

R2+[®] SILVER

Foil-Faced Polyiso Insulation for Above-Grade Walls



Description

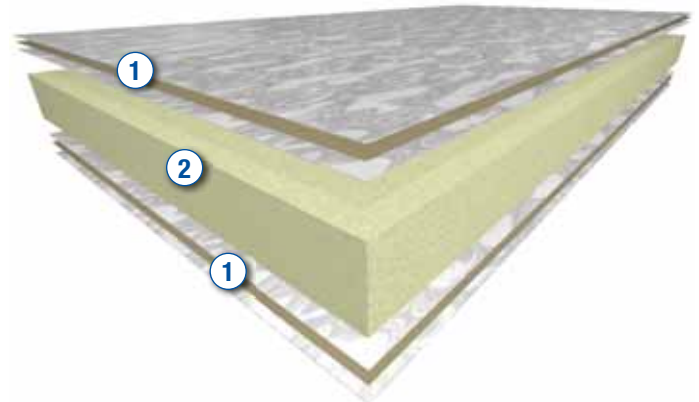
R2+ SILVER is a rigid foam insulation board designed for use in commercial construction above-grade wall applications to provide continuous, high R-value insulation. The product is composed of a closed-cell polyisocyanurate foam core bonded on both sides to a composite foil “tri-laminate” facer. R2+ SILVER can be installed on the exterior or the interior side of the wall assembly. R2+ SILVER 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+ SILVER has been fire-tested to NFPA 285 and passes this tough test in several wall assemblies. CCW provides R2+ SILVER insulation, R2+ accessories and CCW air/vapor barrier membranes for a complete wall weatherization system.

Features/Benefits

- Passes NFPA 285 in several wall assemblies, including WRB membrane and practical window details
- 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 Building Code
- Multiple thicknesses and sizes available to provide fine-tuned R-value and easy installation
- Reflective facer can act as a radiant barrier – up to equivalent R-2.3 additional insulating value when facing a 1-3/4" dead air space (Ref: 2010 ASHRAE 90.1 Table A9.4A)
- Factory-controlled thickness and composition
- No special tools or equipment required for installation – lightweight, easy to handle, cuts with a knife or saw
- Can be installed as an air barrier with proper joint sealing and detailing
- Manufactured in multiple plants across the U.S. – ready product availability and LEED[®] regionally sourced material.
- Part of a full weatherization system by CCW – takes the guesswork out of installation procedures and product compatibility

Installation

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



- ① "Tri-Laminate" Facer – Aluminum Foil/Kraft Paper/Aluminum Foil
- ② Closed-cell Polyisocyanurate (Polyiso) Foam Core

Property	Method	Results – Grade 2	Results – Grade 3
Compressive Strength	ASTM D 1621	20 psi	25 psi
Thermal Resistance (R-value) at 75°F [units: °F•ft ² •h/ Btu]	ASTM C 518	1" R-6.7, 1.5" R-10.5, 2" R-14.4, 2.5" R-17.8, 3" R-21.2, 3.5" R-24.6*	
Flame Spread Index, Core	ASTM E 84	<75	
Smoke Developed Index, Core	ASTM E 84	<450	
Water Vapor Permeance (1" thickness board)	ASTM E 96 A	0.05 Perm	
Dimensional Stability	ASTM D 2126	Max. 2% linear change (7 days)	
Water Absorption	ASTM C 209	<0.05% vol.	
Edge	—	Square	
Service Temperature	—	-100°F to 250°F	

*Initial thermal value obtained per ASTM C518 at 75°F mean temperature. Typical values for impermeable faced products

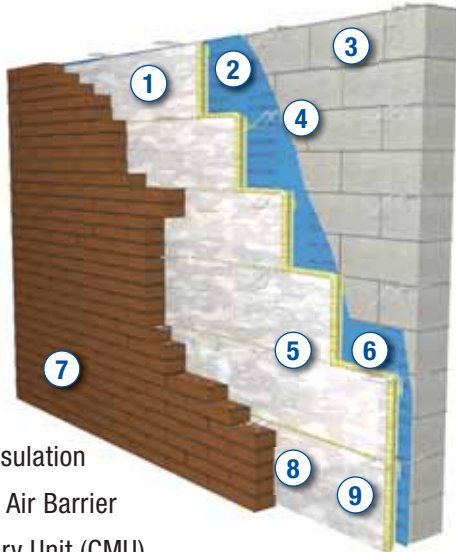


Component of CCW's NFPA 285 tested wall assemblies

R2+ SILVER

Foil-Faced Polyiso Insulation for Above-Grade Walls

SHOWN: R2+ SILVER 16" x 8' Boards in a Masonry Cavity Wall Assembly



- ① R2+ Silver Foil-Faced Polyiso Insulation
- ② CCW Membrane Air Barrier
- ③ Concrete Masonry Unit (CMU)
- ④ Imbedded Veneer Anchors, Every 2nd Course of Block
- ⑤ Wire Tie (helps secure insulation)
- ⑥ Approved Foam Sealant Between Insulation Boards
- ⑦ Brick
- ⑧ Air Space
- ⑨ LM-800XL Insulation Adhesive (applied in dabs to back of each board)

Limitations

- Not structural – R2+ SILVER cannot be used for bracing or adding shear strength to walls.
- Not for use as a nail base.
- Cladding must be attached through insulation to structure, NEVER directly attached to facer.
- Not intended as a wear-resistant or traffic-resistant surface – cover with approved cladding system.
- Combustible, not rated for permanent exposure on either the exterior or the interior side of the wall assembly. R2+ SILVER 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+ SILVER from grade according to code requirements.
- Do not leave exposed to sunlight longer than 60 days.

Storage

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

Packaging

R2+ SILVER is provided in 16" X 8' boards, 24" X 8' boards and 4' X 8' boards. Custom sizes are available on special order. CCW R2+ SILVER boards are stacked on 4' X 8' pallets and double-packaged in a UV-resistant polyethylene bag.

R2+ SILVER

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"	6.7	20 psi	144	96	48	1,536	1,536	305.66
1"	6.7	25 psi	144	96	48	1,536	1,536	305.66
1.5"	10.5	20 psi	96	64	32	1,024	1,536	288.77
1.5"	10.5	25 psi	96	64	32	1,024	1,536	288.77
2"	14.4	20 psi	72	48	24	768	1,536	281.09
2"	14.4	25 psi	72	48	24	768	1,536	281.09
2.5"	17.8	20 psi	57	38	19	608	1,520	272.99
2.5"	17.8	25 psi	57	38	19	608	1,520	272.99
3"	21.2	20 psi	48	32	16	512	1,536	272.38
3"	21.2	25 psi	48	32	16	512	1,536	272.38
3.5"	24.6	20 psi	39	26	13	416	1,456	256.26
3.5"	24.6	25 psi	39	26	13	416	1,456	256.26



CCW FOIL-GRIP™ 1402 Tape

Pressure-Sensitive Tape for sealing R2+ SILVER board joints and brick-tie penetrations.

Part Number	Roll Size	Rolls/ Carton
304095	4" x 100'	12
304096	6" x 100'	8

*Note, for certain assemblies, portable can foam sealant by others can be used in place of CCW FOIL-GRIP 1402 Tape to seal between boards of R2+ SILVER insulation. Consult R2+ Installation Manual for more information.

Fire-Resist CCW-705FR

Self-adhered flashing/membrane for roof/foundation termination, wrapping window openings, covering corners, and detailing mechanical/electrical penetrations.

Part Number	Roll Size	Rolls/ Carton
319920	46" X 50'	1
319921	23" x 50'	1
319922	12" X 50'	4
319923	9" x 50'	4
319925	6" x 50'	8
319926	4" x 50'	12

Flashing/Tape Primers

To promote adhesion of Fire-Resist CCW-705FR and CCW FOIL-GRIP 1402 Tape.

Part Number	Product	Description	Packaging
305363	CCW-702	Solvent-based contact adhesive	5-Gal Pail
316148	CCW-702 LV*	VOC-compliant, solvent-based contact adhesive	5-Gal Pail
315109	CCW-702 WB	Water-based contact adhesive	5-Gal Pail
308599	Travel-Tack	Solvent-based aerosol contact adhesive	15 oz. spray can, 12 per carton
305432	CAV-GRIP™	Solvent-based aerosol contact adhesive	40# pressurized cylinder filled with 30 lb. of adhesive
307490	CAV-GRIP Spray Gun	Pistol-grip gun with spray tip	1 per box
304302	CAV-GRIP 6' Hose	Hose with fittings, 6' length	1 per box
304303	CAV-GRIP 12' Hose	Hose with fittings, 12' length	1 per box
304304	CAV-GRIP 18' Hose	Hose with fittings, 18' length	1 per box

Sure-Seal® Pressure-Sensitive Uncured Elastoform

Self-adhered malleable EPDM flashing for treating expansion joints and bridging transition from rough opening to curtain wall.

Part Number	Roll Size	Rolls/ Carton
310433	12" X 50'	4
303162	9" x 50'	4
305723	6" x 50'	8

EPDM Accessories

For installation of Sure-Seal Pressure-Sensitive Uncured Elastoform and Pre-Kleened EPDM TWF.

Part Number	Product	Packaging	Units/ Carton
302174	Sure-Seal Lap Sealant	10 fl. oz. cartridge	25/carton
300465	Sure-Seal SecurTAPE™	3" X 100' roll	4/carton
300877	Sure-Seal Termination Bar	1" X 10' piece	50/tube
302196	Sure-Seal Water Cutoff Mastic	10.3 fl-oz cartridge	10/carton
302342	EP-95 Splicing Cement	1-Gal Cans	6/carton
302071	HP-250 Primer	2.5-Gal Pail	N/A
302070	HP-250 Primer	1-Gal Can	6/ carton
302124	90-8-30A Solvent-Based Bonding Adhesive	5-Gal Pail	N/A
303090	Low-VOC Bonding Adhesive	5-Gal Pail	N/A



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Through-Wall Flashings

For use at base of wall, shelf angle, window head and other discontinuities in wall cavity.

CCW-705 TWF

Part Number	Roll Size	Rolls/Carton
305315	12" x 100'	2
305318	18" x 100'	1
305321	24" x 100'	1
305325	36" x 75'	1

Pre-Kleened EPDM TWF

Part Number	Roll Size	Rolls/Carton
300503	12" x 100'	1
300504	18" x 100'	1
300505	24" x 100'	1
300507	36" x 100'	1

LM-800XL

Solvent-based synthetic rubber adhesive/mastic for bonding R2+ SILVER to CCW membrane air barrier or to substrate. Can also be used for sealing R2+ SILVER 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+ SILVER. Consult the R2+ Installation Manual for detailed information about recommended fasteners and installation techniques.

Codes and Compliances

- ASTM C 1289 Type I, Class 1 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

- 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+ SILVER NPFA 285 Wall Assemblies

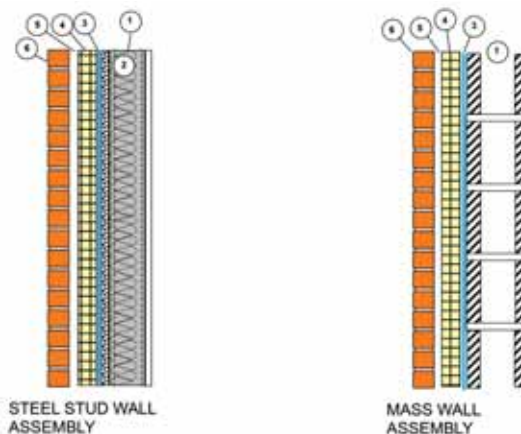


Table 1

NFPA 285 Walls: R2+ SILVER

Layer	Steel Stud Wall Assembly	Mass Wall Assembly
1. Base Wall System	Steel studs minimum 3 5/8" depth, minimum 22 gauge at a maximum of 24" o.c with lateral bracing every 4 ft. vertically. Layer of 5/8"-thick Type X or 1/2"-thick Type C 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 Barritech VP, Fire Resist Barritech NP, Fire Resist 705FR OR none	
4. Exterior Insulation	R2+ SILVER maximum 3 1/2" thick. Joints between insulation can be taped with 4" FOIL-GRIP 1402 or sealed with fire-block can foam. Insulation can be secured with LM-800XL adhesive 3/8" x 3" dabs, 16" O.C.	
5. Air Space between Cladding and Insulation	Maximum 2"	
6. Exterior Cladding	Masonry (clay or concrete brick), limestone or other natural stone veneer minimum 2" thick, stucco minimum 3/4" thick exterior cement plaster & lath, artificial cast stone minimum 1-1/2" thick complying with ICC-ES AC-51 or terra cotta cladding minimum 1-1/4" thick.	

Note: For a copy of full NFPA 285 Engineering Analysis, please contact CCW.