



# WALL INSULATION

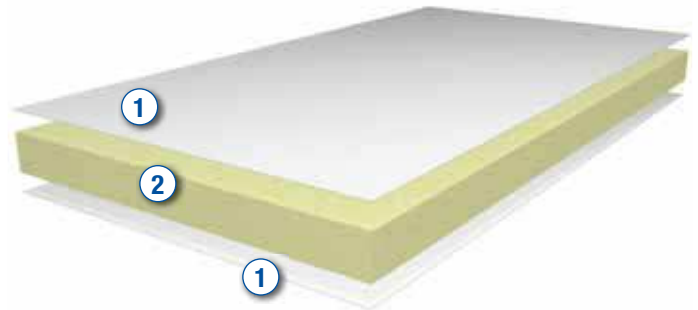
## R2+<sup>®</sup> MATTE Coated-Glass-Faced Polyiso Insulation

### Description

R2+ MATTE is a rigid foam insulation board designed for use in commercial construction above-grade wall applications to provide continuous, high R-value insulation. The product is composed of a closed-cell polyisocyanurate foam core bonded on both sides to a coated glass facer. R2+ MATTE can be installed on the exterior or the interior side of the wall assembly. R2+ MATTE is offered in different thicknesses, sizes and foam core densities. It is secured in place with fasteners, adhesive or a combination of the two. Installation technique depends on the wall assembly. R2+ MATTE has been fire-tested to NFPA 285 and passes this tough test in many wall assemblies. CCW provides R2+ MATTE insulation, R2+ accessories and CCW air/vapor barrier membranes for a complete wall weatherization system.

### Features and Benefits

- Passes NFPA 285 in many wall assemblies, including WRB membrane and practical window details
- Tough coated-glass facer resists damage during construction
- High R-value per inch – enables thinner board to be used, while still meeting code requirements
- Meets wall assembly continuous insulation (ci) requirements prescribed by International Building Code
- Multiple thicknesses and sizes available to provide fine-tuned R-value and easy installation
- Non-reflective facer – no glare during exposure
- Factory-controlled thickness and composition
- No special tools or equipment required for installation – lightweight, easy to handle, cuts with a knife or saw
- Manufactured in multiple plants across the U.S. – ready product availability and LEED<sup>®</sup> regionally sourced material
- Part of a full weatherization system by CCW – takes the guesswork out of installation procedures and product compatibility
- Qualifies as an “air barrier material” - meets the air barrier code requirement if board joints are taped



- ① Coated Glass Facer
- ② Closed-cell Polyisocyanurate Foam Core

### Typical Properties

Property	Method	Results
Compressive Strength	ASTM D1621	20 psi (grade 2) 25 psi (grade 3)
Thermal Resistance (R-value) [units: °F•ft <sup>2</sup> •h/ Btu]	Tested at 75°F mean temp as per ASTM C 518 according to the requirements of ASTM C 1289	1" – 6.0 1.5" – 9.0 2" – 12.1 2.5" – 15.3 3" – 18.5 3.5" – 21.7
Flame Spread Index, Core	ASTM E84	<75
Smoke Developed Index, Core	ASTM E84	<450
Air Permeance (1" and greater thickness product)	ASTM E 2178	<0.001 L/s•m <sup>2</sup> @ 75 Pa [<0.0002 CFM/ft <sup>2</sup> @ 1.57 PSF]
Water Vapor Permeance (1" thick board)	ASTM E96	<1 Perm (57.5 ng/ (Pa•s•m <sup>2</sup> ))
Water Absorption	ASTM C209	<0.1% vol.
Dimensional Stability	ASTM D2126	2% linear change (7 days)
Impact Resistance (Janka Ball Test)	ASTM D 1037	15
Mold Resistance	ASTM D3273	Passed (10)
Edge	—	Square
Service Temperature	—	-100°F to 250°F

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## R2+ MATTE Coated-Glass-Faced Polyiso Insulation

SHOWN: R2+ MATTE on Gypsum-over-Steel Stud Base Wall Assembly with MCM Cladding



- ① Gypsum Sheathing
- ② Stud Cavity Insulation
- ③ Steel Stud
- ④ Interior Finish
- ⑤ Track Fastened to Girts for Panel Attachment
- ⑥ CCW Air Barrier
- ⑦ MCM Cladding (or other approved systems)
- ⑧ R2+ Matte Coated-Glass-Faced Polyiso Insulation
- ⑨ Air Space

### Installation

Consult the R2+ Installation Guide for detailed information about installation of this product in various wall assemblies.

### Limitations

- R2+ MATTE is not a structural sheathing; exterior cladding must be attached through framing.
- Weight of the cladding must be supported by attachment to the structure, DO NOT rely on the insulation core or facer to support cladding weight.
- Not intended as a wear-resistant or traffic-resistant surface – cover with approved cladding system.
- Not for use as a nail base.
- Combustible, not rated for permanent exposure. Must be covered with approved cladding or thermal barrier.
- Do not use on exterior side of below-grade construction, on plaza decks or in areas where direct exposure to ponding water is expected.
- In termite-infested areas, maintain separation of R2+ MATTE from grade according to code requirements.
- Do not leave exposed to sunlight longer than 60 days.
- R2+ MATTE must not be exposed to open flame.

## Storage

Keep R2+ MATTE and accessory products clean and dry during storage to facilitate installation and to maintain legibility of labels. Store R2+ MATTE and accessory products in an area protected from moisture and direct sunlight. For outdoor storage in excess of 60 days, cover pallets with breathable, waterproof tarpaulins and elevate pallets above ground level a minimum of 4".

## Packaging

R2+ MATTE is provided in 16" X 8' boards, 24" X 8' boards and 4' X 8' boards. Custom sizes from ½" to 4½" thicknesses are available on special order. CCW R2+ MATTE boards are stacked on 4' X 8' pallets and double-packaged in UV-resistant polyethylene bags.

### R2+ MATTE

Board Properties			16" X 8'	24" X 8'	4' X 8'	Pallet		
Thickness	R-value	Grade	PCS/Pallet	PCS/Pallet	PCS/Pallet	SQ FT/Pallet	BD FT/Pallet	Weight/Pallet
1"	6.0	20 or 25 psi	144	96	48	1,536	1,536	587.47
1.5"	9.0	20 or 25 psi	96	64	32	1,024	1,536	480.90
2"	12.1	20 or 25 psi	72	48	24	768	1,536	428.40
2.5"	15.3	20 or 25 psi	57	38	19	608	1,520	392.14
3"	18.5	20 or 25 psi	48	32	16	512	1,536	374.85
3.5"	21.7	20 or 25 psi	39	26	13	416	1,456	341.25

### Contact Adhesives

For tacking R2+ MATTE in place during installation.

Part Number	Product	Description	Packaging
308599	Travel-Tack	Solvent-based aerosol contact adhesive	15-oz. spray can, 12/carton
305432	CAV-GRIP™	Solvent-based aerosol contact adhesive	40# pressurized cylinder filled with 30 lb. of adhesive

### LM-800XL

Solvent-based synthetic rubber adhesive/mastic for bonding R2+ MATTE to CCW membrane air barrier or to substrate. Can also be used for sealing R2+ MATTE gaps at terminations and penetrations.

Part Number	Package	Units/Carton
305261	29 fl. oz. cartridge	12
305263	5-gal pail	N/A

### Fasteners

Use capped screws by others as recommended by CCW to secure R2+ MATTE. Consult the R2+ Installation Manual for detailed information about recommended fasteners and installation techniques.

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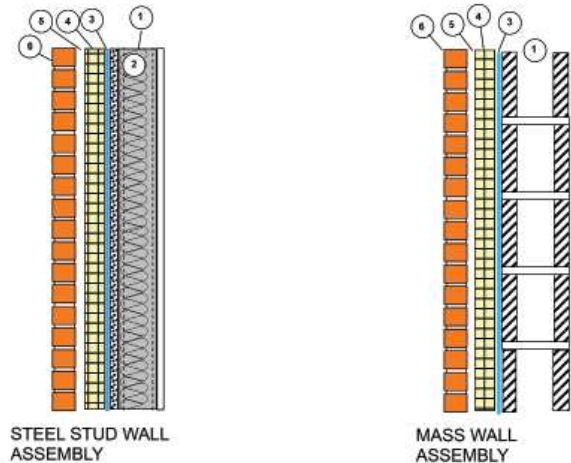
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### Codes and Compliances

- ASTM C 1289 Type II, Class 2 Grade 2 (20 psi) & Grade 3 (25 psi)
- 2012 International Energy Conservation Code Table C402.2 Opaque Thermal Envelope Requirements and Section C402.4.1.2.1 Air Barrier Materials
- International Building Code Chapter 26, Plastic Foam Insulation
- DRJ Engineering TER 1407-1. Suitable for Type I-IV construction
- 2010 ASHRAE 90.1 Table 5.5.1 through Table 5.5.8 Building Envelope Requirements by Climate Zone and Section 5.4.3.1.3 Acceptable Air barrier Materials and Assemblies
- Passed NFPA 285 full wall burn tests. Summary of approved assemblies, based on testing, appears in Figure 3 and Table 1

**Figure 3**

R2+ MATTE NPFA 285 Wall Assemblies



**Table 1**

NFPA 285 Walls: R2+ MATTE

Layer	Steel Stud Wall Assembly	Mass Wall Assembly
1. Base Wall System	Steel studs 16" or 24" o.c. 5/8" type X gypsum wallboard on interior and 1/2" or 5/8" gypsum sheathing on exterior	Concrete (tilt-up or cast-in-place) or concrete masonry unit (CMU)
2. Stud Cavity Insulation	Fiber glass, mineral wool, Bayer EcoBay™ CC or BASF Walltite® spray foam up to depth of stud or none	N/A
3. Membrane Air Barrier over Base Wall Assembly	Fire Resist 705FR-A, Fire Resist Barritech VP, Fire-Resist Barritech NP, Fire Resist 705 VP OR none	
4. Exterior Insulation	R2+ MATTE maximum 3 1/2" thick	
5. Air Space between Cladding and Insulation	Maximum 2"	
6. Exterior Cladding	Masonry minimum 3 1/2" thick, limestone or natural stone veneer minimum 2" thick, artificial cast stone veneer minimum 1 1/2" thick, Terra Cotta cladding minimum 1 1/4" thickness, metal composite material (MCM) systems that have passed NFPA 285, sheet metal cladding, fiber cement siding, Portland cement stucco and lath minimum 3/4" thickness, stone aluminum honeycomb composite panels that have passed NFPA 285	

\*Joints and penetrations in R2+ MATTE boards may be sealed with CCW FOIL-GRIP 1402 Tape or fire-block can foam sealant. Insulation can be bonded to base wall assembly with 3/4" x 3" dabs of LM-800XL, spaced 16" O.C.

Note: Not all approved materials and products are shown in Table 1. Full list of NFPA 285 wall assemblies and components appears in CCW's Wall Assembly Design Guide.