



**THERMAFIBER SOLUTIONS BRING
BREAKTHROUGH INNOVATION TO SAN FRANCISCO
MUSEUM OF MODERN ART EXPANSION**



THERMAFIBER®





SAN FRANCISCO MUSEUM OF MODERN ART EXPANSION

San Francisco, CA

TECHNICAL DETAILS:

Floor Count: 10

Expansion: 225,000 ft²

Completion: 2016

DESIGN:

Architectural Firm: Snøhetta

Architect: Craig Dykers, Founding Partner, Architect, Snøhetta

Associate Architect: EHDD, San Francisco

Structural Engineer: Magnusson Klemencic Associates

CONSTRUCTION:

General Contractor: Webcor Builders

Building Shell Insulation Contractor: Canyon Insulation

Interior Insulation Contractor: Res-Com Insulation, Inc.

Custom Fabricator: Kreysler & Associates

Owens Corning Thermafiber Solutions Bring Breakthrough Innovation to San Francisco Museum of Modern Art Expansion

The San Francisco Museum of Modern Art (SFMOMA) reopened in May 2016 following three years of construction to make SFMOMA the largest modern and contemporary art museum in America.

The expansion project team, led by Norwegian firm Snøhetta, assembled a multi-disciplinary roster of composites companies, architects and general contractors to meet ambitious sustainability, performance and design goals.

Owens Corning's building science experts joined Canyon Insulation, Res-Com Insulation, Inc. insulation contractors and Kreysler & Associates custom fabricators to consult on the project.

The Owens Corning team focused on cutting-edge applications of Thermafiber® mineral wool insulation solutions needed to address fire containment, acoustical and thermal control and energy conservation in the exterior façade, interior walls and mechanical HVAC systems. The collaboration led to the use of four solutions, including Thermafiber® RainBarrier® 45, Thermafiber® FireSpan® 90, Thermafiber® Safing, and Thermafiber® VersaBoard® 60.

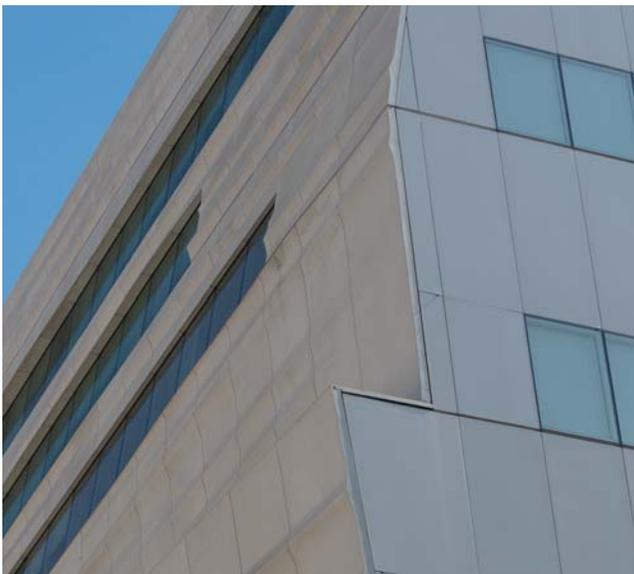


Exterior Façade

The first step in creating the building enclosure was proving that the proposed fire-resistant (FRP) panels could pass the stringent NFPA 285 test requirements. Previously, FRP cladding had not passed the NFPA 285 standard fire test method for evaluation of fire propagation characteristics of exterior non-load-bearing wall assemblies and panels containing combustible components.

To address this challenge, custom fabricator Kreysler & Associates turned to Canyon Insulation and Owens Corning experts to achieve the signature facade. Together, the team devised the ultra-lightweight solution using Owens Corning Thermafiber fire-resistant technology and expertise to create the first-ever Fireshield 285* FRP panel system to successfully pass the NFPA 285 fire test.

"This breakthrough represents the first major use of FRP cladding on a multi-story building in North America and brings new flexibility to the future of commercial design for architects," said William Kreysler, president, Kreysler & Associates. "We are excited to have pioneered this innovation in partnership with Owens Corning."





A perimeter fire containment assembly was chosen using Thermafiber® FireSpan® and Thermafiber® Safing to help achieve outstanding fire protection in compliance with building code fire requirements.

Thermafiber® RainBarrier® 45 mineral wool insulation was specified in the open joint façade to provide energy saving continuous insulation (ci) with critical fire resistive characteristics. The exceptional performance of Thermafiber® RainBarrier® 45 in rain screen and cavity wall construction applications further helped the building breathe without sacrificing R-value. R-value is critical when managing interior thermal moisture levels needed to protect the art displayed in the galleries.

Owens Corning Thermafiber® products were incorporated into the building enclosure to help meet the International Building Code (IBC) requirements for fire containment and deliver exceptional thermal performance and moisture control benefits.

Seamless Interior Choreography

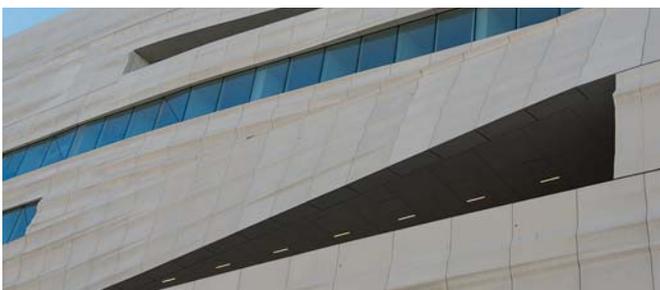
With the 225,000-square-foot addition, the Snøhetta design team strived to create seamless integration between the interior and exterior spaces of the new and original brick-wrapped Mario Botta building. A chief challenge for the interior design was addressing the highly sensitive temperature and humidity levels necessary to preserve works of art showcased in the museum. Given the additional energy usage typically required to maintain this balance, the team needed solutions that would keep the project on track to meet the sustainability and energy efficient goals for the building and meet U.S. Green Building Council's Leadership in Energy and Environmental Design® (LEED®) gold standard.

Working closely with Res-Com Insulation, Inc., Owens Corning recommended Thermafiber® mineral wool insulation product solutions to help maximize the building's efficiency across thermal, acoustical and mechanical systems. Thermafiber® VersaBoard® 60 insulation was selected to help optimize acoustical and thermal control in the exposed and unexposed mechanical spaces as well as the penthouse. Engineered to repel moisture and provide a combination of fire resistive characteristics, enhanced acoustical performance, thermal insulation, and energy conservation, the multi-purpose Thermafiber® VersaBoard® 60 insulation delivered on each of the strategic interior design priorities.

To further support interior fire safety, Thermafiber® Safing insulation was also cut and installed into the top of the fire-rated wall assemblies for mechanical and electrical fire rated penetrations.

Thanks, in part, to the building science innovation incorporated throughout the design, the SFMOMA renovation has been heralded as an architectural masterpiece that merges both form and function to achieve new standards in fire safety, durability, performance and sustainability goals.

* Fireshield 285 FRP panel system is a trademark of Kreysler & Associates.





For more information on the Owens Corning® Thermafiber® mineral wool insulation solutions featured in the SFMOMA renovation, visit www.thermafiber.com.

Owens Corning delivers high-performance insulation solutions through a full line of fiberglass, foam and mineral wool products and systems. These products and system solutions help conserve energy, improve acoustics and ease installation and use. These qualities add up to preferred insulation products for residential and commercial construction and industrial applications.



For more information on the Owens Corning family of commercial insulation products, contact your Owens Corning dealer, call 1-800-GET-PINK® or access our website: www.owenscorning.com

Thermafiber Insolutions®

provides information on product specification, installation inquiries, tested designs and assemblies, code questions and health and safety of product (SDS). For more information call **1-888-834-2371**, email technicalservice@owenscorning.com, or visit www.thermafiber.com.



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