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RESEARCH REPORT: RR 26108  
(CSI #26 31 03)

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REEVALUATION DUE  
DATE: December 1, 2024  
Issued Date: October 1, 2023  
Code: 2020 LABC

## GENERAL APPROVAL – Renewal – PermaCity SolarStrap™ Attachment System

### DETAILS

The PermaCity SolarStrap™ Attachment System is composed of aluminum frames, aluminum plates, or roof manufacturers Steel Plates, OMG fasteners and roof manufacturers fasteners and Caps and Ties, used together to attach the PV mounting system to the roof assembly. The connector plates are fastened to the roof deck with the fasteners with the exception of a fully adhered roof that may not have fasteners. The Cap and Ties are made from TPO or PVC membrane roofing material. The Cap and Ties and roof membrane should be sourced from the same roof membrane manufacturer to ensure compatibility and proper welds. The Cap and Ties are heat-welded to the roof covering membrane. When used, the Tie must be bolted to the PV mounting system.

The proprietary attachment systems recognized by this approval apply to installation on the roof assemblies consisting of the following:

- Roof decks comprised of wood-based sheathing, steel or concrete.
- Above the deck insulated and non-insulated roofs.
- Roof covering membranes that are either thermoplastic polyolefin (TPO) manufactured in accordance with ASTM D6878 or polyvinyl chloride (PVC) manufactured in accordance with ASTM D4434, mechanically or adhesively attached to the roof deck and comprise of the top layer of the roof assembly.

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**The approval is subject to the following conditions:**

1. PermaCity SolarStrap™ Attachment System must be installed in accordance with the manufacturer's published installation instructions. A copy of the manufacturer's installation instructions shall be available at the job site.
2. Special inspections are required for the installation of the proprietary attachment system onto the roof assemblies as mandated by the provisions of the 2020 LABC Section 1705.11 for wind resistance and Section 1705.1.1 Seismic Design Categories D, E or F. A Deputy Inspector shall visit each job prior to permit final to verify Attachments are installed according to manufacture instructions and jobsite plans.
3. A deputy inspector will be on site periodically during the installation of the PermaCity SolarStrap™ Attachment System, a minimum of 4 times for roofs less than 50,000 ft<sup>2</sup> and 6 times for roofs greater than 50,000 ft<sup>2</sup>. The deputy inspector will produce a special inspection report to be submitted to the Inspector of the Los Angeles Department of Building and Safety.
4. Field tests on the existing roof shall be performed according to sections 3.2.5 to 3.2.9 of ICC Acceptance Criteria AC467 by a City of LA approved test lab. A factor of safety of 3 shall be applied to the calculated loads for each load direction. The Flat Plate shall be tested to the same factor of safety. For roofs greater than 50,000 ft<sup>2</sup>, roof will be divided into 6 sections, and tests will be conducted at each of the sections. For roofs less than 50,000 ft<sup>2</sup>, roof will be divided into 4 sections, and tests will be conducted at each of the sections.
5. The overall performance of the roof structure, the adequacy of the existing building with new loads, and calculations demonstrating that the applied loads are less than the maximum allowable loads must be submitted to the structural plan check section for each project. The calculations must be prepared by a California registered Civil Engineer or Architect.
6. No short term loading increase is permitted in the tabulated allowable load values.
7. A California registered Civil or architect must design the structure supporting the PV array and verify its adequacy to support the anticipated applied loads.
8. Electrical safety, grounding provisions and grounding continuity for the PV modules to the PV mounting system are outside the scope of this report.
9. Roof covering membranes that are either thermoplastic polyolefin (TPO) manufactured in accordance with ASTM 6878 or polyvinyl chloride (PVC) manufactured in accordance with ASTM 4434, mechanically or adhesively attached to the roof deck and comprise of the top layer of the roof assembly. Other roofs require the Flat Stanchion per manufactures instructions.

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10. Roof must have a maximum slope of 4:12.
11. Products requiring structural welding shall be fabricated in the shop of a City of Los Angeles licensed fabricator.

## **DISCUSSION**

This report is in compliance with the 2020 City of Los Angeles Building Code.

The approval is based on tests and analyses in accordance with ICC-ES AC 467, dated June 2016.

Addressee to whom this Research Report is issued is responsible for providing copies of it, complete with any attachments indicated, to architects, engineers and builders using items approved herein in design or construction which must be approved by Department of Building and Safety Engineers and Inspectors.

This general approval of an equivalent alternate to the Code is only valid where an engineer and/or inspector of this Department has determined that all conditions of this approval have been met in the project in which it is to be used.

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RR26108  
TLB2300125  
R09/28/2023  
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