THERMAFIBER® FIRESPAN® FF
FORMALDEHYDE-FREE MINERAL WOOL INSULATION

Thermafiber® introduced the first formaldehyde-free and GREENGUARD® Gold certified perimeter fire containment mineral wool insulation in North America. FireSpan® FF is designed to provide enhanced fire protection in curtain wall and perimeter fire containment systems and meet green building standards by using products that exclude red list materials like formaldehyde.[1] These products are noncombustible, moisture-resistant, noncorrosive, nondeteriorating, mildew-resistant, and vermin-resistant. Their natural dark color provides shadowing in glass spandrels. FireSpan® FF insulations provide thermal insulation, fire containment, enhanced acoustical performance, and vapor control in many different UL® and Intertek® (formerly OPL) listed fire containment assemblies of 1-, 2-, and 3-hour ratings.[2] Formaldehyde-free FireSpan® products are especially appropriate for applications in education, healthcare, and other institutions committed to indoor air quality.

1   Living Building Challenge (LBC) Red List.
2   See individual listings for hourly F ratings.

Features

- Exceptional performance in Perimeter Fire Containment Systems
- Provides fire containment in rated assemblies
- Fire-resistant to temperatures above 2,000°F (1,093°C)[3]
- Can be easily fabricated to fit around various types of curtain wall anchors
- Reduces energy needs for heating and cooling
- Mold-resistant
- Enhances acoustical performance
- Natural dark color provides shadowing in glass spandrels
- Minimum 70% recycled content[4]
- Contributes to credits in several green building programs, such as LEED® and Green Globes®
- Formaldehyde-free

3   As tested to ASTM E119 Time Temperature Curve within ASTM E2307.

Standards, Code Compliance

- ASTM C612
  - FireSpan® FF 40 Types IA, IB, II, III, IVA
  - FireSpan® FF 90 Types IA, IB, II, III, IVA, IVB
  - FireSpan® FF 120 Types IA, IB, II, III, IVA, IVB

Physical Properties

PROPERTY	TEST METHOD	VALUE
Corrosion of Steel, Aluminum, and Copper	ASTM C665	Noncorrosive, Types I, III (Class A, Category 1)
Non-Combustibility	ASTM E136	Non-Combustible
Non-Combustibility	CAN/ULC S114	Complies
Water Vapor Sorption	ASTM C1104	Sorption less than 1% by volume
Linear Shrinkage	ASTM C356	<2% @1,200°F (650°C)
Surface Burning Characteristics	ASTM E84	Unfaced, Flame Spread 0, Smoke Developed 0 Faced, Flame Spread 25, Smoke Developed 0
Surface Burning Characteristics	CAN/ULC S102	Unfaced, Flame Spread 0, Smoke Developed 0 Faced, Flame Spread 25, Smoke Developed 0
Perimeter Fire Containment Systems	ASTM E2307	Safing insulation used in conjunction with Thermafiber® FireSpan® insulations and with an approved fill, void, or cavity material sealant in the Perimeter Fire Containment System Complies
Fire Tests of Firestop Systems	CAN/ULC S115	Complies
UL Formaldehyde-Free		Validated
GREENGUARD		Gold Certified

Curtain wall products are approved by New York City Board of Standards & Appeals – (under BSA 214-73-SM & accepted by MEA-209-82, Vol. II). Also, MEA-189-93-M and MEA-190-93-M.

Technical Data

		TESTED TO ASTM C518	
	NOMINAL DENSITY	"K" @ 75° [24°C] BTU.IN/HR.SQ FT. °F	"R" VALUE PER INCH OF THICKNESS[5]
FireSpan® FF 40	4.0 pcf	0.23	4.3
FireSpan® FF 90	8.0 pcf	0.23	4.3
FireSpan® FF 120	12.0 pcf	0.24	4.1

5   R = thickness divided by "k."

Perimeter Fire Containment Tests per ASTM E2307

FireSpan® insulation is the insulation for perimeter fire containment. Thermafiber, Inc. has performed decades of testing in all of the fire containment systems listed below:

- Aluminum Spandrel
- Steel Stud-Framed/Gypsum Sheathing
- Glass Spandrel
- Granite Spandrel
- Precast Concrete Spandrel
- Steel Back Pan
- Zero Spandrel

For more complete test information, see UL® and Intertek® (formerly OPL) directories. For a full listing of fire containment systems, visit www.thermafiber.com and click on Fire Rated Assemblies.

For additional job-specific details and accessory materials necessary to complete the Perimeter Fire Containment System, please refer to UL® and Intertek® design listings.[6,7]

See Owens Corning publication "Enclosure Solutions Perimeter Fire Containment System E2307 Curtain Wall Technical Bulletin" for more information.

See Owens Corning publication "Thermafiber® Perimeter Fire Containment System Guide" for more information.

6   UL Fire Rated Designs, UL 333 Pfingsten Road, Northbrook, IL 60062.
7   Intertek Laboratories Designs, Fire Resistance Directory, Intertek 16015 Shady Falls Rd. Elmendorf, TX 78112

Availability

Code-compliant perimeter fire containment systems require Fire-Span® 90 at a minimum of 2 inches or greater and/or FireSpan® 40 at 4 inches or greater and will have a UL® certification. However, each UL® or Intertek® listing requires a specific thickness. Refer to the design listing for correct thickness. Lesser thicknesses, respectively, should be used for thermal or acoustical applications and **will not have a certification.**

PRODUCT	AVAILABLE THICKNESS IN ½" INCREMENTS	STANDARD DIMENSIONS[8,9]			
FireSpan® FF 40	2"–7"	24" x 48"	24" x 60"	36" x 60"	
FireSpan® FF 90	1"–7"	24" x 48"	24" x 60"	36" x 60"	48" x 72"
FireSpan® FF 120	3"	24" x 60"	36" x 60"	48" x 72"	
Tolerances	+¼", -⅛"	Width: ±⅛", Length ±¼"			

8   See our product guide for more details.
9   Custom sizes are available upon request.

Product Options

- FireSpan® 40, 2-inch or greater thickness, is available with a vapor-retarding foil-facing.
- FireSpan® 90, 1-inch or greater thickness, is available with a vapor-retarding foil-facing.
- FireSpan® 120, 3-inch thickness, is available with a vapor-retarding foil-facing.
- Recycled Content Options[4]:
  - Standard Fiber..70%

Installation

FireSpan® products should be mechanically attached to horizontal and vertical mullions based on mechanical fastener requirements per UL/Intertek tested and listed system. Reinforce FireSpan® insulation on the outer insulation surface at the safing line. Typical reinforcement members include hat channels, "L" angles, and "T" bars. Thermafiber Inc.'s patented Impasse® system is designed to quickly and easily mechanically attach FireSpan® insulation to curtain wall systems.

Thermafiber Insolutions®

Thermafiber Insolutions® offers industry-leading technical and engineering assistance to architects, specifiers, and contractors. These services include CAD drawings, engineering judgments, LEED® credit information, and product recommendations. Contact our technical services department at 1-888-834-2371 or email ThermafiberInsolutions@owenscorning.com.

Environmental and Sustainability

Owens Corning is a worldwide leader in building material systems, insulation, and composite solutions, delivering a broad range of high-quality products and services. Owens Corning is committed to driving sustainability by delivering solutions, transforming markets, and enhancing lives. More information can be found at www.owenscorning.com.

Certifications and Sustainable Features

- [4]Verified by ICC-ES to contain a minimum of 70% recycled content. See ICC-ES Evaluation Report VAR-1025 at icc-es.org.
- UL Environment GREENGUARD Gold Certified. GREENGUARD Gold Certified products are certified to GREENGUARD Gold standards for low chemical emissions into indoor air during product usage, and are qualified for use in environments such as schools and healthcare facilities. For more information, visit ul.com/gg.
- UL Environment validated formaldehyde-free. For more information, visit ul.com/ecv.
- Thermafiber® FireSpan® FF mineral wool insulation is participating in Declare and is Living Building Challenge compliant. For more information, visit living-future.org/declare.
- FireSpan® 40 & 90 receive SAFETY Act designation by the U.S. Department of Homeland Security. For more information, visit safetyact.gov.
- 86% biobased content for unfaced product and 64% biobased content for faced product, certified by USDA BioPreferred® program.

Note: UL® certification for FireSpan® FF 40 & 90 only.

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Notes

For additional information, refer to the Safe Use Instruction Sheet (SUIS) found in the SDS Database via http://sds.owenscorning.com.