



Equivalency of Standards Evaluation to 2010 FBC

Date: November 21, 2011

PTC Report #: 1939

Revision No.: 0

PTC Project #: 411-1003

Product Mfg.: Natural Light Energy Systems
10821 N. 23rd Ave.
Phoenix, AZ 85029

Product Name: Roof Mounted Solar Attic Fan

Product Category: Roofing

Product Sub-Category: Roofing Accessories that are an Integral Part of the Roofing System

Compliance Method: Product Approval Rule 9N-3.015(4)(d) – Equivalency of Standards Evaluation Report by a Licensed Professional Engineer

Prepared For: Natural Light Energy Systems
10821 N. 23rd Ave.
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Scope

Evaluate equivalency of testing standards used for the performance testing of **Natural Light Energy Systems Roof Mounted Solar Attic Fan** for conformance to the 2010 Florida Building Code – Building and Residential Volumes including the High Velocity Hurricane Zone (HVHZ).

Description of Product

See PTC Product Evaluation Report No. 1938 (Reference 3.a) for a full description of the product including testing standards used and results of testing.

Performance and Testing Standards

Reference 2 conducted testing to the following standard(s)

- 1) TAS-100(A)-95, *Test Procedure for Wind and Wind Driven Rain Resistance and/or Increased Windspeed Resistance of Soffit Ventilation Strip and Continuous or Intermittent Ventilation System Installed At the Ridge Area*
- 2) TAS-202-94, *Criteria for Testing Impact & Nonimpact Resistant Building Envelope Components Using Uniform Static Air Pressure*

References and Supporting Documents

- 1) Drawings
 - a. Drawing No. NLS0004, Rev. 1, Dated 11/21/11, signed and sealed by Robert J. Amoruso, P.E.
- 2) Testing
 - a. PRI Construction Materials Technologies Test Report No. NLES-001-02-02, dated 12/30/09, *Performance Test Report; Natural Light Systems – 40 Watt Solar Attic Fan for Asphalt Shingle Roofs – TAS 100(A)-95.*
 - b. Architectural Testing Inc. Test Report No. A8071.02-301-18, dated 8/24/11, *TAS 202 Test Report, Self-Flashing Roof Mounted Attic Ventilation Fan, Series/Model: Solar Attic Fan with 40 Watt Solar Panel for Natural Light Energy Systems.*
- 3) Reports
 - a. PTC Product Design Group, LLC Report No. 1938, Dated 11/21/11, *Product Evaluation for Roof Mounted Solar Attic Fan for Natural Light Energy Systems.*
- 4) Florida Building Code – Test Protocols
 - a. 2010
 - i. TAS 202-94
 - ii. TAS 100(A)-95

- b. 2007 with 2009 Supplements
 - i. TAS 202-94
 - ii. TAS 100(A)-95

Equivalency Evaluation

Reference 2.a tested for wind and wind-driven rain resistance in accordance with TAS-100(A)-95, *Test Procedure for Wind and Wind Driven Rain Resistance and/or Increased Windspeed Resistance of Soffit Ventilation Strip and Continuous or Intermittent Ventilation System Installed at the Ridge Area*.

- Testing to the above procedure documented in Reference 2.a is based on conformance to the 2007 FBC – Test Protocols with 2009 Supplements.
- The 2010 FBC – Test Protocols, TAS 100(A)-95 revised Section 10.4.8 to remove reference to TAS 100(B) which does not exist and requires the user to contact the authority having jurisdiction when testing product for increased windspeed resistance that exceed a height of 12 inches or any other dimension of 18 inches.

The product covered by Evaluation Report No. 1938 (Ref. 3.a) exceeded those limitations. Miami-Dade Product Control was contacted and advised that Checklist No. 0463 shall be used. In conformance with this checklist, a uniform static air pressure test in accordance with TAS 202-94 was conducted.

Because the requirements of the revised TAS 100(A)-95 were followed and because the changes to TAS 100(A)-95 do not affect testing method or results, conformance to the 2010 FBC is maintained.

- **CONCLUSION:** Testing and documented results in Reference 2.a are compliant with the 2010 FBC – Building Volume, Residential Volume and Test Protocols.

Reference 2.b tested uniform static air pressure in accordance with TAS-202-94, *Criteria for Testing Impact & Nonimpact Resistant Building Envelope Components Using Uniform Static Air Pressure*

- Testing to the above procedure documented in Reference 2.b is based on conformance to the 2007 FBC – Test Protocols with 2009 Supplements.
- The 2010 FBC – Test Protocols, TAS 202-94 revised Sections 1.1 and 5.2.2.2 related to calculation of design pressure using ASCE7-10. Section 5.2.7 was revised to remove revision level from ASTM E283 and Section 13.2.1 revised interval labeling on storm panels.

These changes do not affect the testing method or results obtained.

- **CONCLUSION:** Testing and documented results in Reference 2.b are compliant with the 2010 FBC – Building Volume, Residential Volume and Test Protocols.