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APPROVAL REPORT


Project No: 0003052397
Class: 4431
Product Name: Starlight Skylight Model CMP-TB-PT and Starlight Skylight Model CMP-TB-PT150
Product Type: Skylights for Roofs
Name of Listing Company: ORCA Manufacturing Inc d/b/a Starlight Skylights
Address of Listing Company: 304 Broad St
PO Box 992
Hurlock MD 21643-0992
United States
Customer ID: 148341-1
Customer website: <http://www.starlightskylights.com/>

Prepared by


Daniel A. Boardman
Senior Engineer

Reviewed by


Leonard D'Angelo
Technical Team Manager, Materials


Cynthia E. Frank
AVP, Manager of Materials

March 9, 2016
Date of Approval

1 INTRODUCTION

1.1 ORCA Manufacturing Inc requested Approval of their Starlight Skylight Model CMP-TB-PT and Starlight Skylight Model CMP-TB-PT150 listed in Section 1.4 to determine if they meet the Approval requirements of the standard listed in Section 1.3.

1.2 This report may be freely reproduced only in its entirety and without modification.

1.3 Standards

Title	Number	Issue Date
Approval Standard for Skylights	4431	09/2006

1.4 Listing

The product will appear in the Approval Guide (or RoofNav), an on-line resource of FM Approvals, as follows:

Approvals Guide, Building Materials Skylights for Roofs (FM Approval Class Number 4431)

**ORCA Manufacturing, Inc. d/b/a Starlight Skylights
304 Broad St, PO Box 992, Hurlock, MD 21643**

Product	Listing Country	Width (ft in)	Width (m)	Length (ft in)	Length (m)	Lid Type	Wind Uplift (psf)	Wind Uplift (kPa)	Spread of Flame Rating	Hail Rating	Certification Type
Starlight Skylight Model CMP-TB-PT	United States of America	4'0"-5'0"	1.2-1.5	6'0"-8'0"	1.8-2.4	Plastic, Polycarbonate	75	3.6	Class B at 2 in 12	Severe Hail	FM Approved
Starlight Skylight Model CMP-TB-PT150	United States of America	4'0"-5'0"	1.2-1.5	6'0"-8'0"	1.8-2.4	Plastic, Polycarbonate	150	7.2	Class B at 2 in 12	Severe Hail	FM Approved

2 DESCRIPTION

The Starlight Skylight Model CMP-TB-PT and Starlight Skylight Model CMP-TB-PT150 are provided in standard 4 x 4 ft (1.2 x 1.2 m), 4 x 8 ft (1.2 x 2.4 m), 5 x 6 ft (1.5 x 1.8 m) and 5 x 8 ft (1.5 x 2.4 m) sizes or custom sizes up to 40 ft² (3.7 m²) in total area. The model skylights are fabricated with single or double domes with the outer dome formed out of minimum 0.15 in. (3.8 mm) thick polycarbonate sheet material in a standard or Tri-Arch configuration.

The Starlight Skylight Model CMP-TB-PT skylight meets the FM Approvals requirements for a 75 psf (3.6 kPa) wind uplift rating when secured to minimum 1.5 in. (38 mm) thick wood curb framing, with #10 self tapping screws. Fasteners are secured through all four sides of the aluminum frame and spaced maximum 40 in. o.c. (1016 mm). See manufacturers Installation Instructions for details.

The Starlight Skylight Model CMP-TB-PT150 skylight meets the FM Approvals requirements for a 150 psf (7.2 kPa) wind uplift rating when secured to minimum 1.5 in. (38 mm) thick wood curb framing, with #10 self tapping screws. Fasteners are secured through all four sides of the aluminum frame and spaced maximum 40 in. o.c. (1016 mm). See manufacturers Installation Instructions for details.

The Starlight Skylight Model CMP-TB-PT and CMP-TB-PT150 skylight meets the FM Approvals requirements for a Severe Hail (SH) rating.

Fire tests indicate that if a sprinkler is installed directly under a Starlight Skylight Model CMP-TB-PT and CMP-TB-PT150 skylight, steps shall be taken to prevent the skylight from interfering with the sprinkler's operation.

FM Approved models are designated as WWxLL CMP-TB-PT and WWxLL CMP-TB-PT150, where WW and LL are the model width and length, respectively, designated in inches. All FM Approved models can also be supplied with any of the following combinations of glazings, tints and finishes with the following letters added as a suffix to the model designation:

Glazings	
DP	Single Dome Polycarbonate
TP	Single Tri-Arch Polycarbonate
DP/DP	Double Dome Polycarbonate
TP/TP	Double Tri-Arch Polycarbonate
DP/DA	Double Dome Outer Polycarbonate, Inner Acrylic
TP/TA	Double Tri-Arch Outer Polycarbonate, Inner Acrylic
DP/DIMA	Double Dome Outer Polycarbonate, Inner Dome Impact Modified Acrylic
DP/TIMA	Double Tri-Arch Outer Polycarbonate, Inner Impact Modified Acrylic
DP/DPr	Double Dome Outer Polycarbonate, Inner Dome Prismatic; Impact Modified Acrylic
TP/TPr	Double Tri-Arch Outer Polycarbonate, Inner Tri-Arch Prismatic; Impact Modified Acrylic
Tints	
C	Clear
W	White
Finishes	
Mill	Standard Mill Finish

3 EXAMINATIONS AND TESTS

- 3.1 Samples were submitted for examination and testing. The samples were considered to be representative of standard production and were examined or tested as indicated below. All data is on file at FM Approvals along with other documents and correspondence applicable to this program.

- 3.2 All testing and analysis considered appropriate was conducted and verified to be in compliance with the Standards defined in Section 1.3.
- 3.3 All performance requirements and tests required by the Standard were included in this test program. See Table 1 below for details.

Table 1

FM Standard 4431 Requirement	Section	Justification/Comments
Spread of Flame Test for Skylights from an Exterior Ignition Source	4.1	Included
Simulated Hail Resistance Test Using Freezer Ice Balls	4.2	Included
Simulated Impact Test for Skylights	4.3	Included
Simulated Wind Uplift Resistance Test for Skylights	4.4	Included
Windborne Debris Rating	4.5	Not Required or Requested

4 MARKING

- 4.1 The manufacturer shall mark each package with the manufacturer's name and product trade name. In addition, each item must be marked with the Approval Mark of FM Approvals.
- 4.2 Markings denoting Approval by FM Approvals shall be applied by the manufacturer only within and on the premises of manufacturing locations under the FM Approvals Surveillance program.
- 4.3 The manufacturer agrees that use of the FM Approvals name or Approval Mark is subject to the conditions and limitations of the Approval by FM Approvals. Such conditions and limitations must be included in all references to Approval by FM Approvals.
- 4.4 Product intended for use in Canada shall be provided with caution and warning labels in both English and French.

5 REMARKS

- 5.1 Continued Approval is based upon fabrication and construction of Starlight Skylight Model CMP-TB-PT and Starlight Skylight Model CMP-TB-PT150 in accordance with this Approval Report, satisfactory field experience and continued use of acceptable quality control procedures as determined by Surveillance Audits.
- 5.2 Additional guidance for the use of Starlight Skylight Model CMP-TB-PT and Starlight Skylight Model CMP-TB-PT150 is outlined in FM Global Property Loss Prevention Data Sheets 1-28 and 1-29

6 SURVEILLANCE AUDIT

The manufacturing facilities at the following location(s) shall be visited on a routine basis. The facility processes and quality control procedures in place have been determined to be satisfactory to manufacture products identical to that tested and Approved. An FM Approved Products/Specification Tested Revision Request Form shall

be submitted to FM Approvals for requesting to manufacture products at any additional or alternate manufacturing facilities which are not listed below.

Audit Location(s)

ORCA Manufacturing Inc., d/b/a Starlight Skylights
304 Broad St, PO Box 992
Hurlock, MD 21643-0992

7 MANUFACTURER’S RESPONSIBILITIES

- 7.1 Documentation that is applicable to this approval is on file at FM Approvals and listed in the Documentation File, Section 8, of this report. No changes of any nature shall be made unless notice of the proposed change has been given and written authorization obtained from FM Approvals. The FM Approved Products/Specification Tested Revision Request Form shall be forwarded to FM Approvals as notice of proposed changes.
- 7.2 When a Starlight Skylight Model CMP-TB-PT and Starlight Skylight Model CMP-TB-PT150 is to be erected for an FM Global insured, the manufacturer shall forward all submittals required by this Approval Report to the appropriate FM Global Operations Center for review and acceptance.
- 7.3 The manufacturer shall supply all instructions, materials, equipment, and assistance necessary for the complete, proper and satisfactory erection and testing of the Starlight Skylight Model CMP-TB-PT and Starlight Skylight Model CMP-TB-PT150. Complete erection drawings shall be furnished and shall pertain to the specific Starlight Skylight Model CMP-TB-PT and Starlight Skylight Model CMP-TB-PT150 supplied.
- 7.4 In accordance with the Master Agreement, the manufacturer shall make full and immediate disclosure to FM Approvals of all information concerning any defect in, or potential hazard of, the product or service manufactured or provided by the Customer which is Approved by, or being examined by, FM Approvals. The manufacturer shall make all necessary arrangements for the investigation of complaints / anomalies applicable to this approval and shall keep records of all complaints / anomalies including actions taken.

8 DOCUMENTATION

The following document describes the Starlight Skylight Model CMP-TB-PT and Starlight Skylight Model CMP-TB-PT150 and is on file at FM Approvals.

Document Title	Issue Date
Surveillance Audit Manual	March 2016

9 CONCLUSION

The products described in section 1.4 and 2.0 meet FM Approvals requirements. Since a duly signed Master Agreement is on file for this manufacturer, Approval is effective the date of this report.

PROJECT DATA RECORD: 3052397