

FRP Metal Building Daylighting Systems

Product: **R-Panel High Strength**

Weight: 8 oz/ft²

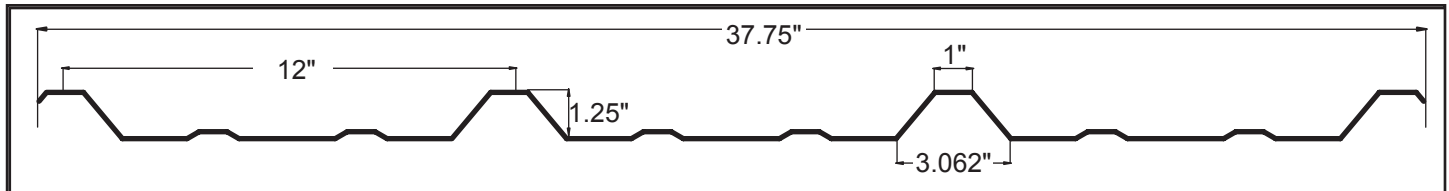
Generic: 162GPW

Form 2686

Rev. 01

8/04

Lascolite® Translucent Fiberglass Reinforced Plastic Panels



1.0 DESCRIPTION

Lascolite fiberglass reinforced composite panels are of a high quality thermosetting polyester resin and U.V. inhibitors. The surface is aesthetically pleasing, either smooth (standard) or textured, free of wrinkles and other defects. Panels are suitable for use as a permanent exterior or interior material that may be exposed to the elements in a wide variety of climates. The configuration conforms to the shapes, dimensions and tolerances as shown.

2.0 PHYSICAL CHARACTERISTICS

- 2.1 The polyester panels are shatter resistant, U.V. stabilized, and fiberglass reinforced.
- 2.2 The reinforcing fibers are in the form of randomly distributed chopped fiber and bi-directional woven roving if required (High Strength Panel). Glass content shall range from an average minimum of 20% to 40% by weight.
- 2.3 The color will remain consistent indicated by a nominal standard.
- 2.4 The nominal light transmission factor shall have a tolerance of +/-5% when tested in accordance to ASTM D1494.
- 2.5 Tolerance on the specified weight of panels shall be +/-10%, unless otherwise specified.
- 2.6 Tolerances on panel dimensions shall be as follows unless otherwise requested:
 - Width.....+/-1/8"
 - Length.....+/-1/8"
 - Squareness.....+/-1/8"
 - Pitch (over-all).....+/-1/8"
 - Rib Height.....+/-1/16"

3.0 APPROVALS

Lascolite panels meet or exceed applicable requirements of the following standards:

- 3.1 ASTM D3841, Standard Specification for Glass Fiber Reinforced Polyester Plastic Panels.
- 3.2 Research report No. 1031, International Conference of Building Officials, Uniform Building Code.
- 3.3 Code requirements of most state, county and municipal building departments.
- 3.4 Fire-Rated panels listed by Underwriters Laboratories, Inc., File R9613.
- 3.5 UL 90 (Recognized Component Manufacturer).

4.0 ENGINEERING PROPERTIES

NOTE: Physical properties are provided for comparison purposes only. Specific values may vary with resin formulation, glass content and thickness.

PROPERTY	TEST METHOD	NOMINAL
Barcol Hardness	ASTM D2583	50
Shear Strength	ASTM D732	11,000 psi
Flexural Strength	ASTM D790	21,900 psi
Flexural Modulus	ASTM D790	0.87 x 10 ⁶ psi
Tensile Strength	ASTM D638	19,000 psi
IZOD Impact	ASTM D256	12.8 ft-lbs/in
Water Absorption	ASTM D570	< 0.30% (24 hrs @ 77°F)
Flash Ignition Point	ASTM D1929	> 650°F

5.0 CAUTIONS & SAFETY WARNINGS

5.1 FIRE RESISTANT COMPARISONS

References to flammability of Lascolite frp panels reflect laboratory tests which compare burning characteristics of building products. These references do not imply that the panels will not burn. Flash temperatures as low as 650°F can ignite them. All fiberglass panels will burn under proper conditions and certainly in a full scale fire. Once ignited, they may burn rapidly, releasing dense smoke. For appropriate precautions, request "Fire Safety Guidelines for Use of FRP Panels", Society of the Plastics Industry.

5.2 DO NOT WALK ON PANELS.

Lascolite frp panels are not intended to support the undistributed weight of workers. Roofing ladders or 1"x12" 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.

6.0 STORAGE RECOMMENDATIONS

Store panels properly. While a single panel easily withstands 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. Preferably, store on end or on edge. Skids should be elevated at one end by wood spacers. Failure to comply with recommended storage procedures will void the warranty on the panels.

7.0 MAINTENANCE INSTRUCTIONS

To preserve appearance of weather exposed panels, hose down periodically to remove accumulated, corrosive, dust and dirt. At first signs of surface dullness, rinse panels clean, allow to dry and apply a surface refinisher. Neglected panels showing exposed fibers and embedded dirt may be substantially restored by cleaning with a stiff bristle brush or fine steel wool and water. After thorough drying, reseal panels with two coats of refinisher such as Surfacing Lacquer, Product #837-X1, manufactured by Valspar Corporation. Request technical bulletins on storage (Form 2654) and maintenance (Form 2655).

8.0 CHEMICAL RESISTANCE

The polyester resins and glass fibers used in Lascolite frp panels are resistant to a broad range of chemicals and atmospheric contaminants. Detailed data on the effect of hundreds of specific chemical compounds is available on request.

9.0 LOAD SPAN TABLE

ROOFING: POSITIVE LOADS Panel Desc: R-Panel HS Gen Purpose High Strength 8 oz./ft ² Generic: 162GPW	LIMITING CRITERIA: 2.5 to 1 Safety Factor Panel Strength = 13,000 psi															15 to 1 Deflection Limit Ratio (L/D) Flexural Modulus = 900,000 psi								
	20 psf			30 psf			40 psf			50 psf			60 psf											
	1 SPAN	2 SPAN	3+ SPAN	1 SPAN	2 SPAN	3+ SPAN	1 SPAN	2 SPAN	3+ SPAN	1 SPAN	2 SPAN	3+ SPAN	1 SPAN	2 SPAN	3+ SPAN	1 SPAN	2 SPAN	3+ SPAN						
Stress Limit	5'-8"	5'-8"	6'-4"	4'-8"	4'-8"	5'-2"	4'-0"	4'-0"	4'-6"	3'-7"	3'-7"	4'-0"	3'-3"	3'-3"	3'-8"									
Deflection Limit	4'-1"	5'-6"	5'-1"	3'-7"	4'-10"	4'-5"	3'-3"	4'-5"	4'-0"	3'-0"	4'-1"	3'-9"	2'-10"	3'-10"	3'-6"									

ROOFING: WIND LOADS Panel Desc: R-Panel HS Gen Purpose High Strength 8 oz./ft ² Generic: 162GPW	LIMITING CRITERIA: 1.88 to 1 Safety Factor Panel Strength = 13,000 psi															20 to 1 Deflection Limit Ratio (L/D) Flexural Modulus = 900,000 psi								
	20 psf			30 psf			40 psf			50 psf			60 psf											
	1 SPAN	2 SPAN	3+ SPAN	1 SPAN	2 SPAN	3+ SPAN	1 SPAN	2 SPAN	3+ SPAN	1 SPAN	2 SPAN	3+ SPAN	1 SPAN	2 SPAN	3+ SPAN	1 SPAN	2 SPAN	3+ SPAN						
Stress Limit	6'-6"	6'-6"	7'-4"	5'-4"	5'-4"	6'-0"	4'-7"	4'-7"	5'-2"	4'-2"	4'-2"	4'-7"	3'-9"	3'-9"	4'-3"									
Deflection Limit	5'-5"	7'-3"	6'-8"	4'-9"	6'-4"	5'-10"	4'-3"	5'-9"	5'-3"	4'-0"	5'-4"	4'-11"	3'-9"	5'-0"	4'-7"									

The information below is provided as preliminary data for designers. It should be checked and verified and its use determined by a duty licensed engineer or architect. NOTE: Spans will vary with resin formulation, glass content, and thickness. For data on other profiles, formulations, or conditions contact the technical department.

DISCLAIMER: These load span tables do not reflect any span reduction that may be associated with various fastening options; for fastening recommendations reference SPI publication, "Recommended Installation Practice for Glass Fiber Reinforced Polyester Panels - Roofing, Siding, and Glazing."

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