

DEPARTMENT OF HOUSING AND URBAN DEVELOPMENT	USE OF MATERIALS BULLETIN NO 101
ASSISTANT SECRETARY FOR HOUSING FEDERAL HOUSING COMMISSIONER	Effective Date October 16, 1995
TO: DIRECTORS, SINGLE FAMILY DIVISION	
SUBJECT: HUD BUILDING PRODUCT STANDARDS AND CERTIFICATION PROGRAM FOR EXTERIOR WALL INSULATION AND FINISH SYSTEMS	

Members of the HUD staff processing cases and inspecting construction, shall use this information in determining acceptability of the subject products for the use indicated.

This bulletin should be filed with bulletins on Special Methods of Construction and Materials as required by prescribed procedures. Additional copies may be requisitioned by the Field Offices.

The technical description, requirements and limitations expressed herein do not constitute an endorsement, approval or acceptance by the Department of Housing and Urban Development (HUD/FHA) of the subject matter, and any statement or representation, however made, indicating approval or endorsement by the Department of Housing and Urban Development is unauthorized and false, and will be considered a violation of the United States Criminal Code 18, U.S.C. 709.

Any reproduction of this Bulletin must be in its entirety and any use in sales promotion or advertising is not authorized.

Subject to good workmanship, compliance with applicable codes, and the methods of application listed herein, the products described in this bulletin may be considered suitable for HUD housing programs, including Housing for the Elderly and Care-Type Housing.

The eligibility of a property under these programs is determined on the property as an entity and involves the consideration of underwriting and other factors not indicated herein. Thus, compliance with this bulletin should not be construed as qualifying the property as a whole, or any part thereof, as to its eligibility.

The method of application for the products listed herein are considered a part of the HUD Minimum Property Standards and shall remain effective until this bulletin is canceled or superseded.

HUD BUILDING PRODUCT STANDARDS AND CERTIFICATION PROGRAM
FOR EXTERIOR WALL INSULATION AND FINISH SYSTEMS

GENERAL - ADMINISTRATIVE AND PROCEDURES

This certification program shall be administered by organizations that qualify under the Administrator Qualifications and Procedures of the HUD Building Products Standards and Certification Program, described in 24 CFR 200.935, except as modified by the provisions of this Use of Materials Bulletin No. 101. Copies of these Administrator Qualifications and Procedures for the HUD Building Products Standards and Certification Program may be obtained from:

Office of Manufactured Housing and Regulatory Functions
Department of Housing and Urban Development
451 7th Street, SW
Attn: Mail Room B-133
Washington, DC 20410-8000

The procedures for carrying out the certification program for exterior wall insulation and finish systems shall be in accordance with 24 CFR 200.935 and with this Use of Materials Bulletin (UM) which supplements 200.935 by providing that:

1. The certification label containing the Administrator's mark shall be permanently affixed on the package or container of base and finish coating materials.
2. The following additional information shall be on the certification label:
 - (a) The manufacturer's name.
 - (b) The manufacturer's statement of conformance to UM 101.
3. The Administrator shall visit the manufacturer's or sponsor's facility every 6 months, to assure that the initially accepted quality assurance procedures are being followed. At least every four years, the Administrator also shall have the exterior wall insulation and finish systems tested in an approved laboratory to assure that the original performance is maintained.

STANDARDS:

All exterior wall insulation and finish systems shall be initially evaluated in conformance with the requirements in Table 1:

Table 1 Requirements for Exterior Wall Insulation and Finish Systems

<u>Material Requirement</u> (if used)	<u>Values</u>	<u>Product or Design Specification</u>
Fiber cement board	compliance	ASTM C-1186 ¹ -91
Polystyrene foam insulation board	compliance	UM 71a ² -94
Density, minimum	0.9 lbs/cu. ft	
Thickness, minimum	2.0 inches	
Fiberglass mesh, minimum	120 lbs/lin.inch	EIMA 105.01 ³ -95
Standard grade	4.0 oz/sq.yd.	
Moderate grade	12.0 oz/sq.yd.	
High grade	14.0 oz/sq.yd.	
Caulks and sealants, minimum (Silicone)	Type S Grade NS 20 year warranty	ASTM C-920-87
Portland cement	Type I,II,-I or II	ASTM C-150-94
Finish pigments	UV stable 2000hrs No fading No Yellowing \pm 1 maximum	ASTM G-26-93 Type A ASTM D-1925-93
<u>System Requirements</u>	<u>Values</u>	<u>Test Method</u>
Surface impact	no damage with 30 lb weight at 6 ft.	ASTM E-695-79
Fungus resistance	no growth after 42 days	ASTM D-3273-93
Freeze-thaw	no cracks 10 cycles	EIMA 101.01-95
Water Penetration		
15 min. @ 80% of design	no penetration	EIMA 101.02-95
Adhesion	no failure (See note)	EIMA 101.03-95
Thermal conductivity	compliance	CABO Model Energy Code 1993 ⁴
Point Impact	Perfo Test initial and periodic values	EAUTC ⁵ Sec.3.3.3-89

Note: No failure in the adhesive, base coat or finish coat. Minimum 5 psi bond strength after accelerated weathering and freeze-thaw cycling.

- ¹ American Society for Testing and Materials (ASTM) 1916 Race Street, Philadelphia, PA 19130.
- ² Use of Materials Bulletin (UM).
- ³ Exterior Insulation Manufacturers Association (EIMA) 2759 State Road 580, Suite 112, Clearwater, FL 34621-3350.
- ⁴ Council of American Building Officials (CABO), 5203 Leesburg Pike, Falls Church, VA 22041.
- ⁵ Centre Scientifique ET Technique Du Batiment (CSTB), 84 Avenue Jesu Jaures, B. P. 02- 77421 MARNE-LA- VALEE Cedex 2, Paris, France, or available from U. S. Department of Housing and Urban Development, Manufactured Housing and Construction Standards Division, 451 7th Street, SW Mail Room B-133, Washington, DC 20410.

Every four years, the Administrator shall have a simulated sample 2' x 4' panel tested in accordance with the following quality assurance requirements:

<u>Requirements</u>	<u>Values, Minimum</u>	<u>Test Method</u>
Point Impact	not less than 25% of original	EAUTC Sec. 3.3.3.-89
Density of foam	0.9 lbs/cu. ft. minimum	ASTM C 578-92
Finish coating	2000 hrs. no fading or yellowing \pm 1 max. (ASTM D-1925-93)	ASTM G 26-93
Weight of mesh	4.0, 12.0 or 14.0 oz/sq yd	ASTM D 579-93 Die Cut

INSTALLATION:

1. The installation of exterior wall insulation and finish system (EIFS) shall be in accordance with the manufacturer's installation instructions. The system shall be installed by applicators that have been approved by the manufacturer.
2. The EIFS systems shall be delivered to the job site in packages with the name of the manufacturer, address, installation instructions, statement of compliance to UM 101 and the manufacturer's warranty provisions.
3. The substrate surface shall be determined by the manufacturer, to be sound, free of release agents or other residues, and in all other ways suitable for the application of the EIFS systems to the substrate. Gypsum sheathing shall not be used as a substrate.
4. No additives, or materials of any kind, such as binders, antifreeze agents, accelerators, fillers, etc., except specified amounts of clean water, shall be allowed unless specifically approved by the manufacturer.
5. The ambient temperature shall be 40°F or greater and rising at the time of application but not greater than 100°F and shall remain so for at least 24 hours thereafter. The manufacturer shall be responsible for making any disputed determinations.

6. The adhesive (base coat) used to adhere the insulation board to the substrate shall be of a suitable thickness so as not to have the ribbons of adhesive thinner than 1/16 of an inch. It is recommended that two applications (one to embed the mesh and the second to recoat) be applied to achieve 1/16" thickness. After allowing at least 24 hours drying time, apply the base coat to the surface and immediately embed in the reinforcing glass mesh with a stainless steel trowel. The mesh shall be lapped at least 2 1/2" at the seams and shall not be visible beneath the surface of the base coat. The heavy duty mesh shall only be butted together at the seams and then a strip of standard mesh shall be applied over the joint area. Heavy duty mesh recommended for areas of heavy impact at ground floor elevations or abnormal stress situations.
7. The polystyrene board shall not be used in contact with chimneys or other surface which could heat the board to a temperature greater than 150°F. Provide clearance from heat sources in conformance with the National Fire Protection Association, publication NFPA No. 89M.
8. The polystyrene insulation board shall be coated with 1/16" thick EIFS adhesive (basecoat), reinforcing fiberglass mesh, and the finish coat so that no portion is exposed. This requirement shall be carefully observed at the base of the insulation, around all doors and windows, around all wall penetrations.
9. All areas where the EIFS system joins other materials or terminates shall be protected from moisture intrusion with a product or method specified by the manufacturer.
10. All joints shall be made so that the caulking and sealing cements can be removed and replaced.
11. No sealants shall be applied to the system until the EIFS system has been previously cured for 14 to 21 days. Backer rod may be installed to prevent water intrusion during curing.

Maintenance:

The manufacturer shall provide maintenance recommendations in order to comply with the warranty provisions of this UM. Periodic inspections shall also be recommended for maintaining the durability and integrity of the EIFS system.

Inspections:

The owner shall be responsible for inspections of the installation of any EIFS system, 5,000 sq. ft. or more, during & completion of the construction. A copy of the inspection report shall be forwarded to the owner and maintained by the owner and a copy shall also be sent to the Department of HUD, Office of Manufactured Housing and Regulatory Functions, Mail Room B-133, 451 7th St. SW, Washington, DC 20410. The inspector shall comply to the requirements of ASTM E-541 Section 13. The reports shall include verification of the following items:

1. The coverage of the finish coat per sq. ft. for a given volume of finish.
2. The minimum thickness of the base and finish coatings.
3. That the fiberglass mesh is installed properly around joints and insulation.
4. All penetrations, including windows, flashing, etc., are sealed
5. There is a caulks and sealants continuity evaluation with special concerns on maintenance recommendations to maintain warranty provision of the sealants.

MANUFACTURER'S WARRANTY:

The manufacturer shall warrant their exterior wall insulation and finish system, including any caulks and sealant, for twenty years against faulty performance. The warranty shall include correction of delamination, chipping, denting, peeling, blistering, flaking, bulging, unsightly discoloration, or other serious deterioration of the system, such as the intrusion of water through the walls, or failure of the system's surface materials. Should any of these defects occur, the manufacturer shall make a pro-rata allowance for replacement or pay the owner the amount of the allowance. The manufacturer shall not be liable for damages or defects resulting from misuse, natural catastrophes, or other caused beyond the control of the manufacturer.

The contractor or installer shall provide a statement to the owner that the product has been installed in compliance with HUD requirements except as modified by the Bulletin, and that the manufacturer's warranty does not relieve the builder, in any way, of responsibility under the terms of the Builder's Warranty required by the National Housing Act, or under any other housing program.

ADMINISTRATORS:

Qualified organizations interested in becoming Administrators under the HUD Building Products Standards and Certification Program for Exterior Wall Insulation and Finish Systems shall submit their request to HUD Headquarters, Office of Manufactured Housing and Regulatory Functions, 451 7th Street, SW, Attn: Mail Room B-133, Washington, DC 20410-8000.

HUD Field Offices will maintain a file of all directories furnished by the Administrators and accept only products listed in the directories. The following Administrators have been accepted by HUD as qualified to validate Exterior Wall Insulation and Finish Systems under Use of Materials Bulletin No. 101.

RADCO, Inc.
3220 East 59th Street
Long Beach, CA 90805
(562) 529-7513