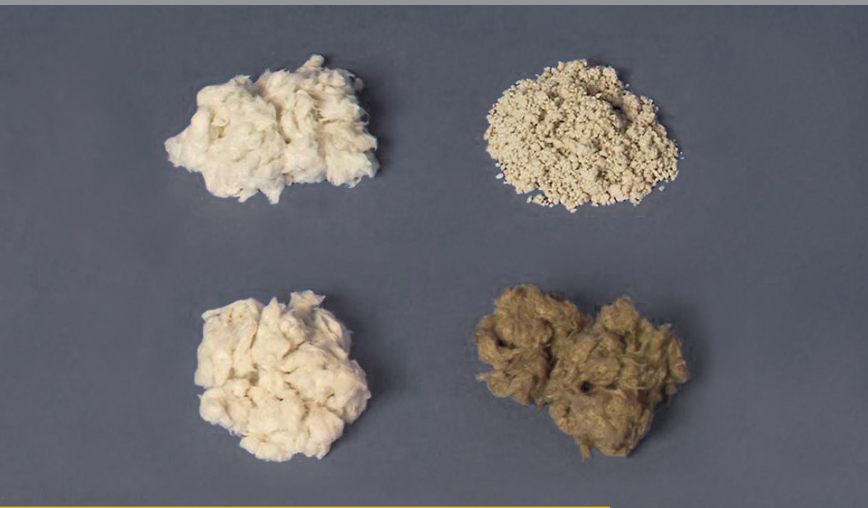


Thermafiber® FRF™ Products



Thermafiber FRF products are used as a filler and reinforcement component in many different types of products such as brake shoes, pool balls, paints, adhesives, caulks, and cements.



Thermafiber FRF products are available in various nodule sizes and colors

Filler / Reinforcement Fiber

- + Superior fire and heat resistance
- + Water-absorbent and repellent surface treatments available
- + Economical fiber and filler that can be used in a variety of applications
- + Available in a different sizes and colors

Minimum
70%
Recycled
Content



Thermafiber®



Made in the USA

Thermafiber® FRF™ Products

Description:

Thermafiber FRF Filler/Reinforcement Fiber is a top quality mineral wool fiber with properties that enhance the performance of a variety of different products due to its fire and heat resistance capabilities. This cost-effective fiber retains its integrity at higher temperatures than glass fiber and demonstrates excellent wear resistance. Thermafiber FRF does not contain asbestos.

Typical End Uses:

Paint	Auto Gaskets	Reinforcement/filler	Wear resistance/resilience
Plastics	Brake Shoes/Clutches	Shape retention	Viscosity modification
Pool Balls	Wear resistance/abrasion	Heat resistance	

Product Options:

Product	Finish	Treatment*	Bag Weight	Bale Weight**
FRF 501	Regular	S, A	30 lbs (13.61 kg)	750-1100 lbs (340.19- 498.96 kg)
FRF 502	Small	S, A	40 lbs (18.14 kg)	750 lbs (340.19 kg)
FRF 503	Milled	S, A	50 lbs (22.7 kg)	N/A
FRF 504	Milled	S, A	50 lbs (22.7 kg)	N/A
FRF 511	Regular	S, A	30 lbs (13.61 kg)	750 lbs (340.19 kg)
FRF 512	Small	S, A	40 lbs (18.14 kg)	750 lbs (340.19 kg)
FRF 513	Milled	S, A	50 lbs (22.7 kg)	N/A

*Treatments can be added upon request. S = Silicone , A = Surfactant

** May vary +/- 10%

Technical Data:

Product	Non-Fibrous Content per ASTM C 1335 (% of weight)	Poured Density (pcf)	Tested to ASTM E 84	
			Flame Spread	Smoke Developed
FRF 501, FRF 511	<50%	2.8 – 3.7	0	5
FRF 502, FRF 512	<50%	3.7 – 5.0	0	5
FRF 503, FRF 513	<50%	5.0 – 7.4	0	5
FRF 504	<50%	8.2 – 10.5	0	5

Performance Characteristics	
Color	White to Gray
Density (Specific Gravity)	2.8-3.0 g/cc
Hardness	6.0 Mohs
Fiber Diameter	5 Microns, average
Fiber Diameter Range	1.73 – 8.65 microns
Fiber Length	0.1 – 4.0 mm, average
Fiber Tensile Strength	80,000 psi
Fiber Tensile Modulus	1,500 – 5,000 kpsi
Refractive Index	1.62 – 1.64
Devitrification Temperature	1,550° F (843° C)
Melting Point***	Approximately 2,200° F (1,204° C)

*** For continuous temperatures above 1,200°F, consult with your Thermafiber sales representative

Chemical Composition	
Oxide	Percent by Weight
SiO ₂	38-46
Al ₂ O ₃	9-12
CaO	31-40
MgO	8-15
Fe ₂ O ₃	0-2

Standards Compliance:

ASTM E 136 Rated Non-combustible per NFPA Standard 220

For Further Information:

For additional information about these or other Thermafiber products contact us at 1-888-834-2371 or visit our website www.thermafiber.com.

Notice:

Thermafiber, Inc. shall not be liable for incidental and consequential damages, directly or indirectly sustained, nor for any loss caused by application of these goods not in accordance with current printed instructions or for other than the intended use. THERMAFIBER liability is expressly limited to replacement of defective goods. Any claim shall be deemed waived unless made in writing within thirty (30) days from date it was or reasonably should have been discovered.

Submittal Approvals:

Job Name	
Contractor	Date

