

MPCI Product Data Sheet
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Thermablock™ FRC

Fire Resistant Resin for Composites

PRODUCT DESCRIPTION

Thermablock™ FRC is a two part silsesquioxane/titanate resin developed as a high temperature thermal barrier which can be incorporated in standard FRP composite manufacturing processes. Thermablock™ FRC will not burn or smoke when exposed to direct flames.

The original development of this product was targeted for fire protection of composite bulkheads on board US Navy vessels.

FEATURES

- Excellent thermal insulation for composite structures
- No smoke with direct flame at 1800°F
- No burning with direct flame at 1800°F
- Chemical resistant to petroleum products, common solvents, acids and bases
- Withstands thermal cycling from -100°F to 900°F

USES

Due to the excellent fire resistant properties and compatibility with standard composite polyester, vinylester and epoxy resins, Thermablock™ can be used in a variety of applications.

- Building and Construction (Wall panels, roofing, flooring)
- Electrical enclosures
- Transportation (Interior and exterior sections of trains, buses and subways)
- Marine
- Fire water piping systems

CHEMICAL RESISTANCE

Thermablock™ is resistant to most organic and inorganic type reagents, solvents and fuels. It is resistant to dilute alkalis, dilute acids, and neutral salt solutions.

Technical Data	
Property	FRC
Generic Type	Silsesquioxane/Titanate
Service Temperature	Up to 1800°F
Application Temperature	40°F - 100°F
Application Humidity	20% - 90%
Percent Solids by Volume	70%
VOC	4.1 lb/gallon
Weight per Gallon	13.64 lbs
Shelf Life	6 months @75°F
Pot Life	> 4 hours
Dry-to-Touch Time	2 hours
Room Temp Cure time	48 hours
Thinner	Isopropanol

APPLICATION

This is a high solids coating containing no styrene. It has been designed to provide ease of application using hand lay-up, spray-up, filament winding, and resin transfer molding. Adjustments can be made to optimize application characteristics for custom applications.

Thermablock™ FRC is designed to be used with all commonly employed glass reinforcements. Processed as an exterior surface layer of the composite structure, the resin/glass matrix provides thermal protection to the underlying composite structure. The required matrix thickness will be determined by the desired level of thermal protection for the composite structure.

Thermablock™ is a durable material; however, it cannot replace any of the structural resin requirements of the structure.

MIXING AND THINNING

Mixing

Power mix material before application. Continuous agitation is required after mixing.

Pot Life

Greater than 4 hours at 72°F

CLEANUP AND SAFETY

Cleanup

Use Isopropyl alcohol, MEK, or acetone. In case of spillage, absorb and dispose per local regulations.

Safety

Follow all caution statements on this product data sheet and on the MSDS for this product. Employ normal workmanlike safety precautions. Wear appropriate Personnel Protective Equipment.

Caution

Flammable material – keep away from sparks and open flames. All electrical equipment and installations should be made and grounded in accordance with the National Electric Code. In areas where explosion hazards exist, workmen should be required to use non-ferrous tools and wear conductive and non-sparking shoes.

PACKAGING, HANDLING & STORAGE

Shipping Weight: 1 Gallon – 15 lbs.

Flash Point: 53°F (12°C)

Storage: Store indoors at 32°F to 100°F, at ambient relative humidity

Shelf Life: 6 months at 75°F

DISCLAIMER. To the best of our knowledge the technical data herein is true and accurate on the date of publication. It is subject to change without prior notice. No warranty of current accuracy is given or implied. We guarantee this product conforms to MPCI's quality control. User must contact MPCI to verify correctness before specifying or ordering. No other warranty or guarantee of any kind is made by MPCI, express or implied, statutory, by operation of law, or otherwise, including merchantability and fitness for a particular purpose.