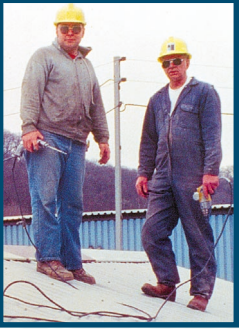# Resolite Sheds New Light on Walkable FRP Roof Panels

TRED-SAFE™ SPECIFICATIONS

1. Walkable fiberglass reinforced polymer wall/roof panels shall be Resolite Tred-Safe Type 1645 translucent or opaque, corrosion resistant and fire retardant as manufactured by Resolite, Moscow, TN., www.resolite.com, 1-888-RESOLITE (1-888-737-6548).
2. Panel manufacturer shall be ISO 9002 certified.
3. Resin shall be high quality isophthalic, neopentyl glycol and halogenated polyester with acrylic modification and UV stabilizers. Resin content of the panel shall be a minimum of 55% by weight.
4. Glass reinforcement shall be composed of multiple layers of bidirectional continuous strand WOVEN MAT and chopped strand multi-directional glass. Glass content shall be a maximum 45% by weight. Both the interior and exterior surface of the panel shall have an internal Corrosion Weathering (C/W) barrier fused to the fiberglass matrix during the manufacturing process.
5. Panel finish shall have an embossed exterior and embossed interior to maximize panel longevity.
6. Panel weight shall be nominal 16 ounces per square foot.
7. Color shall be translucent #35 Frost with a 50% light transmission OR opaque #33 Stone White. (Special Custom Colors are available by request)
8. Profile shall be standard: 7.2" x 1.5" or 4.2" x 1-1/16" optional: 7.2D x 1.75".
9. Panels shall be Class 1 Fire Rated with a Flame Spread of 25. The flame spread rating shall be achieved without the use of fillers.

STATEMENT OF POLICY

The information provided herein is solely based on factual data available to Resolite from many years of experience in manufacturing, field evaluation, testing and research. This is to be used only as a general guide by the designer and builder.

The overall satisfactory performance of any structural application is predicated by proper design and erection. Resolite will not assume any responsibility for the design, detailing, or erection of the substructure to which Resolite panels are attached.

STORAGE RECOMMENDATIONS

Prior to installation, Resolite panels should be stored indoors in an upright position. Never pile flat, as condensation may form between the panels causing internal fiberbloom and permanent damage.

COLOR NOTICE

Resolite disclaims all warranties expressed or implied with respect to color and/or translucency of polyester resin products.

ADDITIONAL RESOLITE CATALOGS

Literature and samples availible upon request.

DISCLAIMER

The information contained herein is for information purposes only. Resolite reserves the right to change or withdraw such information, or the designs and details of the products upon which it is based, either wholly or in any portion thereof, without further notice. For design and detailing assistance on specific products, contact your Resolite sales representative.

✓ **Truly Walkable FRP Roof Panel**

✓ **High Resin Content for Improved Corrosion Resistance**

✓ **WOVEN Fiberglass Mat Reinforcement for Added Safety in Roof Applications**

✓ **Class 1 Fire Rated Flame Spread 25**

✓ **Opaque & Translucent Panels**

Resolite®

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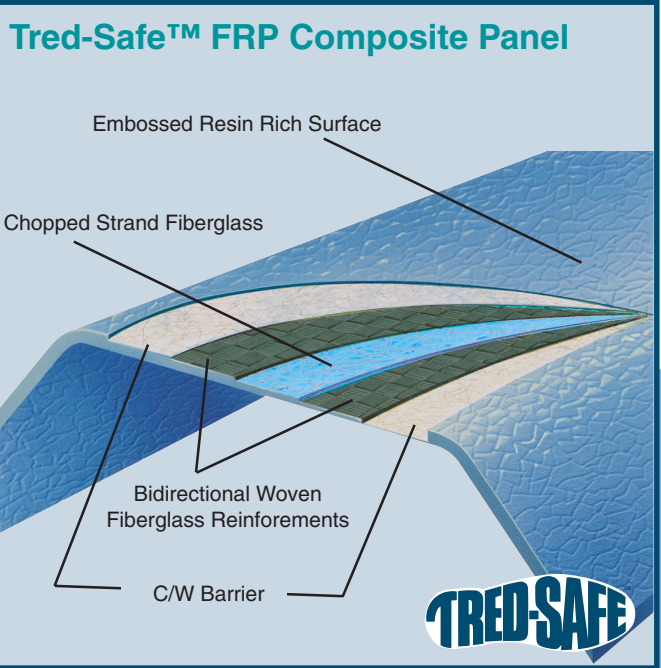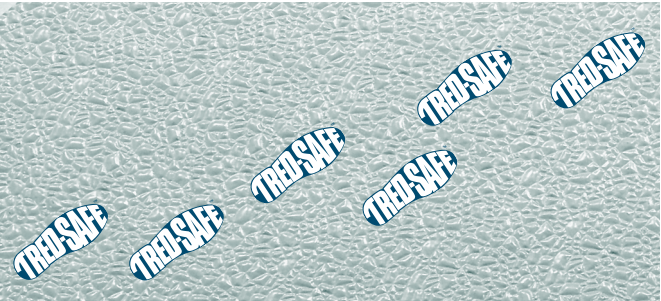**TRED-SAFE**™

- **A Truly Walkable† Roof Panel-** has high impact resistance and is capable of safely supporting normal foot traffic and weight of a maintenance worker without buckling or damage.

- **Fire Rated -** Class 1 Flame Spread classification of 25*.

- **Corrosion Resistant-** produced with high resin content (55% by weight) premium quality isophthalic halogenated polyester resin.

- **Outstanding Weathering-** our premium quality resin incorporates neopentyl glycol, acrylic modification and UV stabilizers.

- **Embossed Surface-** both exterior and interior surface finishes are embossed creating a resin rich surface to improve UV and corrosion resistance.

- **C/W Barrier Protection-** a protective barrier on both exterior and interior surfaces that is fused into the resin/fiberglass matrix to give the panel even greater protection against degradation and eliminate any need for surface applied coatings.

- **Multiple Glass Reinforcements-** Tred-Safe panels utilize a 5 layer combination of glass reinforcement including bidirectional continuous strand WOVEN and chopped strand glass. This multi-layered glass fiber reinforcement provides:
  - Better impact resistance
  - Better fastener pullover values
  - Better resistance to longitudinal splitting
  - Better resistance to internal shear stresses
  - Uniform longitudinal and transverse reinforcements provide increased flexural stability under cyclic loading

- **Two Standard Colors-** opaque 33 Stone White and translucent 35 Frost (50% light transmission). Custom colors also available.

- **Two standard Profiles-** 7.2 x 1.5" and 4.2 x 1-1/16". Optional profiles: 7.2D x 1.75"

- **Outstanding Performance-** Tred-Safe is backed by 30 years of case history in the corrosion and industrial market.

- **Load/Span Data-** based on full scale tests to simulate actual field conditions.

- **Exceeds ASTM D 3841-** standard specification for Glass- Fiber- Reinforced Polyester Plastic Panels.

Tred-Safe™ FRP Composite Panel

Embossed Resin Rich Surface

Chopped Strand Fiberglass

Bidirectional Woven Fiberglass Reinforements

C/W Barrier

TRED-SAFE

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† A Tred-Safe walkable panel is one that is resistant to puncturing and tearing; is rugged and durable; and is capable of safely supporting normal foot traffic and the weight of a maintenance worker without buckling or damage. Please note that beyond actual material capabilities, standard construction safety measures must be observed and are the responsibility of the owner. Under actual service conditions such as elevated temperatures or corrosive environments, some reduction in strength is possible over time, thus limiting the walkability of the panels. This should be considered when selecting the allowable spans and when accessing the roof for maintenance. Maximum walkable spans should be limited to 7' 6". Simple spans are not recommended for foot traffic; planks or ladders should be used for these conditions.
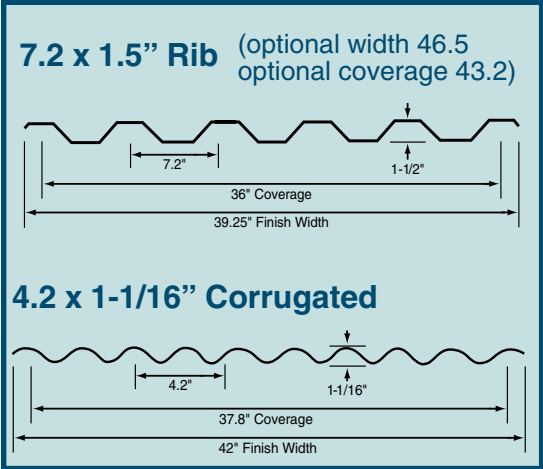

Roofing Live Load (PSF)

	20			30			40			50			60		
	1	2	3	1	2	3	1	2	3	1	2	3	1	2	3
7.2	7'9"	10'5"	9'7"	6'10"	9'1"	8'5"	6'2"	8'1"	7'8"	5'9"	7'2"	7'1"	5'5"	6'7"	6'8"
4.2	5'7"	7'6"	6'10"	4'10"	6'6"	6'0"	4'5"	5'9"	5'5"	4'1"	5'2"	5'1"	3'10"	4'9"	4'9"

Siding / Roofing Wind Load (PSF)

	20			30			40			50			60		
	1	2	3	1	2	3	1	2	3	1	2	3	1	2	3
7.2	10'2"	13'2"	12'7"	8'11"	10'9"	11'0"	8'1"	9'3"	10'0"	7'6"	8'4"	9'3"	7'1"	7'5"	8'6"
4.2	7'4"	9'5"	9'0"	6'4"	7'8"	7'10"	5'9"	6'8"	7'2"	5'4"	6'0"	6'8"	5'1"	5'5"	6'1"

Types Available	1645
Nominal Weight, oz./sq. ft.	16 oz.
Nominal Thickness, in.*	.100
Nominal Resin Content	55%
Hardness, Barcol ASTM D 2583	40
Flexural Stength, psi ASTM D 790	42,000
Flexural Modulus, psi ASTM D 790	1.30×10^6
Tensile Strength, psi ASTM D 638	32,000
Fire Resistance Ignition Point ASTM D 1929	820° F to 900° F
Flame Spread Classification ASTM E 84	25*
Flammability ASTM D 635	Average Time of Burning less than 5 sec Average Extent of Burning less than 15 mm Building Code Classification CC1 or C1
Coefficient of Expansion (in/in °F) ASTM D696	2.89×10^{-5}

Notes:
1. Load/Span limits are based on full scale panel tests representing actual field conditions.
2. Panel span/deflection ratios (L/D) shall be limited to L/20 for wind loads and L/45 for live loads.
3. Factors of safety shall be 1.88 for panels subject to wind loads and 2.5 for panels subjected to live loads.
4. Load/Span limits are based on fasteners with 3/4" washers in every low for 7.2 and fasteners with 5/8" washers in every other low for 4.2.
5. Other panel types, weights, glass reinforcements, resin types, lengths, fastening options, or special loading requirements may be available. Please contact Resolite Customer Service Department for more information.

7.2 x 1.5" Rib (optional width 46.5 optional coverage 43.2)

7.2" 1-1/2"
36" Coverage
39.25" Finish Width

4.2 x 1-1/16" Corrugated

4.2" 1-1/16"
37.8" Coverage
42" Finish Width

* Resolite advises that the numerical flame spread classification is not intended to reflect hazards presented by this or any other material under actual fire conditions.
** All thicknesses based on flat material. Nominal thickness varies with profile.