obtained for a 5-inch (127 mm) gap can be used for any other gaps allowed by the mounting instructions, per section 15 of UL 2703	
Max System Voltage	1000 VDC	
IDENTIFICATION OF COMPONENTS AND MATERIALS		
Description	part #	Ratings/Certifications/Notes
Racking System	Power Rail™ P6, Power Rail™ P6+, Power Rail™ P8, Power Rail™ P14	Certified to UL 2703 Max system voltage: 1000 VDC
PV Modules	Various	Max system voltage: 1000VDC Refer to SP3561-4 Approved Module List UL 61730 certified Construction equivalent to Type 1 module fire ratings:

		<p>Glass superstrate of 2.8 mm (0.11 in) \leq thickness \leq 4.4 mm (0.17 in); a polymeric encapsulant between the superstrate and cells with a pre-lamination thickness of $0,5 \pm 0,3$ mm ($0,02 \pm 0,012$ in); either a polymeric encapsulant between the cells and substrate with a pre-lamination thickness of $0,5 \pm 0,3$ mm ($0,02 \pm 0,012$ in) and a polymeric substrate with nominal thickness no less than 0,30 mm (0,012 in) and no more than 0,64 mm (0,025 in) thickness or a combined substrate and encapsulant that meets the pre-lamination total thickness equal to an encapsulant thickness of $0,45 \pm 0,2$ mm ($0,018 \pm 0,008$ in) and a polymeric substrate with nominal thickness no less than 0,30 mm (0,012 in) and no more than 0,64 mm thickness (0,025 in); and metallic framing protecting the edge of the laminate. Anodized Aluminum Frame</p>
Inverters / MLPEs	Various	<p>Inverters and MLPEs must be UL 1741 listed with PVRSS/PVRSE functions certified by UL 1741. The installation location of the inverter shall be based on Power Rail™ System Installation Manuals and Addendum.</p>
Wire Management	PLP WIRE MANAGEMENT SOLUTIONS	<p>Refer to SL-ML-1228 for approved wire management solution.</p>

TEST HISTORY

Project 80213958 (Ed. 1)

UL 3741 new certification evaluation of Power Rail™ systems from Preformed Line Products.

Tests per sections:

- 14.1 Potential damage from FF operations
- 14.2 Damage from FF tool
- 14.3 Damage from falling FF
- 14.4 Damage from FF step, walk or crawl
- 15.3 Leakage current tests

Construction Review:

Construction review performed with satisfactory results.

---End of Report---