

The ROCKWOOL Group, the world’s leading manufacturer of stone wool insulation, offers a full range of high-performing, sustainable, natural stone insulation products based on innovative stone wool technology.

This Section specifies stone wool insulation used in concrete and masonry walls assemblies for thermal control. For additional information visit [**ROCKWOOL Interior Insulated Mass Wall Applications**](file:///C%3A%5CUsers%5CJoseph%20Berchenko%5CSpecGuy%20Dropbox%5C_SG%20TEAM%20FOLDER%5C%21SG%20MFG%20CURRENT%5CROCK%20Rockwool%5Crockwool.com%5Cinterior-insulated-mass-wall-insulation) webpage.

The following product is specified in this Section:

ROCKWOOL Smartrock® is a stone wool insulation board with an integrated smart vapor retarder designed for use as continuous insulation on the interior of concrete and masonry assemblies. It provides thermal, vapor, and air control in a fully detailed wall assembly, creating a high-performance enclosure design. Also specified are liquid air barriers for application to concrete and masonry substrates, insulation anchors, and vapor permeable and vapor retarding tapes and gaskets as required for a complete insulation/air and vapor barrier assembly installation.

Coordination with Drawings: Indicate location, thickness, and type of insulation and assigned Drawing Designations on the Drawings.

Consult [Technical Support - Contact Us | ROCKWOOL](https://www.rockwool.com/north-america/contact/) for assistance in editing this specification. Technical product inquiries: 1-877-823-9790.

The Architect of Record must edit this Guide Specification as required for each Project. Retain or delete options and remove brackets. Delete blue guidance notes before publication.

SECTION 072101 – VAPOR-RETARDER-FACED THERMAL INSULATION

1. GENERAL
	* + 1. SUMMARY
				1. Section Includes:

Stone wool thermal insulation with humidity-dependent vapor retarder facings.

* + - 1. REFERENCES

Specifier: If retaining this optional Article, edit list to correspond to references retained after editing.

* + - * 1. References, General: Versions of the following standards current as of the date of issue of the project or as required by applicable code apply to the Work of this Section.
				2. ASTM International:

ASTM C303 - Standard Test Method for Dimensions and Density of Preformed Block and Board–Type Thermal Insulation.

ASTM C356 - Standard Test Method for Linear Shrinkage of Preformed High-Temperature Thermal Insulation Subjected to Soaking Heat.

ASTM C518 - Standard Test Method for Steady-State Thermal Transmission Properties by Means of the Heat Flow Meter Apparatus

ASTM C612 - Standard Specification for Mineral Fiber Block and Board Thermal Insulation.

ASTM C1104 - Standard Test Method for Determining the Water Vapor Sorption of Unfaced Mineral Fiber Insulation.

ASTM C1338 - Standard Test Method for Determining Fungi Resistance of Insulation Materials and Facings.

ASTM C1617 - Standard Practice for Quantitative Accelerated Laboratory Evaluation of Extraction Solutions Containing Ions Leached from Thermal Insulation on Aqueous Corrosion of Metals.

ASTM E84 - Standard Test Method for Surface Burning Characteristics of Building Materials.

ASTM E96 - Standard for Gravimetric Determination of Water Vapor Transmission Rate of Materials.

ASTM E136 - Standard Test Method for Assessing Combustibility of Materials Using a Vertical Tube Furnace at 750°C.

* + - * 1. California Department of Public Health (CDPH):

Standard Method for The Testing and Evaluation of Volatile Organic Chemical Emissions from Indoor Sources Using Environmental Chambers.

* + - * 1. International Code Council Evaluation Service (ICC-ES):

AC528 – Acceptance Criteria: Humidity-Dependent Vapor Retarders.

AC566 – Acceptance Criteria: Factory Bonded Humidity-dependent Vapor Retarder Membranes to Rigid Insulation Board.

* + - * 1. International Organization for Standardization (ISO)

ISO 12572 – Hygrothermal Performance of Building Materials and Products – Determination of Water Vapor Transmission Properties – Cup Method.

ISO 14025 – Environmental Labels and Declarations.

ISO 21930 – Sustainability in Buildings and Civil Engineering Works.

* + - 1. RELATED REQUIREMENTS

Specifier: Edit below according to requirements of Project.

* + - * 1. Section 072100 "Thermal Insulation," for stone wool insulation used in exterior walls for thermal control not specified in this section.
				2. Section 072113 "Board Insulation," for stone wool insulation and attachment systems installed on the building envelope continuously across all structural members without thermal bridges.
			1. SUBMITTALS
				1. Product Data. Manufacturer's standard technical literature.
				2. Sustainable Design Submittals: Submit verification of compliance with sustainability requirements categories listed in Part 2, and in Division 01 General Requirements.
				3. Shop Drawings: For conditions not addressed by manufacturer's standard details.
			2. QUALITY ASSURANCE
				1. Installer: Firm with record of successful installations on projects of similar scope.
			3. DELIVERY, STORAGE, AND HANDLING
				1. Comply with manufacturer’s instructions for storage and handling.
				2. Deliver materials in original unopened packages with manufacturer's labels intact.
				3. Protect materials from damage and deterioration. Store in a dry location.
1. PRODUCTS
	* + 1. MANUFACTURER
				1. Manufacturer: Provide listed products of ROXUL USA Inc. dba ROCKWOOL, a Delaware corporation, with offices located at 4594 Cayce Rd, Byhalia, MS 38611, United States.; [www.rockwool.com](http://www.rockwool.com); cs@rockwool.com.

Specifier: Retain one of two options below.

* + - * 1. Substitutions: [None acceptable] [In accordance with Instructions to Bidders and Division 01 General Requirements].
				2. Source Limitations: Obtain insulation materials and components from single manufacturer.
			1. PERFORMANCE REQUIREMENTS
				1. Surface Burning Characteristics, ASTM E84: Class A Compliant

Flame Spread = 15

Smoke Developed = 20

Specifier: ROCKWOOL Smartrock® is acceptable as a noncombustible material per Sec. 703.3.1 of 2024 International Building Code (IBC).

* + - * 1. Combustibility, ASTM E136: Noncombustible.
			1. SUSTAINABILITY REQUIREMENTS

Specifier: For additional information on LEED v4/4.1 documentation refer to [ROCKWOOL Green Buildings Solutions Guide](https://www.rockwool.com/north-america/about-us/sustainability/leed-solutions-guide/) and [ROCKWOOL LEED Letter Generator Tool](https://www.rockwool.com/north-america/resources-and-tools/tools/leed-calculator/). Retain and edit list below to correspond to project sustainability requirements.

* + - * 1. Sustainability Requirements: Comply with the requirements for material selection categories applicable to Project including the following:

Low-emitting Materials: VOC emissions compliance following CDPH Standard Method v1.2-2017.

Environmental Product Declaration (EPD): Third-party verified product-specific (Type III) EPD in accordance with ISO 14025 and ISO 21930.

Material Ingredient Disclosures:

Health Product Declaration (HPD): Minimum disclosure threshold of 1000 ppm.

Declare Label: Red List Approved.

* + - 1. VAPOR-RETARDER-FACED STONE WOOL THERMAL INSULATION
				1. General: Provide vapor-retarder-faced stone wool insulation composed of insulation fibers manufactured from rock with integral smart vapor facer for application to interior concrete and masonry wall substrates to provide continuous system for thermal, vapor, and air control.

Specifier: If more than one type of insulation is used, assign a unique Drawing Designation to each type, and show location and thicknesses on Drawings.

* + - * 1. Stone Wool Insulation, ASTM C612 <Insert Drawing Designation>: Type IVB, with integral humidity-dependent-vapor-retarder interior facer.

Specifier: ROCKWOOL Smartrock® is a stone wool insulation board with an integrated smart vapor retarder designed for continuous insulation on the interior of concrete and masonry assemblies. It provides thermal, vapor, and air control in fully detailed wall assemblies, creating a high-performance enclosure design.

Basis of Design Product: ROCKWOOL Smartrock®.

Thickness and R-value: [2 inches/R 8.4] [2.5 inches/R 10.5] [3 inches/ R 12.6] [3.5 inches/R 14.7] [4 inches/R 16.8] [4.5 inches/R 18.9] [5 inches/R 21.0] [As indicated on Drawings].

Dimensions: 24-inch width by manufacturer’s standard length.

Specifier: ROCKWOOL can provide ESR #5374 if requested to verify compliance with the Acceptance Criteria below.

Facing: Humidity-dependent vapor retarder. ICC ES AC528 and AC566 compliant.

Specifier: Retain only one of two “Density” paragraphs below. Retain “Monolithic Density” for insulations less than 2.5 inches thick.

Monolithic Density, ASTM C303: Minimum 4.3 lbs./ft3.

Specifier: Retain “Dual Density” for insulations greater than or equal to 2.5 inches thick.

Dual Density, ASTM C303: 6.2 lbs./ft3 outer layer and 3.8 lbs./ft3 inner layer.

Linear Shrinkage, ASTM C356: 0.6 percent at 1200°F.

Corrosiveness to Steel, ASTM C1617: Passes.

Thermal Resistance, ASTM C518: R-value per inch of 4.2 deg. F x hr. x ft2/Btu at 75 degrees F.

Reaction to Moisture, Mineral Wool Insulation:

Water Vapor Sorption, ASTM C1104: 0.16 percent by volume.

Specifier: Water Vapor Transmission testing below based on 3.75-inch thickness, using Dessicant Method.

Water Vapor Transmission, ASTM E96: 27 perms.

Fungi Resistance, ASTM C1338: Passes.

Specifier: Humidity-Dependent Vapor Retarder are designed to have low permeability during the winter and high permeability during the summer. Verify proper placement and orientation of facer.

Reaction to Moisture, Humidity-Dependent Vapor Retarder Facer, ISO 12572:

Water Vapor Transmission at 73 deg. F.

At 25 Percent Relative Humidity: Maximum 0.1 perms.

At 71.5 Percent Relative Humidity: Maximum 1.2 perms.

At 90 Percent Relative Humidity: Minimum 6.0 perms.

* + - 1. ACCESSORIES
				1. Provide all accessories for a complete installation. Use only accessories recommended and approved for compatibility by manufacturer of insulation.

Specifier: Delete paragraph below if substrate does not require an air barrier.

* + - * 1. Liquid Air Barrier: Water-based acrylic dispersion, seamless elastic air barrier, vapor variable.

Basis of Design Product: Visconn or Visconn Fibre by Aerosana.

* + - * 1. Insulation Anchors: Plastic anchors for permanent attachment of insulation to concrete and masonry structures.

Basis of Design Product: Plasti-Grip PMF Anchors by Trufast.

* + - * 1. Vapor Permeable Tape: Interior and exterior vapor permeable tape for permanent, airtight taped bonding of membranes, plywood, OSB, concrete.

Basis of Design Product: Tescon Vana by Proclima.

* + - * 1. Vapor Retarder Tape: Smart vapor retarding, air sealing fleece tape for interior use.

Basis of Design Product: Contega Solido IQ by ProClima.

* + - * 1. Gaskets: Preformed, flush, adjustable, EPDM gaskets for air sealing wire and pipe penetrations:

Basis of Design Products: Kaflex Multi and Roflex by ProClima.

1. EXECUTION
	* + 1. EXAMINATION
				1. Verification of Conditions: Verify that conditions are ready for installation of stone wool insulation. Correct defects before proceeding.
			2. INSTALLATION
				1. General: Install insulation in accordance with insulation manufacturer's written instructions and as shown on the Drawings.
				2. Clean and stabilize substrates as recommended by manufacturer using appropriate means and methods. Fill breakages, joints, or holes using manufacturer’s recommended fill materials.

Specifier: Delete paragraph below if substrate does not require an air barrier.

* + - * 1. Installation of Liquid Air Barrier: Apply approved liquid-applied membrane in accordance with manufacturer’s written instructions. Control application thickness as recommended by manufacturer.
				2. Installation of Stone Wool Insulation:

Install vapor-retarder-faced thermal insulation with vapor retarder facing the interior.

Where required to fit around electrical boxes, pipes, wiring, ductwork, obstructions, and between studs and joists that are less than a standard width, lay insulation on flat, rigid surface with vapor retarder facing up and cut with a serrated knife.

Mechanically fasten insulation to substrate using plastic insulation anchors or alternative option in compliance with manufacturer’s instructions.

Tape all seams between insulation boards and adjacent substrates, and over fastener heads with tape as recommended by manufacturer to provide an airtight installation.

Seal wall penetrations airtight such as pipes, wiring, and ductwork using EPDM gaskets or tape as recommended by manufacturer.

* + - 1. PROTECTION AND REPAIRS
				1. Protect installed stone wool insulation from damage.
				2. Stone wool insulation that cannot be repaired to Architect’s satisfaction shall be removed and replaced.

END OF SECTION