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Fiberglass Reinforced Polymer Panels

Technical Data



Product Description Tred-Safe® Panels

TRED-SAFE FRP PANELS

In the industrial and corrosion market, Resolite and Fire Snuf - FS25A are synonymous with high quality fire rated fiberglass reinforced polymer panels. Resolite started production in 1951 and in 1964 developed and produced the first fire-retardant FRP panels.

Resolite Tred-Safe was designed to meet the need for a fire rated, strong, safe, walkable⁺ roof panel. Tred-Safe incorporates the same isophthalic polyester resin as our high performance FS25A and CRFS25A products. The resin is intermixed with a five layer combination of reinforcement including C/W Barriers, bidirectional continuous strand woven and chopped strand fiberglass, making Tred-Safe the optimum FRP walkable panel.

Tred-Safe, type 1645, is Resolite's toughest roofing or siding panel with a nominal weight of 16 oz./sq.ft. and approximately 45% glass reinforcement. This heavy combination of reinforcement, coupled with Resolite's resilient resin, provides a panel that is strong, flexible, and truly walkable. With over ten years of performance history, Tred-Safe has the proven benefit of safely supporting the concentrated load of maintenance workers. Tred-Safe is also ideal as a siding panel where long spans are required or high impact resistance is needed.

Tred-Safe's resin/glass matrix of isophthalic polyester resin and fiberglass reinforcement provides a long service life in corrosive environments and offers outstanding weathering resistance characteristics. The resin's weathering has been greatly enhanced with neopentyl glycol, acrylic modification and UV stabilizers. Resolite takes corrosion resistance and good weathering one step further by providing a C/W Barrier as **standard** on both exterior and interior surfaces of Tred-Safe. C/W Barrier is the long range solution to better weathering FRP panels and is far superior to highly volatile sprayed on coatings that erode and fade away in a short time.

Resolite Tred-Safe 4.2 x 1-1/16" corrugated profile is an ideal replacement for old corrugated cement panels, since both materials have identical configurations.

TRED-SAFE FEATURES

- A **Truly Walkable Roof Panel** - has high impact resistance and is capable of safely supporting normal foot traffic and the weight of maintenance workers.
- **UL Fire Rated** - flame spread classification of 25*.
- **Corrosion resistant** - produced with a high quality isophthalic halogenated polyester resin.
- **Outstanding weathering** - our high 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 performance.
- **C/W Barrier protection** - STANDARD - 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.
- **Multiple glass reinforcements** - Tred-Safe panels utilize a combination of glass reinforcement including bidirectional continuous strand woven and chopped strand glass. This multi-layered glass fiber reinforcement assures installers and building owners that Tred-Safe provides the safety of a TRULY WALKABLE ROOF PANEL.
- **Two standard colors:** opaque - 33 Stone White; translucent - 35 Frost (50% light transmission).
- **Two standard profiles:** 7.2 x 1.5" and 4.2 x 1-1/16". Optional profiles: 7 x 1.5", 7.2D x 1.75".
- **Outstanding performance** - backed by over 45 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.



Product Description

Tred Safe® Panels

(continued)

PHYSICAL PROPERTIES

Types Available	1645
Nominal Wt., oz./sq.ft.	16 oz.
Nominal Thickness, in.**	.100
Nominal Glass Content	45%

Hardness, Barcol ASTM D 2583	40
Flexural Strength, psi ASTM D 790	42,000
Flexural Modulus, psi ASTM D 790	1.30 x 10 ⁶
Tensile Strength, psi ASTM D 638	32,000
Coefficient of Expansion (in/in°F)ASTM D 696	1.11 x 10 ⁻⁵
Conductivity (K Factor) ASTM C 177	1.15
Dielectric Strength RMS V. @ 60 cycles ASTM D 149	483 V/Mil.
Fire Resistance Ignition Point ASTM D 1929	820° F - 900° F
Flame Spread Classification ASTM E 84 (UL 723)	25*
Flammability ASTM D 635	
Average Time of Burning less than 5 seconds	
Average Extent of Burning less than 15 mm	
Building Code Classification CC1 or C1	

** All thickness based on flat material. Nominal thickness varies with profile.

SPECIFICATION (Short Form)

1. Walkable⁺ fiberglass reinforced polymer wall and/or roof panels shall be Resolite Tred-Safe, type 1645, translucent or opaque corrosion resistant and fire retardant as manufactured by Resolite, a United Dominion Company, Zelienople, PA.
2. Glass reinforcement shall be composed of multiple layers of bidirectional continuous strand woven and chopped strand glass and shall be approximately 45% by weight. Both surfaces shall have a C/W Barrier.
3. Resin shall be high quality isophthalic, neopentyl glycol, halogenated polyester with acrylic modification and UV stabilizers.
4. Finish shall be embossed exterior/embossed interior.
5. Panel weight shall be nominal 16 oz. per square foot.
6. Color shall be No. _____
(Opaque: 33 Stone White or Translucent: 35 Frost).
7. Profile shall be _____
(Standard: 7.2 x 1.5" or 4.2 x 1-1/16")
(Optional: 7 x 1.5", 7.2D x 1.75")
Length shall be _____
8. Panels shall be classified by Underwriters Laboratories Inc. with a Flame Spread of 25*. The flame spread rating shall be achieved without the use of fillers. **EACH PANEL SHALL HAVE THE UNDERWRITERS' LABEL.**

* 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.

⁺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. 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.