



HUVCO, DAYLIGHTING SOLUTIONS™
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SECTION 086400

FIBER OPTIC SKYLIGHT SYSTEM SPECIFICATIONS FOR SP3

PART 1 GENERAL

1.1 SECTION INCLUDES

- A. Fiber Optic Skylight System, consisting of exterior mounted, sun-tracking panel, fiber optic cable, and interior luminaries
- B. Accessories.

1.2 RELATED SECTIONS

- A. Section 07311 - Asphalt Shingles: Flashing of skylight base.
- B. Section 07320 - Roof Tiles: Flashing of skylight base.
- C. Section 07510 - Built-Up Bituminous Roofing: Flashing of skylight base.
- D. Section 07530 - Electrometric Membrane Roofing: Flashing of skylight base.
- E. Section 07550 - Modified Bituminous Membrane Roofing: Flashing of skylight base.
- F. Section 16150 - Equipment Wiring: Electrical connections.

1.3 REFERENCES

- A. ASTM E 84 - Standard Test Method for Surface Burning Characteristics of Building Materials; 2001.
- B. ASTM E 330 - Structural Performance of Exterior Windows, Curtain Walls and Doors.
- C. ASTM E 331 - Test Method for Water Penetration of Exterior Windows, Curtain walls and Doors by Static Air Pressure Difference.
- D. ASTM D 635 - Test Method for Rate of Burning and/or Extent of Time of Burning of Self-Supporting Plastics in a Horizontal Position.
- E. ASTM D-1929 - Test Method for Ignition Properties of Plastics.

1.4 PERFORMANCE REQUIREMENTS

- A. Completed fiber optic skylight system assemblies shall be capable of meeting the following performance requirements: Transmit natural light through the fiber optic cable when sunlight is available, under adequate sky conditions

1.5 SUBMITTALS

- A. Submit under provisions of Section 01300.
- B. Manufacturer's data sheets on each product to be used, including:
 - 1. Preparation instructions and recommendations.

- 2. Storage and handling requirements and recommendations.
 - 3. Installation methods.

 - C. Shop Drawings: As provided
 - D. Verification Samples: As requested by Architect.
 - E. Test Reports: To be determined
- 1.6 QUALITY ASSURANCE
- A. Manufacturer Qualifications: Engaged in manufacture of fiber optic skylights for minimum 2 years.
- 1.7 DELIVERY, STORAGE, AND HANDLING
- A. Store products in manufacturer's unopened packaging until ready for installation. Protect from weather and adverse conditions.
- 1.8 PROJECT CONDITIONS
- A. Maintain environmental conditions (temperature, humidity, and ventilation) within limits recommended by manufacturer for optimum results. Do not install products under environmental conditions outside manufacturer's absolute limits.
- 1.9 WARRANTY
- A. Fiber Optic Skylight: Manufacturer's standard warranty for two (2) years.

PART 2 PRODUCT

2.1 MANUFACTURER (no substitutions)

- A. Manufacturer: Parans Solar Lighting AB, Sweden
Imported by: HUVCO, LLC – Daylighting Solutions
Address: Post Office Box Three, Rohrsville, Maryland 21779.
Phone: 800-832-6116 or 301-432-0678
Fax 888-284-8371
Web: www.huvco.com
Email: info@huvco.com

- 2.2 Fiber Optic Skylight System: The HUVCO – Parans Fiber Optic Skylight (SP3) is a unique way to bring natural light deep into an interior space. The system is comprised of an exterior daylight collecting panel which has 32 Fresnel lenses on the inside. The collector panel rotates to track the sun automatically, controlled by an internal computer. The Fresnel lens acts like a magnifying lens to focus the sunlight. This focused sunlight is directed into a fiber optic strand, each individual strand is combined with other strands to create a fiber optic cable, 7 mm in diameter. There are six fiber optic cables coming out of each panel. Each of these cables can be up to 60 feet long. These cables can be routed through walls or ceilings and bent around obstructions (minimum 2" radius). Each fiber optic cable can be used to bring the natural light to a different interior luminaries; or they can be combined in one luminaries. There are a variety of luminaries available, including the L1 Small, L1 Medium and L3 spotlight.

2.3 Exterior panel:

- A. SP3 requires up to 10 W of power, power cord provided. The SP3 Panel has 32 Fresnel lenses inside that are computer controlled to track the sun. There are two motors inside the panel that rotate the assembly up to 360 degrees. Each lens focuses the sunlight into a fiber optic strand 0.075 mm. Six (6) strands are joined to create one fiber optic cable each 7 mm diameter. There are six (6) fiber optic cables from each SP3 panel, contained inside a flexible conduit with an outside diameter of 42 mm. Each panel also has a power supply cord, needing a two prong 110V outlet. SP3 panel is 1140 mm L x 570 mm W x 270 mm H, weight is 32 kg. Exterior is Aluminum, with a tempered glass cover.

2.4 Luminaries:

- A. L1 – Available in two different sizes, small and medium. Sunlight only. Dims (mm)
Small: 450 x 450x 86, weight (kg): 3.6, needs one fiber optic cable
Medium: 450 x 900 x 86, weight (kg) 7.2, needs two fiber optic cables

- C. L3 – Spotlight type fixture, Sunlight only, Dims: 50 mm x 40 mm x 33 mm, weight (kg): .053, needs one fiber optic cable

2.5 Fiber Optic Cable:

Optical cable contains 0.75 mm optical fiber, bundles into a 7 mm optical cable. Fiber made of PMMA. Light transmission of 95.6 per meter. With Fluorinated polymer cladding. Each fiber optic cable can be a maximum of 60 feet long. Each cable will have a threaded fitting on one end for the luminaire attachment. All fire proofing procedures must be followed when running cables thru a fire rated wall.

2.6 ACCESSORIES

- F. Fasteners: Same material as metals being fastened, non-magnetic steel, non-corrosive metal of type recommended by manufacturer, or injection molded nylon.

PART 3 EXECUTION

3.1 EXAMINATION

- A. Do not begin installation until substrates have been properly prepared.
- B. If substrate preparation is the responsibility of another installer, notify Architect of unsatisfactory preparation before proceeding.

3.2 PREPARATION

- A. Clean surfaces thoroughly prior to installation.

- B. Prepare surfaces using the methods recommended by the manufacturer for achieving the best result for the substrate under the project conditions.

3.3 INSTALLATION

- A. Install in accordance with manufacturer's printed instructions.
- B. After installation of first unit, field test to determine adequacy of installation. Conduct water test in presence of Owner, Architect, or Contractor, or their designated representative. Correct if needed before proceeding with installation of subsequent units.

3.4 PROTECTION

- A. Protect installed products until completion of project.
- B. Touch-up, repair or replace damaged products before Substantial Completion.

END OF SECTION