



THERMAFIBER® Safing™ Insulation

UL- and OPL-labeled* safing insulation for firestops and fire-containment systems

- Firestop product for curtain wall fire and smoke containment systems, floor and wall penetrations, and head-of-wall construction joints.
- Fire resistant and noncombustible.
- Economical; installs quickly and easily.
- Aids sound control in many assemblies.
- Available in unfaced felt (plain) or with a tough scrim-reinforced foil facing (FSP).
- Durable; nondeteriorating and noncorrosive.

Description

THERMAFIBER® Safing Insulation is a mineral-wool-type insulation that resists temperatures up to 2,000 °F (1,093 °C), thus offering superior fire protection in a wide variety of fire-rated applications. It is a UL- and OPL-labeled product especially intended for tested UL and OPL Designs, as well as many other fire- and smoke-tested assemblies. This product is noncombustible per Standard NFPA 220 when tested in accordance with ASTM E 136, and moisture-resistant, noncorrosive, nondeteriorating, mildew-proof and vermin-proof. It permits dry construction for all-year-round work. Also, THERMAFIBER® Safing Insulation is available plain, or with scrim-reinforced foil facing (FSP) that serves as a vapor retarder and/or smoke barrier.

THERMAFIBER® Safing Insulation is compatible with both THERMAFIBER® Curtain Wall CW Insulations and THERMAFIBER® FIRESpan™ Insulations.

Perimeter Fire Containment, Penetrations and Construction Joints

THERMAFIBER® Safing Insulation is a key element in a wide variety of fire-tested construction assemblies. It is used with THERMAFIBER® Curtain Wall and FIRESpan™ Insulations in applications to contain both fire and smoke to the area of origin. For mid- and high-rise buildings, especially, that means that fire and smoke must be prevented from spreading to the next floor. Since the floor assembly is typically a fire-rated system, a possible route for the fire spread is through and up the exterior curtain wall system. THERMAFIBER® Safing Insulation is also used in conjunction with various fill, void or cavity materials, such as sealants and caulks, in wall and floor penetration (poke-through) applications, as well as in head-of-wall construction joints.

It is important to note that one of the most valuable yet misunderstood applications of THERMAFIBER® Safing Insulation is its use in exterior curtain wall assemblies to safe-off the opening between concrete floor slabs and the curtain wall assemblies. Many people still believe the myth that all thermal insulations are the same when used in the curtain wall spandrel panels as long as THERMAFIBER® Safing Insulation is used in the assembly. **(This is simply not true).** Actual fire tests have proven that low-melt-point insulations, such as fiberglass types, will disintegrate quickly once exposed to fire, leaving the curtain wall unprotected. Then, as the now-unprotected curtain wall disintegrates or falls away, the safing insulation will no longer be supported, and the fire will spread to the floor(s) above. Effective perimeter fire containment can only be achieved when a fire-compatible product with the ability to resist high temperatures (such as THERMAFIBER® Curtain Wall Insulations or THERMAFIBER® FIRESpan™ Insulations) is used in conjunction with the THERMAFIBER® Safing Insulation, acting together as a system. (See TF871 and TF686 for additional information).

Installation

Perimeter Installation

In curtain wall fire-containment applications, THERMAFIBER® Safing Insulation fills the void between the slab edge and the curtain wall insulation to contain fire. Foil-faced insulation impedes the passage of smoke and noxious gases. Install THERMAFIBER® Safing Insulation, of proper width (2" to 8" max. opening), in safe-off area (foil side up, if required) between THERMAFIBER® FIRESpan™ or CW Curtain Wall Insulation and floor slabs, on safing "Z" clips spaced as required, 24" or 12" o.c. maximum, leaving no voids. Install safing wider than opening to ensure compression fit. See specific test description for proper installation details. Install proper topping material, such as THERMAFIBER® SMOKE SEAL Compound, FIRECODE Compound or FIRE BARRIER Spray, as indicated in the specific test description or architectural specification.

Penetration Application

THERMAFIBER® Safing Insulation provides a noncombustible, fire-resistant forming/packing material for many types of penetrations in walls and floor/ceilings. In all poke-through penetrations, clean substrate of dirt, dust, grease, oil, efflorescence, loose material or other matter. With a serrated knife, cut THERMAFIBER® Safing Insulation slightly wider than the opening. Compress and tightly fit the minimum thickness and density of insulation required (per system specification) completely around penetrant. For floor slab openings, compress or install THERMAFIBER® Safing Insulation according to details indicated in the specific test description or architectural specification to seal completely around cables, ducts, piping or other utilities.

Construction Joint Application

THERMAFIBER® Safing Insulation is also used as a forming material in head-of-wall construction joints. It is compressed and slid into joint openings to completely fill the gap between the top of the wall and the steel deck.

* UL is an abbreviation for Underwriters Laboratories Inc.; OPL is an abbreviation for Omega Point Laboratories, Inc.

Technical Data

Surface Burning Characteristics (According to ASTM E 84)	Product Designation Safing, Regular (Unfaced) Safing (Foil-Faced)	Flame Spread 15 25	Smoke Developed 0 0
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Products have a class A interior finish rating per NFPA 101, life safety code.

Product Density**Approximate Density Tolerance—pcf⁽¹⁾**

Product Designation	Density	Tacoma	Wabash	Minimum Thickness	Application Method
Safing	4.0	±0.5	-0.5 +1.0	1"	safing clips or compression fit
Safing	6.0	±0.75	-0.75 +2.0	1-1/2"	safing clips or compression fit
Safing	8.0	±1.0	-1.0 +2.0	1"	safing clips or compression fit

(1) On packaging weight basis.

Thermal Conductivity and Thermal Resistance
(according to ASTM C518)

Product Designation	Density	"k" @ 75 °F (24 °C) BTU · in./hr. · sq. ft. · °F	"R" ⁽¹⁾ value for insulation only
Safing	4.0 pcf	0.25	"R" = 4.0 per inch of thickness.
Safing	6.0 pcf	0.24	"R" = 4.16 per inch of thickness.
Safing	8.0 pcf	0.23	"R" = 4.3 per inch of thickness.

(1) R = thickness divided by "k."

Product Data**Standards Compliance**

THERMAFIBER® Safing Insulation meets the following:

ASTM C 665 - Federal Specification HH-I-521F—Safing insulation as Types I and III, Class A, Category 1.

ASTM C 612-00 - Federal Specification HH-I-558B—Safing insulation as Types IA, IB and II.

ASTM E 136 - Rated noncombustible as defined by NFPA Standard 220 when tested according to ASTM E 136.

ASTM E 814 or UL 1479 - Safing insulation used in conjunction with SMOKE SEAL Compound, FIRECODE Compound, FIRE BARRIER Spray, or other approved material.

UL 2079 - Safing insulation used in conjunction with various fill, void or cavity materials, such as sealants and caulks.

ASTM C 553 - THERMAFIBER® Insulations absorb less than 1% moisture by weight and volume.

Safing insulation products are approved by: **New York City Board of Standards & Appeals—619-48-SM & 39-74-SM.**

Composition and Materials

THERMAFIBER® Blankets are a mineral fiber material manufactured from slag, a by-product of iron ore reduction, and naturally occurring rock.

Warranty

System performance following substitution of materials or compromise in assembly design cannot be certified and may result in failure of fire performance under certain conditions. Products and systems provided by Thermafiber LLC are warranted to be free from defects in material workmanship. Contact Thermafiber LLC for complete warranty details.

Storage

Store in a cool, dry place.

Submittal Approvals:**Job Name****Contractor****Date**

Trademarks
THERMAFIBER, FIRESAN and THE NAME IN MINERAL WOOL are trademarks of Thermafiber LLC. SMOKE SEAL and FIRECODE are trademarks of United States Gypsum Company. FIRE BARRIER Spray name is jointly held by Thermafiber LLC and 3M Fire Protection Products.

Note
Products described here may not be available in all geographic markets. Consult your local sales office or representative for information.

Notice
We 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. Our liability is expressly limited to replacement of defective goods. Any claim shall be deemed waived unless made in writing to us within thirty (30) days from date it was or reasonably should have been discovered.

Safety First!
Follow good safety and industrial hygiene practices while handling and installing products and systems. Take necessary precautions and wear the appropriate personal protective equipment as needed. Read material safety data sheets and related literature on products before specification and/or installation.

Health Aspects
Information about health aspects of using THERMAFIBER® Curtain Wall Insulation products are thoroughly explained in INT279, 'Summary of Health & Safety Assessment & Recommended Work Practices' Booklet and INT117, 'Health & Safety Assessment & Recommended Work Practices, Second Edition' (complete report).



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Thermafiber- Technical Bulletin

Total Volatile Organic Compounds (TVOC) and Formaldehyde

Thermafiber Insulation products have been evaluated by an independent testing laboratory for emissions of total volatile organic compounds (TVOC), individual volatile organic compounds (IVOC), formaldehyde and other aldehydes using a product evaluation test protocol following requirements of ASTM Standard D 5116 and CAEEC 225 Section 01350 protocol (1,2).

Results of the evaluation showed Thermafiber products to meet the California purchase specifications for TVOC and general chemical emissions. Formaldehyde concentration of Thermafiber Insulation at 12 ppb meets or exceeds the California standard of 20 ppb max. for formaldehyde concentration.

SUBMITTAL IDENTIFICATION SHEET

To be completed by Contractor/CM

PROJECT NAME	
ADDRESS	
NUMBER	
OWNER	
ARCHITECT / ENGINEER	
SUBMITTED BY	
CONTRACTOR / CM SUBMITTAL NO.	CANNON DESIGN SUBMITTAL NO.
DRAWING / DETAIL REFERENCE	SPECIFICATION SECTION / PARAGRAPH
MANUFACTURER / SUPPLIER	ITEM / PRODUCT ID
REQUIRED DATE	PRIORITY
CRITICAL	☐

To be completed by Reviewer

CANNON DESIGN SUBMITTAL NUMBER
RECEIVED DATE

- ☐ **A. No Exceptions Taken**
No further review of submittal is required.
- ☐ **B. Make Corrections Noted**
Incorporate corrections in work;
resubmission is not required.
- ☐ **C. Revise and Resubmit**
Revise as noted, and resubmit for review.
- ☐ **D. Rejected**
Submittal is not in compliance with Contract Documents;
provide new submittal.
- ☐ **E. For Record / Information Only**
Submittal was reviewed for Record / Information
purposes only.
- ☐ **F. Not Required for Review**
Submittal is not required by Contract Documents
and has not been reviewed.

Review is for conformance with the design concept of this project and for general compliance with contract documents. Contractor is responsible for quantities, dimensions and compliance with contract documents and for information that pertains to fabrication processes, construction techniques and coordination of this work with all trades which will be affected thereby. This review is null and void if submittal deviates from contract documents and does not indicate or note deviations.

ITEM BEING SUBMITTED (check only one)

- ☐ Shop Drawings ☐ Certification / Qualifications ☐ Coordination Drawing
☐ Samples ☐ Record Documents ☐ Calculations
 (_____ copies) ☐ Product Data ☐ Schedules
☐ LEED Submittal ☐ O&M Manuals
☐ Other

ITEM BEING SUBMITTED FOR (check only one)

- ☐ Action ☐ Information Only ☐ Record

REMARKS OR DEVIATIONS

CONTRACTOR / CM CERTIFICATION
(SUBMITTALS NOT CERTIFIED WILL BE RETURNED WITHOUT REVIEW)



PARIC CORPORATION
SUBMITTAL STAMP

THIS SHOP DRAWING HAS BEEN REVIEWED BY PARIC CORPORATION

Subcontractor remains responsible for dimensions, quantities, coordination with other trades and compliance with contract documents.

Ry:

By:
Devin D. Gates

REVIEWED BY	DATE

A/E COMMENTS

- ☐
- See attached sheet(s) for additional comments

REVIEWED BY	DATE