Code Compliance Research Report
CCRR-0501

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Revision Date: 04-11-2026
Renewal Date: 04-30-2027

DIVISION: 07 – THERMAL AND MOISTURE PROTECTION
Section: 07 31 00 - Roof Shingles and Shakes

REPORT HOLDER:
CertainTeed, LLC
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Malvern, PA 19355
www.certainteed.com

REPORT SUBJECT:
Solstice Shingle BIPV Roofing System

1.0 SCOPE OF EVALUATION

1.1 This Research Report addresses compliance with the following Codes:

- 2024, 2021, 2018, and 2015 *International Building Code®* (IBC)
- 2024, 2021, 2018, and 2015 *International Residential Code®* (IRC)
- 2023, 2020 *Florida Building Code* (including High Velocity Hurricane Zones (HVHZ) (see Section 9)
- 2023, 2020 *National Electrical Code* (NEC), NFPA 70

NOTE: This report references the most recent Code editions cited. Section numbers in earlier editions may differ.

1.2 The Solstice Shingle BIPV Roofing System has been evaluated for the following properties (see Table 1):

- Material properties
- Electrical Certification
- Fire classification
- Wind resistance
- Impact resistance
- Photovoltaic hazard control

1.3 The Solstice Shingle BIPV Roofing System has been evaluated for the following uses (see Table 1):

- Use as BIPV shingles in accordance with IBC Section 1507.16 and IRC Section R905.15.
- Use where a Class A, B or C Fire Classification in accordance with IBC Section 1505 and IRC Section R902.1 is required.
- Use where a listed PV hazard control system or listed rapid shutdown PV array is required in accordance with NEC Article 690.12(B)(2)(1).

2.0 STATEMENT OF COMPLIANCE

The Solstice Shingle BIPV Roofing System complies with the Codes listed in Section 1.1, for the properties stated in Section 1.2, and uses stated in Section 1.3, when installed as described in this report, including the Conditions of Use stated in Section 6.0.

3.0 DESCRIPTION

3.1 Solstice Shingle BIPV modules: Solstice Shingle BIPV modules are building-integrated photovoltaic coverings complying with IBC Sections 1507.16 and IRC Sections R905.15. Module dimensions are shown in Figure 1.

3.2 Asphalt Shingles: The BIPV roofing system may be used in conjunction with asphalt shingles complying with the Code. Installation requirements for the shingles are identified in Section 5.2.

3.3 Underlayment: Underlayment must be as described in Section 4.4. The specified underlayments are certified by PRI for compliance with ICC-ES AC188.

3.4 Barrier Board: Magnesium Oxide (MgO) panels, min. 1/8-in. thick Magnum Sheathing 3MM RB, manufactured by Magnum Board Products.

3.5 System Components: Components for installation are provided by CertainTeed LLC and include the components shown in Figure 2.

4.0 PERFORMANCE CHARACTERISTICS

4.1 Material Standards: The Solstice Shingle BIPV modules are listed by Intertek as complying with UL 7103, and both UL 61730-1 and 61730-2 in accordance with IBC Sections 1507.16.6 and 1507.17.5 and IRC Sections R905.15.4 and R905.16.5.

4.2 Wind Resistance: When installed in accordance with this report, the Solstice Shingle BIPV Roofing System has demonstrated a Class F classification when tested in accordance with ASTM D3161 and complies with the requirements of TAS 107.

4.3 Wind-driven Rain: When installed in accordance with this report, the Solstice Shingle BIPV Roofing System has demonstrated compliance with TAS 100.

4.4 Fire Classification: When installed in accordance with this report with one layer of VYCOR Ice and Water Shield HT underlayment, the Solstice Shingle BIPV Roofing System has demonstrated a Class C fire classification when tested in accordance with UL 790.

When installed in accordance with this report, with one layer of VYCOR Ice and Water Shield HT underlayment covered with one layer of 1/8-in.-thick Magnum Sheathing 3MM RB, the Solstice Shingle BIPV Roofing System has demonstrated a Class A fire classification when tested in accordance with UL 790.

When installed in accordance with this report, with one layer of TSG Finishing AEONX Pro or CertainTeed Solstice Ultra FR underlayment, the Solstice Shingle BIPV Roofing System has demonstrated a Class A fire classification when tested in accordance with UL 790.

4.5 Impact Resistance: The Solstice Shingle BIPV modules have demonstrated a Class 3 rating when tested in accordance with FM 4473 and a Class 2 rating when tested in accordance with UL 2218. Note, this is supplemental information; the Building Codes do not require impact resistance for roofing installed at slopes greater than 2:12.

4.6 Photovoltaic Hazard Control: The Solstice Shingle BIPV system is listed by Intertek for compliance with UL 3741, *Photovoltaic Hazard Control*, in accordance with NEC Article 690.12(B)(2)(1). The system is used where a rapid shutdown PV array is required.

5.0 INSTALLATION

5.1 General: The Solstice Shingle BIPV Roofing System must be installed in accordance with the manufacturer's published installation instructions, the applicable Code, and this Research Report. A copy of the manufacturer's instructions must be available on the jobsite during installation.

5.2 Application: The Solstice Shingle BIPV modules must be installed over the underlayment specified in Section 4.4, on minimum 15/32-inch plywood or 7/16-inch OSB roof decks. Minimum slope is 2:12; maximum slope is not limited. Application of the underlayment must be in accordance with IBC Section 1507.1 and IRC Sections R905.1.1 and R905.1.2.

A starter strip is fastened at the first row of modules. The modules are slid into the starter until the front lip locks. Three wind clips and five fasteners are used to attach the shingle. Successive rows of shingles are interlocked into the lower shingle and fastened along the top edge. Fasteners must be #10 x 2-in. screws. Fasteners must be long enough to penetrate at least 3/4 in. into wood decks or through plywood or OSB sheathing. Top, bottom, and side flashings (right and left) are used when adjacent to asphalt shingles.

Penetrations within the PV array for PV wiring are through maximum 1-5/8-in. holes in the roof deck flashed in accordance with CertainTeed installation instructions. Other roof penetrations may occur only in the sections of the roof covering where the asphalt shingles are located. Penetrations must be flashed in accordance with applicable code requirements.

6.0 CONDITIONS OF USE

6.1 Installation must comply with this Research Report, the manufacturer's published installation instructions, and the applicable Code. In the event of a conflict, this report governs.

6.2 The CertainTeed Solstice Shingle BIPV Roofing System is manufactured under a quality control program with inspections by Intertek Testing Services NA, Inc.

7.0 SUPPORTING EVIDENCE

7.1 Reports of tests in accordance with UL 7103, UL 790, ASTM D3161, TAS 100, TAS 107, FM 4473, UL 2218, UL 1703 Section 30. and UL 3741.

7.2 Data in accordance with UL 61730 (1 & 2).

7.3 Intertek Listing Report "CertainTeed Solstice Shingle BIPV Roofing System" on the Intertek Directory of Building Products.

7.4 Intertek Listing Report for Certainteed LLC titled "Photovoltaic Hazard Control" on the Intertek ETL Listed Directory.

8.0 IDENTIFICATION

The CertainTeed Solstice Shingle BIPV Roofing System is identified with the manufacturer's name, the product name, a label indicating listing to UL 7103 and UL 61730 (1 & 2), the Intertek Mark as shown below, the Intertek Control Number and the Code Compliance Research Report number (CCRR-0501). Packaging labels shall also include reference to TAS 107 and ASTM D3161, Class F.

9.0 OTHER CODES

9.1 Florida Building Code: The Solstice Shingle BIPV Roofing System, described in Sections 2.0 through 7.0 of this Research Report, complies with the 2023 and 2020 *Florida Building Code – Building and Florida Building Code – Residential*, including High-velocity Hurricane Zones (HVHZ), subject to the following conditions:

- The Solstice Shingle BIPV Roofing System complies with FBC – Building Section 1507.17.6 and FBC – Residential Section R905.17.5.
- In HVHZ areas, roof decks shall be minimum 19/32-in. CD Exposure 1 plywood or minimum nominal 1-in. wood decking in accordance with FBC – Building Section 1626.4.
- Underlayment shall comply with, and be installed in accordance with, FBC – Building Section 1518.2.1.
- In HVHZ areas, fasteners shall be #10 x 2-in. screws and shall be either stainless steel or shall be shown to the satisfaction of the building official that the screws are listed as complying with TAS 114, Appendix E, Section 2.

Intertek is an approved evaluation entity and quality assurance entity pursuant to Florida Statute 553.842 – *Product Evaluation and Approval*.

9.2 National Electric Code: The Solstice Shingle BIPV system has been evaluated as a system to the requirements in ANSI/CAN UL 3741 Photovoltaic Hazard Control. When installed in accordance with the manufacturer's installation instructions and this report, this system meets the requirements of Article 690.12 of the National Electrical Code for 2020 and 2023.

The terms to describe this function vary slightly in each Code cycle.

2020 *"PV Hazard Control System"* (PVHCS) Equipment or multiple pieces of equipment listed to UL 3741 *"to reduce the risk of electric shock hazard within a damaged PV array for fire fighters." 2020 NEC 690.12(B)(2)(1)*.

2023 "PV Hazard Control System" (PVHCS) equipment or multiple pieces of equipment listed to UL 3741 "to reduce the risk of electric shock hazard within a damaged PV array for firefighters." 2023 NEC 690.12(B) (2)(1)

Refer to each Code cycle of the NEC for more detail.

10.0 CODE COMPLIANCE RESEARCH REPORT USE

10.1 Approval of building products and/or materials can only be granted by a building official having legal authority in the specific jurisdiction where approval is sought.

10.2 Code Compliance Research Reports shall not be used in any manner that implies an endorsement of the product by Intertek.

10.3 Reference to the https://bpdirectory.intertek.com is recommended to ascertain the current version and status of this report.

TABLE 1 – PROPERTIES EVALUATED

PROPERTY	2024 IBC SECTION	2024 IRC SECTION	2023 FBC - Building	2023 FBC – Residential
Material properties	1507.16.6	R905.15.4	1507.17.6	R905.17.5
Fire classification	1505.8	R902.3	1505.8 1516	R902
Wind resistance	1507.16.7	R905.15.6	1507.17.8 1518.11	R905.16.7
Wind-driven rain	NA	NA	1523.6.5	NA
Impact resistance	UL 7103	UL 7103	UL 1703	UL 1703
Components	1506	R902	1506 1517	R902

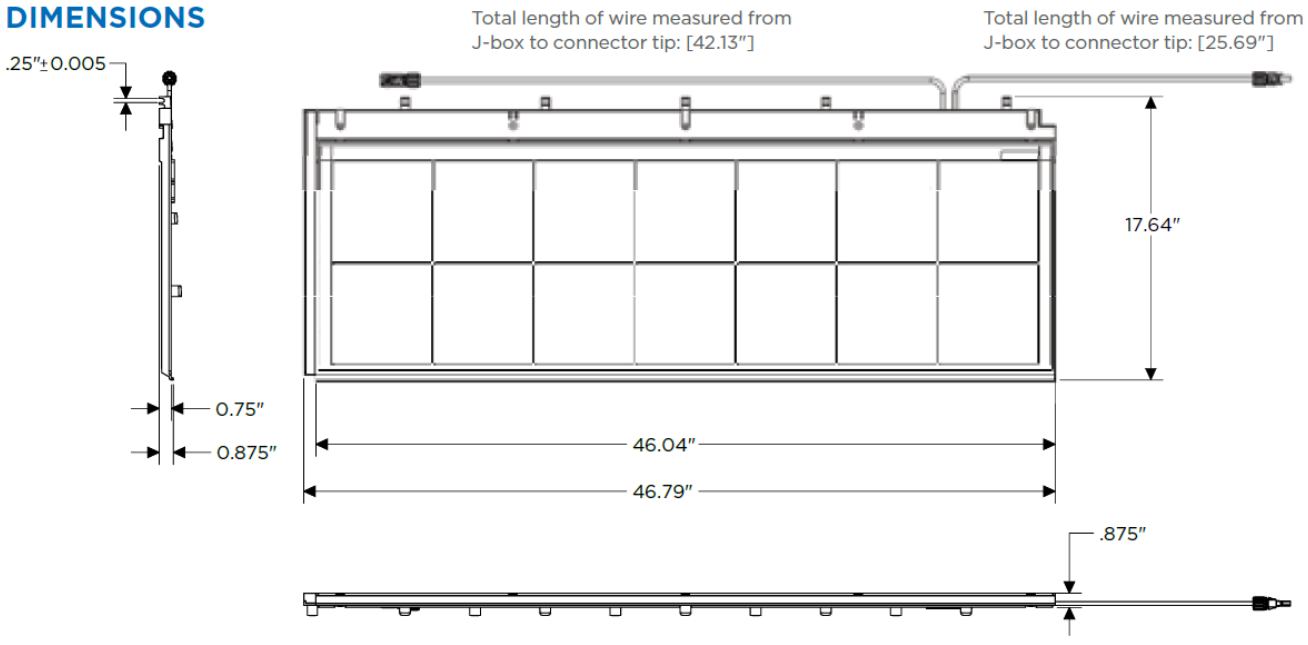


Figure 1 – Module Dimensions

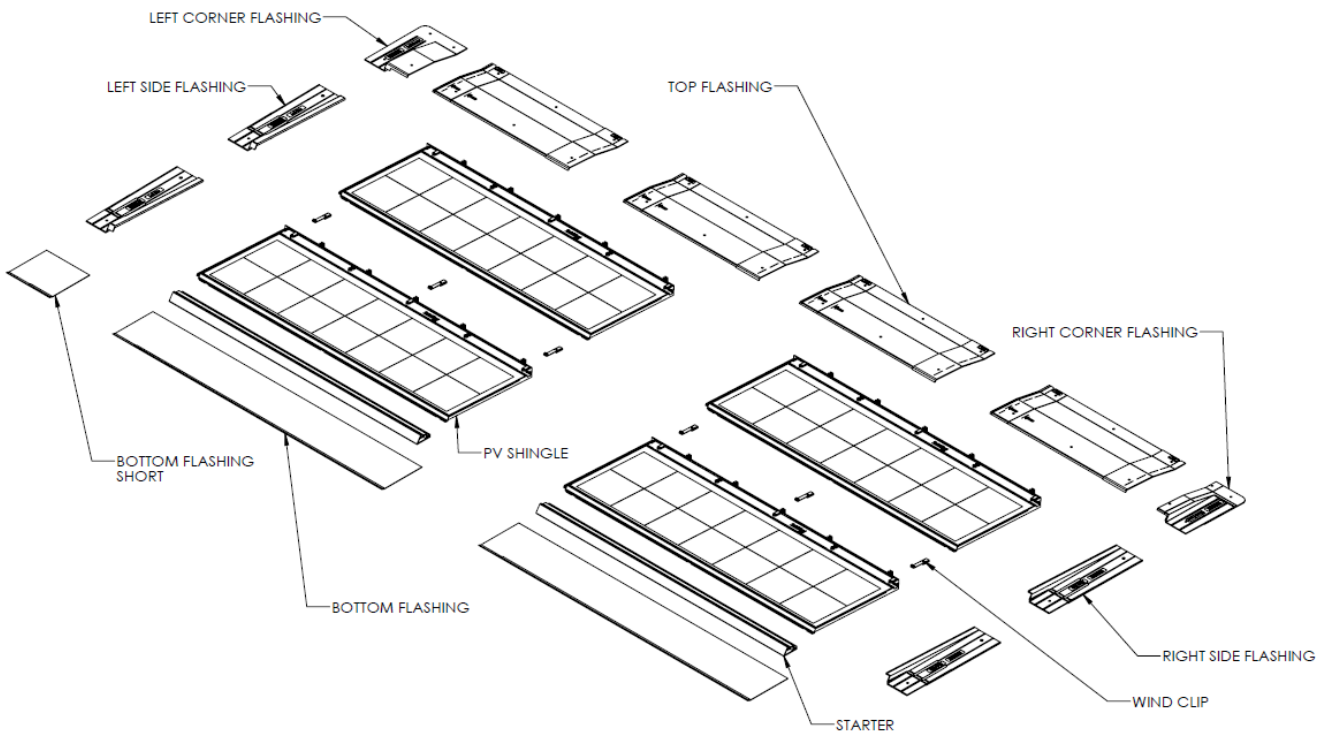


Figure 2 – System Components

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