

## Duralite Woven High Strength Daylighting Panel | DLW

The DURALITE High Strength (DLW) translucent and opaque frp panel was developed to provide the high quality the marketplace demands. Polyester resin combined with high strength woven roving fiberglass provides this panel with the structural integrity it needs to achieve long-term performance.

DURALITE High Strength panels are used where moderate corrosion protection and weathering characteristics are required. This panel can be used in such applications as refineries, pulp and paper mills, mining operations, wastewater facilities, fertilizer plants, and many other challenging environments.

**Table One: Physical Properties**

Property	8oz. / ft <sup>2</sup>	12oz. / ft <sup>2</sup>	16oz. / ft <sup>2</sup>	Test Method
Tensile Strength	22,000 psi	22,000 psi	22,000 psi	ASTM - D638
Tensile Modulus	1.6 x 10 <sup>6</sup> psi	1.6 x 10 <sup>6</sup> psi	1.6 x 10 <sup>6</sup> psi	ASTM - D638
Flexural Strength	33,000 psi	33,000 psi	33,000 psi	ASTM - D790
Flexural Modulus	1.0 x 10 <sup>6</sup> psi	1.0 x 10 <sup>6</sup> psi	1.0 x 10 <sup>6</sup> psi	ASTM - D790
Impact Strength (IZOD)	15.0 ft-lb/in notched	15.0 ft-lb/in notched	15.0 ft-lb/in notched	ASTM - D256
Barcol Hardness	45	45	45	ASTM - D2583
Coefficient of Linear Thermal Expansion	1.6 x 10 <sup>-5</sup> in/in/°F	1.6 x 10 <sup>-5</sup> in/in/°F	1.6 x 10 <sup>-5</sup> in/in/°F	ASTM - D696
Water Absorption	0.4 %/24 hrs @ 77°F (25°C)	0.4 %/24 hrs @ 77°F (25°C)	0.4 %/24 hrs @ 77°F (25°C)	ASTM - D570
Thermal Transmittance (U Value)	0.8 BTU/(hr-ft <sup>2</sup> -°F)	0.8 BTU/(hr-ft <sup>2</sup> -°F)	0.8 BTU/(hr-ft <sup>2</sup> -°F)	ASTM - C1363
Thermal Conductivity (k)	1.2 BTU-in/(hr-ft <sup>2</sup> -°F)	1.2 BTU-in/(hr-ft <sup>2</sup> -°F)	1.2 BTU-in/(hr-ft <sup>2</sup> -°F)	ASTM - C177
Average Burn Rate	N/A	N/A	≤ 2.5 in/min	ASTM - D635
International Building Code Plastic Classification	N/A	N/A	CC2	ASTM - D635
Flame Spread	N/A	N/A	≤ 200	ASTM - E84
Smoke Development	N/A	N/A	≤ 450	ASTM - E84
Self Ignition Temperature	>650 °F	>650 °F	>650 °F	ASTM - D1929
Flash Ignition Temperature	>650 °F	>650 °F	>650 °F	ASTM - D1929

**Table Two: Design Table**

Translucent Colors				
Product Code	Size	Color	Light Transmission	
			Min	Typ
XXXDLW xxx = Profile Number	As defined by tooling and approved drawing	405 White	40%	45%
		502 Clear	75%	80%
Opaque Colors				
Product Code	Size	Color	Light Transmission	
XXXDLW xxx = Profile Number	As defined by tooling and approved drawing	865 Beige		
		675 Gray		

## TESTING:

Crane Composites panels meet or exceed applicable requirements of the following standards:

1. ASTM D3841-97, Standard Specification for Glass Fiber Reinforced Polyester Plastic Panels.
2. Code requirements of most state, county and municipal building departments.
3. Crane Composites is a recognized UL90 component manufacturer. SolarStrong's acceptance as a UL90 component is under evaluation/development.

## SPECIFICATIONS:

These panels are manufactured by a continuous laminating process in lengths as required.

## COMPOSITION:

1. Reinforcement: random chopped fiberglass roving with woven fiberglass mat.
2. Resin mix: modified polyester copolymer and pigments.

## FINISHED PANEL QUALITY:

1. Panels shall have a wear side with a smooth finish. Color shall be uniform throughout. The backside shall be smooth. Backside imperfections which do not affect functional properties are not cause for rejection.
  2. Physical properties shall be as set forth in Table 1.
  3. Product quality standards and tolerances for panel weight and thickness shall be as set forth in Crane Composites' Quality Control Procedures/Standards which are available on request.
  4. Dimensions shall be as specified on purchase order, subject to the following tolerances:
    - Width:  $\pm 1/8"$  (3.2 mm)
    - Length:  $\pm 1/8"$  (3.2 mm) up to 12' (3.7 m)
    - Squareness: not more than  $1/8"$  (3.2 mm) out of square
- Pitch (over-all):  $\pm 1/8"$
- Rib Height:  $\pm 1/16"$
5. The nominal light transmission factor shall have a tolerance of  $\pm 5\%$  when tested in accordance to ASTM D1494.
  6. Tolerance on the specified weight of panels shall be  $\pm 10\%$ , unless otherwise specified.

## FABRICATING RECOMMENDATIONS:

Note: Protect your eyes with goggles and cover your nose and mouth with a filter mask when cutting frp panels.

Hand fabrication: Drilling-high speed drill bit (60° cutting angle, with 12°-15° clearance) or hole saw.

Cutting: Sheet metal shears or circular saw with reinforced carborundum or carbide-tipped blade.

Production fabrication: Use carbide-tipped tools. Straight cuts can be sheared (90° cutting edge with 0.002" (0.05 mm) clearance) or sawed. For irregular cuts, use die punch or band saw.

## STORAGE RECOMMENDATIONS:

Store panels properly. While a single panel is engineered to withstand exposure to sunlight and the elements, a stack of panels will trap heat and moisture, causing internal clouding in the panels. To avoid this irreversible effect, panels must be stored in a dry, shaded, well ventilated area. Skids should be elevated at one end by wood spacers. Failure to comply with recommended storage procedures will void the warranty on the panels.

## CAUTIONS AND SAFETY WARNINGS:

**DO NOT WALK ON PANELS.** Crane Composites panels are not intended to support the undistributed weight of workers. Roofing ladders or 1" x 12" planks, or equivalent means of protection must be used during any work on roofs. Provide fall protection in accordance with OSHA standard 29 CFR 1910 [see paragraph 1910.23(a)(4) AND (e)(8)]. Compliance with this regulation as well as any other local, state or federal safety requirements is the responsibility of the building owner, contractor and/or erector.

## MAINTENANCE:

Panels will provide a clean, aesthetically-pleasing finished installation. However, by nature, fiberglass reinforced plastic paneling may occasionally have small areas that are aesthetically unacceptable for use. Panels should be inspected on-site prior to installation. If any portion of material does not provide an acceptable appearance, Crane Composites should be notified at once. Upon verification of unacceptability, that portion of material will be replaced by Crane Composites. Crane Composites' sole responsibility is for the replacement of defective materials but not for labor or other handling or installation expenses.

## FLAME SPREAD & SMOKE DEVELOPMENT RATINGS

The numerical flame spread and smoke development ratings are not intended to reflect hazards presented by Crane Composites products or any other material under actual fire conditions. These ratings are determined by small-scale tests conducted by Underwriters Laboratories and other independent testing facilities using the American Society for Testing and Materials E-84 test standard (commonly referred to as the "Tunnel Test"). CRANE COMPOSITES PROVIDES THESE RATINGS FOR MATERIAL COMPARISON PURPOSES ONLY. Like other organic building materials (e.g. wood), panels made of fiberglass reinforced plastic resins will burn. When ignited, frp may produce dense smoke very rapidly. All smoke is toxic. Fire safety requires proper design of facilities and fire suppression systems, as well as precautions during construction and occupancy. Local codes, insurance requirements and any special needs of the product user will determine the correct fire-rated interior finish and fire suppression system necessary for a specific installation. For additional information on ASTM E-84 Testing please visit [www.astm.org/Standards/E84.htm](http://www.astm.org/Standards/E84.htm)

*We believe all information given is accurate. It is offered in good faith, but without guarantee. Since conditions of use are beyond our control, all risks are assumed by the user. Nothing herein shall be construed as a recommendation for uses which infringe on valid patents or as extending a license under valid patents.*

Duralite is a registered trademark of Crane Composites, Inc.