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Exterior Insulation and Finish System (EIFS) with Stone Wool Insulation

Frequently Asked Questions (FAQ)

What is the benefit of using ROCKWOOL stone wool EIFS?
Continuous air and water-resistive barrier, drainage detailing, noncombustible exterior continuous insulation, reliable long-term thermal performance of R-4.0 hr.ft^2.F/Btu per inch of insulation thickness (RSI-0.70 m^2.K/W per 25mm of insulation thickness), high vapor permeability, and improved sound attenuation with no limitation on building height, setback limitations, and/or substrate application.

Can ROCKWOOL stone wool EIFS be used in noncombustible or fire-resistive construction?
Noncombustible and Class A per ASTM E84, "*Standard Test Method for Surface Burning Characteristics of Building Materials*" and noncombustible per CAN/ULC-S114, "*Standard Method Of Test For Determination Of Non-Combustibility In Building Materials*," ROCKWOOL Frontrock™ permits use in non-loadbearing fire-rated building elements and IBC Type I through V construction, without height or setback limitations. This also includes suitability for use on non-combustible construction based on the exemption from testing to NFPA 285, "*Standard Fire Test Method for Evaluation of Fire Propagation Characteristics of Exterior Wall Assemblies Containing Combustible Components*" and NFPA 268, "*Standard Test Method for Determining Ignitability of Exterior Wall Assemblies Using a Radiant Heat Energy Source*" (based on previously tested foam systems with the same lamina).

Note that this product does not detract from fire rating of base wall when tested to ASTM E119, "*Standard Test Methods for Fire Tests of Building Construction and Materials*" or CAN/ULC S101, "*Standard Methods of Fire Endurance Tests of Building Construction Materials*." For more information, see system specific information from system holders[1] who hold approvals for systems with ROCKWOOL Frontrock™.

What type of sustainability documentation is available for ROCKWOOL Frontrock™?
Frontrock™ has multiple product material ingredient disclosures that demonstrate alignment with industry standard human health related documentation, including an Environmental Product Declaration (EPD), Health Product Declaration (HPD), and a Red List Approved Declare Label.

Installation

What is the role of the adhesive ribbons in ROCKWOOL stone wool EIFS?
Ribbons of adhesive are applied to the backside of the Frontrock™ stone wool insulation boards to provide temporary securement of the board until fasteners are installed, and to provide a permanent drainage gap between the water-resistive barrier and the insulation.

[1] System holder: refers to the company that manufactures components of the EIFS other than the insulation, and owns the listings and approvals applicable to the EIFS

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Why are fasteners required in ROCKWOOL stone wool EIFS?
Fasteners are used to permanently attach the ROCKWOOL Frontrock™ insulation boards, and to provide the resistance to wind load required by code for the system. See system specific information for fastener pattern and installation details.

What assurance can be provided that there will be no moisture intrusion passed the water-resistive barrier, around fastener penetrations, given the requirement for mechanical attachment of the stone wool insulation?
Similar to EIFS with rigid foam insulation, stone wool EIFS is required to successfully meet the criteria of ASTM E2273, *"Standard Test Method for Determining the Drainage Efficiency of Exterior Insulation and Finish Systems (EIFS) Clad Wall Assemblies"* in the USA and CAN/ULC-S716, *"Standard For Exterior Insulation And Finish Systems"* in Canada, which both include stringent evaluations of the drainage efficiency of the full system including the fasteners, and by extension, the effectiveness of the water-resistive barrier against moisture intrusion.

Moreover, the air and water-resistive barriers used in EIFS are commonly tested for their capacity to seal around nails, following a test method referenced in ASTM D1970, *"Standard Specification for Self-Adhering Polymer Modified Bituminous Sheet Materials Used as Steep Roofing Underlayment for Ice Dam Protection"*.

For more information about the performance of the water-resistive barrier used in conjunction with fasteners, contact system holders who hold approvals for systems with ROCKWOOL Frontrock™.

Which fasteners are recommended for installation of ROCKWOOL stone wool EIFS?
See system-specific information about fasteners from system holders. In addition, fastener depth penetration requirements by substrate are typically as follows:

- Steel framing: minimum 3/8" (10mm) and 3 threads into the framing with threads engaged within steel
- Wood framing: minimum 3/4" (19mm) into framing
- Masonry: minimum 1.0" (25mm) into masonry

How should misplaced fasteners (fasteners that miss studs in a wood- or steel-framed application) be handled?
Misplaced fasteners should not be removed from the wall after penetrating the water-resistive barrier (WRB). Instead, a second fastener should be correctly placed, while leaving the misplaced fastener secured in the wall to avoid open holes in the WRB.

How does base coat usage with ROCKWOOL stone wool EIFS compare to a typical foam EIFS?
Based on the requirement of a skim coat, the system will likely require the application of a thicker base coat than a typical system with foam insulation. That said, the amount of base coat required will vary from one system to another, and also based on the experience of the applicator in working with stone wool insulation.

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Is it possible to rasp the surface of ROCKWOOL stone wool insulation?
It is not recommended to rasp the surface of the stone wool insulation. Levelling will be done through the base coat application, applying multiple layers if needed. However, the straight edge of a trowel may be used to shave high spots in the stone wool insulation to create an even plane.

How are bands, reveals, trims and cornices handled?
Stone wool feature bands and reveals are applied over the base layer of the insulation and attached into the supporting structure with adhesive and fasteners, before reinforced base coat is applied continuously across them. Thickness of the bands will be limited by available fastener lengths.

Locations of the reveals must be coordinated with the locations of the mechanical fasteners to ensure they do not cross each other. Cut reveals using a straight edge and sharp knife or reveal cutter. Maintain a minimum 1-½" (38mm) insulation board thickness behind reveals; provide a 6:12 slope to the bottom edge of horizontal reveals.

Features with complicated profiles such as cornices are typically manufactured from EPS insulation. These shapes must be prewrapped with base coat and reinforcing mesh. Cornice features are limited to 12.0" (305 mm) thickness and attached with adhesive to the stone wool insulation. Supplemental mechanical attachment may be required based on the shape configuration, so the availability of fasteners for adequate fastening prior to the start of work should be confirmed. Ensure reinforced base coat is applied in a continuous manner from stone wool onto the feature.

How to terminate the system above grade?
Similar to typical EPS EIFS, the system terminates a minimum of 1.0" (25mm) above finished grade (paving, concrete, etc.), 6.0" (152mm) above raw earth (unfinished grade), or as dictated by code.

Testing

Is ROCKWOOL stone wool EIFS termite resistant?
ROCKWOOL stone wool insulation demonstrated excellent termite resistance, meeting or exceeding standard preservative treated wood in accordance with ASTM D3345-74, "*Standard Test Method for Laboratory Evaluation of Wood and Other Cellulosic Materials for Resistance to Termites"* and AWPA E1-09, "*Standard Method for Laboratory Evaluation to Determine Resistance to Subterranean Termites*."

For more information, please refer to ROCKWOOL's technical bulletin: Resistance of ROCKWOOL Stone Wool Insulation to Termites.

Is ROCKWOOL stone wool insulation affected by ultraviolet (UV) light?
There is no specific standard to test the impact of the exposure to UV light on stone wool insulation, but it was nonetheless tested and examined in a laboratory, in accordance with a modified version of ISO 4892-3, "*Plastics – Methods of exposure to laboratory light sources – Part 3: Fluorescent UV lamps*." After 3 years of in-situ UV exposure, the testing revealed no significant change in

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compressive strength, no significant impact on the overall water absorption property, and thermal resistance was generally not impacted.

For more information, please refer to ROCKWOOL's technical bulletin: Resistance of ROCKWOOL Exterior Insulation to Ultraviolet Light.

Product

What is the benefit provided by ROCKWOOL dual-density insulation boards?
Both the mono and dual-density versions of ROCKWOOL Frontrock™ insulation boards were engineered from 25+ years of experience within the ROCKWOOL Group in EIFS. The dual-density products are unique to ROCKWOOL, offering a rigid outer surface for mechanical attachment and rendering, while having a lower density inner layer that reduces board weight for improved handleability.

Mono-density boards are offered from a minimum thickness of 1.5" (38mm). The dual-density products are available at thicknesses ⩾ 2.5" (64mm). Due to manufacturing limitations and to ensure a consistent and optimal product, 2.5" (64mm) is the thinnest board profile that can be made with the dual-density technology.

What happens when dual-density stone wool boards are installed backwards?

ROCKWOOL Frontrock™ insulation boards should be applied in the proper orientation. When installing the dual-density product, the marking "*This Side Out*" should be visible on the outer layer of the insulation board, as shown in the photograph on the right, indicating proper installation and facilitating site inspection. If installed incorrectly, the benefits of the higher density outer layer, including but not limited to impact and wind load resistance, would be lost.

Will ROCKWOOL Frontrock™ insulation warp or be negatively affected by light reflection off nearby glass or metal panels?
ROCKWOOL Frontrock™ is a dimensionally stable product, with a high maximum use temperature of 1200°F (649°C), as per ASTM C411, "*Standard Test Method for Hot-Surface Performance of High-Temperature Thermal Insulation*". Therefore, stone wool insulation should not be affected, and more specifically not warp nor crack, as a result of exposure to reflected light or ambient temperatures expected in a typical EIFS application.

For more information about dimensional stability of ROCKWOOL stone wool insulation, please refer to the ROCKWOOL Technical Bulletin: Dimensional Stability of Rigid Board Insulation Products.

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For more information, please contact ROCKWOOL Technical Services at the phone number or email address below.

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