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**SECTION 07 21 00**

**CAVITY WALL INSULATION**

PART 1 - GENERAL

* 1. SUMMARY
		1. Section includes the following:
			1. Exterior wall insulation: Concealed mineral wool semi-rigid board insulation, non-combustible. (JM CladStone Water & Fire Block)
	2. RELATED WORK
		1. Refer to the following Sections for related work and insulation not included in this Section:
			1. Section 075000 – Membrane Roofing for roofing insulation.
			2. Section 092110 – Gypsum Board Assemblies for acoustic insulation.
			3. Division 22 - Plumbing for plumbing insulation.
			4. Division 23 – HVAC for mechanical insulation.
	3. REFERENCES
		1. ASTM International (ASTM):
			1. ASTM C423 - Standard Test Method for Sound Absorption and Sound Absorption Coefficients by the Reverberation Room Method.
			2. ASTM C612 - Standard Specification for Mineral Fiber Block and Board Thermal Insulation.
			3. ASTM C665 - Standard Specification for Mineral Fiber Blanket Thermal Insulation for Light Frame Construction and Manufactured Housing.
			4. ASTM C1104 - Standard Test Method for Determining the Water Vapor Sorption of Unfaced Mineral Fiber Insulation.
			5. ASTM C1338 - Standard Test Method for Determining Fungi Resistance of Insulation Materials and Facings.
			6. ASTM E84 - Standard Test Method for Surface Burning Characteristics of Building Materials.
			7. ASTM E96 - Standard Test Methods for Water Vapor Transmission of Materials.
			8. ASTM E136 - Standard Test Method for Behavior of Materials in a Vertical Tube Furnace at 750 C.
			9. ASTM E814 – Standard Test Method for Fire Tests of Penetration Firestop Systems.
		2. GREENGUARD Environmental Institute: GREENGUARD Certification Program.
	4. SUBMITTALS
		1. Product Data: Submit manufacturer’s product data sheets including the following:
			1. Preparation instructions and recommendations.
			2. Storage and handling requirements and recommendations.
			3. Installation methods.
	5. QUALITY ASSURANCE
		1. Source Limitations: Obtain insulation from a single manufacturer.
		2. Installer Qualifications: Minimum 2 years experience installing similar products.
		3. Pre-Installation Conference: Before installation, conduct conference at Project site. Review methods and procedures related to installation.
	6. DELIVERY, STORAGE, AND HANDLING
		1. Deliver insulation materials to Project site with original packaging unbroken and labeled with manufacturer's name, product brand name and type, and directions for storage.
		2. Store materials in clean, dry area in manufacturer's unopened packaging until ready for installation and in accordance with manufacturer's instructions and temperature recommendations.
		3. Handle and store insulation materials in a manner to avoid damaging materials.
	7. PROJECT CONDITIONS
		1. Weather Limitations: Proceed with installation only when existing and forecasted weather conditions permit system to be installed according to manufacturer's written instructions.

PART 2 - PRODUCTS

* 1. CAVITY WALL INSULATION
		1. Mineral Wool Board Insulation: JM CladStone Water & Fire Block, manufactured by Johns Manville complying with the following:
			1. Mineral wool semi-rigid board for exterior concealed applications; complying with ASTM C665, Type 1; non-combustible; water-repellent; 0.1% maximum water absorption; thermal conductivity (k-value at 75 degrees F) of 0.18; manufacturer's standard lengths and widths as required for coordination with wall ties and cavity dimensions.
			2. Density: 4 lb/cu. ft. (64 kg/cu. m), thermal resistivity of 4.3 R-Value per inch.
				1. Thickness: (2” or 3”) inches, or as indicated on drawings (custom thicknesses available).
			3. Density: 6 lb/cu. ft. (96 kg/cu. m), thermal resistivity of 4.3 R-Value per inch.
				1. Thickness: (2” or 3”) inches, or as indicated on drawings (custom thicknesses available).
			4. Installation Accessories: Manufacturer’s recommended fasteners.
			5. Applicable Standards and Building Application:
				1. ASTM C612 Material Specification , Types IA - IVA.
				2. ASTM C665 Corrosivity to Steel, Passes.
				3. ASTM C1104 Water Vapor Sorption, absorbs 0.03% by volume
				4. ASTM C1338 Fungi Resistant, Passes.
				5. ASTM E84 Flame Spread / Smoke Developed, Unfaced 0/0.
				6. ASTM E96 FSP Facing Permeability, Unfaced, 50 perms, Maximum.
				7. ASTM E136 Noncombustible, Passes.
				8. CAN/ULC S 102, Unfaced 0/0.
			6. GREENBUARD - Certified for low chemical emissions.

PART 3 - EXECUTION

* 1. PREPARATION
		1. Prepare substrates using the methods recommended by the manufacturer for achieving the best result for the substrate under the project conditions.
	2. INSTALLATION, GENERAL
		1. Installation: Install products in strict accordance with manufacturer’s recommendations and written instructions, including the following:
			1. Fit with edges butted tightly in both directions. Do not over compress insulation.
			2. Install in proper relationship with adjacent construction.
	3. INSTALLATION OF CAVITY WALL INSULATION
		1. Install wall cavity insulation per manufacturer’s instructions. JM CladStone Water & Fire Block Insulation must be installed on top of a separate weather resistive barrier (WRB). This product should not be left directly exposed to the elements; it should be covered with an appropriate finish.Fit insulation with edges butted tightly in all directions. Maintain cavity width of dimension indicated between insulation and cladding material.
			1. Mechanical Fasteners: Mechanical fasteners in accordance with insulation manufacturer's written recommendations.
			2. Impaling Pins with threaded washers: Mechanically attached with aluminum impaling pin system. Screw attach perforated base back plate (wet set in WRB sealant) and spot back-flash over each fastener (screw).
	4. PROTECTION AND CLEANING
		1. Protect materials from damage during installation and subsequent construction. Repair or replace damaged products before Substantial Completion.

END OF SECTION