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RESEARCH REPORT: RR 25929
(CSI # 08620)

Attn: Jeff Brain
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Expires: April 1, 2013
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Code: 2011 LABC

GENERAL APPROVAL – Ciralight SunTracker 4'x4' Smart Skylight

DETAILS

The Ciralight Suntracker 4'x4'Smart Skylight consists of three primary components:

1. The roof dome assembly
2. The light well assembly
3. The bottom diffuser lens

1. Roof Dome Assembly

1.1 Dome

The dome glazing is formed from an optically clear solid polycarbonate or acrylic sheet described as follow:

Product Name – Palsun (Polycarbonate)

- Material – Polycarbonate
- Thickness - 0.177 inches
- Manufacturer – Palram Americas, Inc.

- Product Name –Arkema (Acrylic – Plexiglass DR)
- Material – Acrylic
- Thickness - 0.177 inches
- Manufacturer – Arkema, Inc.

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1.2 Dome Frame

Extruded aluminum alloy type 6063 T5 welded, with integral condensation gutters, gaskets with a factory mounted airtight polycarbonate diffuser lens glazing (overall thickness of 3mm and 91% translucence) secured in place with weather stripping sealant. Dome Frame sits on top of curb and is fastened to the curb with screws. The frame includes an Aluminum retaining cap which is extruded aluminum alloy type 6063 T5 welded. The retaining cap is placed on top of Dome and secures the Dome in the Frame with 4 self tapping retaining screws on each side of the four skylight sides.

1.3 Top diffuser lens

A polycarbonate or acrylic lens glazing is contained at the bottom of the light-well to diffuse the natural daylight through the dome into the light well.

- Product Name – Makrolon GP (1804)
- Material – Polycarbonate
- Thickness - 0.125 inches
- Manufacturer - Sheffield Plastics, a Bayer Material Science LLC Business

- Product Name –Arkema (Acrylic – Plexiglass DR)
- Material – Acrylic
- Thickness - 0.125 inches
- Manufacturer – Arkema, Inc

2 Light-Well Assembly

2.1 Light-Well body

The light well is composed of four pieces of aluminum 0.039" in thickness that are fastened with retaining screws at the corners to form a box. The top of the light-well is flanged outward and the flanges rest on the top of the Curb. The light-well is screwed to the top of the curb before the Skylight Frame and Dome are put in place. The light-well panels are 46" wide on all four sides of the skylight.

2.2 Retaining Screws

Retaining Screws are used to affix the four corners of the light-well. The retaining screws are aluminum or stainless steel #8 x 5/8 inch self tapping screws. They are placed at approximately 8" apart starting 2" from top and bottom of light well.

3 Bottom Diffuser Lens

A polycarbonate or acrylic lens glazing is contained inside the dome frame to diffuse the nature daylight throughout the building interior.

- Product Name – Makrolon GP (1804)
- Material – Polycarbonate
- Thickness - 0.125 inches
- Manufacturer - Sheffield Plastics, a Bayer Material Science LLC Business

- Product Name –Arkema (Acrylic – Plexiglass DR)
- Material – Acrylic
- Thickness - 0.125 inches
- Manufacturer – Arkema, Inc

The approval is subject to the following conditions:

1. Skylight installation must comply with Sections 2405.4 and 2610 of the 2011 Los Angeles City Building Code and with the manufacturer’s instructions and this report.
2. The allowable loads shall not exceed 20-psf live load or 20-psf wind uplift.
3. The skylight shall be mounted on a wood curb having a minimum specific gravity of 0.50, a minimum thickness of 1-1/2-in., and sufficient height to mount the plastic glazing not less than 4-inches above the plane of the roof.
4. The skylight unit must be flashed in accordance with the Building Code.
5. Each skylight shall be identified by a label noting the manufacturers name and address, RR 25929, plastic classification, plastic thickness before forming, and model designation. In addition, a label warning of risk of fall is applied to each skylight.
6. The Makrolon GP and Arkema Plexiglass DR shall be approved by a current and valid ICC-ES Evaluation Report.
7. The plastic glazing used in the skylight have the following combustibility classification:

Material	Thickness	Classification
Palsun	0.177 in	CC1
Makrolon	0.125 in	CC2
Arkema Plexiglass DR	0.125 in and 0.177 in	CC 1

8. The daylighting controller device inside the skylight dome is not included in this general approval (Research Report). The daylighting controller device shall meet and be installed in accordance with the Los Angeles Electrical Code.

DISCUSSION

The report is in compliance with the 2011 Los Angeles City Building Code.

The approval was based on tests in accordance with ICC-ES Acceptance Criteria for Plastic Glazed Skylights (AC16).

The acrylic Type Plexiglass DR, manufactured by Arkema, Inc, is approved by ICC-ES Report ESR-1653.

The Makron GP, manufactured by Sheffield Plastics, is approved by ICC-ES report ESR-2728.

The 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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