SPUTO AND LAMMERT ENGINEERING, LLC
STRUCTURAL ENGINEERS
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PRODUCT EVALUATION REPORT

MANUFACTURER:

Special-Lite, Inc.
860 South Williams Street
Decatur, Michigan 49045

SUBJECT:

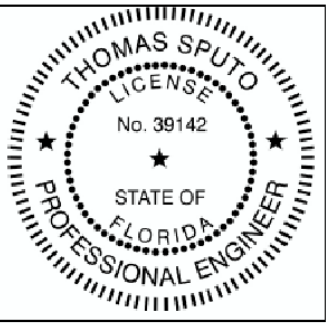
Exterior Door Assemblies

PRODUCT CATEGORY:

Exterior Doors: Swinging Exterior Door Assemblies

PRODUCT DESCRIPTION:

This item has been electronically signed and sealed by Thomas Sputo, P.E. (FL PE 39142) on 14 August 2018. Printed copies of this document are not considered signed and sealed. This digital signature must be verified on any electronic copies. Sputo and Lammert Engineering, LLC, 10 SW 1st Ave, Gainesville FL 32601 (FL CA 6855)



Thomas Sputo
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Date: 2018.08.14 17:25:39 -04'00'

SL Series FRP/ Aluminum Hybrid Inswing/ Outswing Door

The frame is constructed of two 6063-T5 aluminum extrusions separated by a pultruded fiberglass thermal strut. The vertical frame members run through to the top of the rough opening while the horizontal frame member is square cut and butted to the vertical members. The horizontal frame member is secured to the vertical frame members by (2) PT-12-2000 6063-T5 aluminum frame clips per joint. PT-12-2000 is secured to the vertical frame members by (2) 10-16 x ¾" Philips truss head screws. The horizontal frame members are secured to PT-12-2000 by (1) 10-16 x ¾" flat head thread forming screw. PT-12-0170 is a 6063-T5 aluminum bar reinforcement 12" long, 1-1/4" wide, and ½" thick placed under the door stop attached to horizontal frame member using (4) 10-16 x ¾" flat head thread forming screws and is used as reinforcement for attaching a door closer arm. PT-12-0169 is a 6063-T5 aluminum bar reinforcement 6" long, 1-1/4" wide, and ½" thick placed under the door stop attached to horizontal frame member using (4) 10-16 x ¾" flat head thread forming screws and is used to reinforce at the location of the strike.

Alternate frame construction consists of extruded 6063-T5 aluminum hollow rectangular sections with a 2" face for the vertical members and a 2" or 4" face for the horizontal members. Additionally, the vertical and horizontal members can have a jamb depth ranging from 4" to 6". For the 4" jamb depth the vertical frame members run through to the top of the rough opening while the horizontal frame member is square cut and butted to the vertical members. The horizontal frame member is secured to the vertical frame members by (2) PT-12-0129 6063-T5 aluminum frame clips per joint. PT-12-0129 is secured to the vertical frame members by (2) 10-16 x ¾" Philips truss head screws. The horizontal frame members are secured to PT-12-0129 by

(1) 10-16 x ¾" flat head thread forming screw. For additional jamb depths PT-12-0129 is replaced by PT-12-0131 for 4-1/2" jamb depth, PT-12-0133 for 5" jamb depth, and PT-12-0135 for a 6" jamb depth. All attachment methods remain the same as described above. When a 4" face is used, the frame clips are doubled up and attached using the same method as described above. PT-12-0170 is a 6063-T5 aluminum bar reinforcement 12" long, 1-1/4" wide, and ½" thick placed under the door stop attached to horizontal frame member using (4) 10-16 x ¾" flat head thread forming screws and is used as reinforcement for attaching a door closer arm. PT-12-0169 is a 6063-T5 aluminum bar reinforcement 6" long, 1-1/4" wide, and ½" thick placed under the door stop attached to horizontal frame member using (4) 10-16 x ¾" flat head thread forming screws and is used to reinforce at the location of the strike.

The door panel is constructed from 6063-T5 or 6063-T6 extruded aluminum stiles and rails that are cut with a 45° miter. These stile and rail extrusions are joined by PT-07-0310 a 6063-T5 aluminum angle, corner clip measuring 1-1/4" x 1-1/4" x 3/16". This corner clip holds the stiles and rails together along with a full length, 3/8"-16 fully threaded steel tie rod. The exterior and interior face sheet is made from a 0.120" thick contemporary wood grain pattern FRP with options for face sheets being made from 0.120" thick pebble grain FRP, 0.120" thick sandstone texture FRP, 0.0625" thick 6063-T5 aluminum sheet with a smooth, embossed, or fluted texture, or a 0.125" thick 6063-T5 aluminum sheet with smooth texture. The face sheets are held in place using the above-mentioned steel tie rods and integral reglets in the aluminum stiles and rails which bound the face sheet on all four sides. The door is then foamed in place with polyurethane foam with a flame spread less than or equal to 75 and a smoke developed index less than or equal to 450 as to comply with 2017 FBC Section 2603.4.1.7. These assemblies have been evaluated according to 2015 IBC and 2017 FBC Section 2603.9 by ICC ES to show compliance with 2015 IBC and 2017 Section FBC 2603.4.1.7 without the use of a thermal barrier.

CODE CRITERIA:

Florida Building Code 2017 (6th Edition):
- Chapter 17: Special Inspections and Tests
  - 1709.5.2 - Exterior window and door assemblies not provided for in section 1709.5.1
- Chapter 26: Plastic
  - 2603 - Foam Insulation

2017 FBC REFERENCE STANDARDS:

ASTM E84	2013A
ASTM E330	2014
ASTM E1886	2012
ASTM E1996	2014A
ASTM E283	2004

EQUIVILENCE OF STANDARDS

Based on review, the following standards can be considered to be equivalent, yielding results that do not differ between the standards:

ASTM D1996-2014A (required by 2017 FBC - 6th Ed.) and ASTM D1996-2017
ASTM E84-2013A (required by 2017 FBC - 6th Ed.) and ASTM E84-2006
ASTM E283-2004 (required by 2017 FBC - 6th Ed.) and ASTM E283-2012

BASIS OF EVALUATION:

Compliance is based upon evaluation against test standards referenced in the 2017 FBC.

LIMITATIONS AND CONDITIONS OF USE FOR NON-HVHZ:

1. This compliance is not for HVHZ.
2. Maximum product design pressure of +/- 90.0 psf
3. Maximum overall single door size of 46” wide by 98” high
4. Maximum overall single door panel size of 41-1/2” wide by 95-1/8” high
5. Maximum size of visible day light opening for glazing 18” x 75”
6. Product can be installed in an in swing or out swinging configuration
7. Product is rated for large and small missile impact and do not require the use of an impact protection system.
8. Product is not rated where water infiltration resistance is required by the door, unless units are installed in a non-habitable area where the unit and the area are designated to accept water infiltration. Units shall be installed only at locations protected by a canopy or overhang such that the angle between the edge of the canopy or overhang to the sill is less than 45°.
9. Anchors shall be as listed, spaced as shown on elevations. Anchor embedment to base material shall be beyond wall dressing or stucco.
10. Anchoring or loading conditions not shown in drawings are not part of this approval.
11. Metal structures not by Special-Lite, Inc. must support loads imposed by door system and transfer them to the building structure.
12. The maximum design pressure listed are allowable design pressures. Ultimate design pressures obtained from ASCE 7-10, multiplied by 0.6 shall be less than or equal to maximum design pressure listed.
13. Glazing limited to 1” StormGlass by Old Castle (1/8” Clear x 0.075” StormGlass x 1/8” Clear x 13/32” Air Space x 1/4” Clear” or 5/16” StormGlass by Old Castle (1/8” Clear x 0.075” StormGlass x 1/8” Clear).

TECHNICAL DOCUMENTATION SUPPORTING COMPLIANCE STATEMENT:

1. Test Report Lab Number: 10159 dated 06/07/2018, signed and sealed by Idalmis Ortega, P.E. (FL P.E. 76905) of Fenestration Testing Laboratory, Inc. located in Medley, Florida.
   a. ASTM E330/ E330M-14: Design Pressure: +/- 90.0 psf
   b. ASTM E1886-12: Design Pressure: +/- 90.0 psf
   c. ASTM E1996-17: Large Missile Impact
   d. ASTM E283-12: Air Infiltration at 1.57 psf and 6.24 psf
   e. ASTM F842 300 lb. Forced Entry Test
2. Test Report SwRI® Project No.: 01.12693.01.214 dated 08/03/2007, approved by Gladys M. Miller, M.S., M.B.A.
   a. ASTM E84-06: Flame Spread Index (FSI): 25
   b. ASTM E84-06: Smoke Developed Index (SDI): 300
3. ESR-1669 dated revised 03/2018, ICC-ES Evaluation Report
   a. Compliance with 2015 IBC and 2017 FBC Section 2603.4.1.7
4. Test Report Lab Number: 8945 dated 10/24/2016, signed and sealed by Idalmis Ortega, P.E. (FL P.E. 76905) of Fenestration Testing Laboratory, Inc. located in Medley, Florida.
   a. Alternate framing.
   b. Alternate glazing.
5. NOA 17-0724.07 - Oldcastle StormGlass - Valid through 11 Dec 2018.

CODE COMPLIANCE CERTIFICATION

As product evaluator, the undersigned certifies that the listed products are in compliance with the requirements of the 2017 Florida Building Code (6th Edition).

Sincerely,

SPUTO AND LAMMERT ENGINEERING, LLC

Thomas Sputo, Ph.D., P.E.
Florida PE 39142

DATE OF REPORT: 14 August 2018