

TEXAS DEPARTMENT OF INSURANCE

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PRODUCT EVALUATION SK-21

Effective September 1, 2010

*The following product has been evaluated for compliance with the wind loads specified in the **International Residential Code (IRC)** and the **International Building Code (IBC)**. This product shall be subject to reevaluation **January 2014**.*

This product evaluation is not an endorsement of this product or a recommendation that this product be used. The Texas Department of Insurance has not authorized the use of any information contained in the product evaluation for advertising, or other commercial or promotional purpose.

This product evaluation is intended for use by those individuals who are following the design wind load criteria in Chapter 3 of the IRC and Section 1609 of the IBC. The design loads determined for the building or structure shall not exceed the design load rating specified for the products shown in the limitations section of this product evaluation. This product evaluation does not relieve a Texas licensed engineer of his responsibilities as outlined in the Texas Insurance Code, the Texas Administrative Code and the Texas Engineering Practice Act.

Model 160 DS and Model 290 DS Daylighting System, Non-impact Resistant, manufactured by

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will be acceptable in designated catastrophe areas along the Texas Gulf Coast when installed in accordance with the manufacturer's installation instructions and this product evaluation.

PRODUCT DESCRIPTION

The Model 160 DS and Model 290 DS are single dome tubular daylighting devices (TDD). The Model 160 DS has an approximate 10" diameter tube size. The Model 290 DS has an approximate 14" diameter tube size. The TDD consists of a light transmitting dome, an adjustable reflective tube, and a roof mounted support flashing with an integral curb. The TDD in this evaluation report are non-impact resistant.

General Description:

Description	Label Rating
Model 160 DS / 290 DS Daylighting System	CW-PG70 (14") Dia – Type TDD

Product Dimensions:

	Model 160 DS	Model 290 DS
Dome Size	11 $\frac{7}{8}$ "	15 $\frac{7}{8}$ "
Dome Height	5 $\frac{7}{8}$ "	6 $\frac{15}{16}$ "
Dome Thickness	0.125"	0.125"
Dome Material	Acrylic by Cyro (ZK5) or Acrylic by Arkema (DR101)	Acrylic by Cyro (ZK5) or Acrylic by Arkema (DR101)

Dome Ring: A dome ring is utilized to connect the top of the reflective tubing to the curb of the flashing and to secure the domes. The domes are snapped onto the dome ring. The dome ring is attached to the flashing curb and to the top tube with four (4) No. 8 x 1" truss washer head screws and plastic spacers equally spaced on the perimeter. One $\frac{1}{4}$ " diameter weephole is located at the mid-span between the dome ring clips (four holes total).

Ceiling Ring / Diffuser Construction: The closed ceiling diffuser assembly is constructed of an acrylic ceiling ring, an acrylic dress ring, and a single glazed diffuser. The diffuser is exterior glazed onto the dress ring using a plastic welding solvent. The dress ring is held in place using twelve (12) clips extruded into the dress ring and clipped to the ceiling ring. The ceiling ring includes a dual durometer seal between the dress ring circumference and the extension tube. The ceiling ring is connected to the extension tube using four (4) equally spaced tabs on the inside perimeter which are snapped into slots located in the extension tube.

Flashing Construction: The flashing is made of aluminized formed steel and has conical sides to create a curb with an octagonal mounting flange $25\frac{5}{16}$ " wide at the flats.

Product Identification: A certification program label (Keystone) will be affixed to the TDD. The certification program label includes the manufacturer's name; the product name: **Model 160 DS / 290 DS Daylighting System**; the CAR numbers (110-115); performance characteristics; the approved inspection agency (Keystone); and the applicable standards: AAMA/WDMA/CSA 101/I.S.2/A440-08.

LIMITATIONS

Design pressures:

System	Maximum Diameter	Design Pressures (psf)
1	14"	± 70

Impact Resistance: These TDD assemblies do not satisfy the Texas Department of Insurance's criteria for protection from windborne debris. These TDD assemblies will need to be protected with an impact protective system when installed in areas where windborne debris protection is required.

Acceptance of Smaller Assemblies: TDD assemblies with dimensions equal to or smaller than those specified in this evaluation report are acceptable within the limitations specified in this report.

INSTALLATION INSTRUCTIONS

General Requirements: The TDD shall be installed in accordance with the manufacturer's installation instructions and this product evaluation report. Detailed installation instructions and drawings are available from the product manufacturer.

Installation: The TDD shall be secured to a minimum nominal $\frac{7}{16}$ " thick OSB roof deck. Center the roof flashing over the location where the TDD is to be installed. Mark the inside circumference onto the roof covering with a lumber crayon. Cut a hole $\frac{1}{2}$ " outside of the marked line to expose the roof deck. Avoid cutting the roof framing members. Remove or loosen enough roof covering material along the perimeter of the roof hole to allow for the installation of the flashing. Apply a continuous $\frac{3}{8}$ " bead of roofing sealant to the underside of the flashing along the line of the screw holes. Turn the flashing upright and center over the roof hole. The flashing is attached to the plywood roof deck with eight (8) No. 10 x 2" screws through equally spaced pre-drilled holes in the flashing. The fasteners shall be long enough to penetrate into and through the roof deck material. The TDD is assembled as described in this evaluation report and in the manufacturer's installation instructions.

Note: The manufacturer's installation instructions shall be available on the job site during installation. All fasteners shall be corrosion resistant as specified in the International Residential Code (IRC); the International Building Code (IBC); and the Texas Revisions.