Pebbletex Adhered Mat Design – Section 07 24 19

Class PB EIFS incorporating a rainscreen technology based upon the use of a water-resistive barrier and Drainage plane.

INTRODUCTION

This specification has been assembled to enable the design professional to select or delete sections to suit the project requirements and is intended to be used in conjunction with Finestone® typical details, product bulletins, technical bulletins, etc.

DESIGN RESPONSIBILITY

It is the responsibility of both the specifier and the purchaser to determine if a product is suitable for its intended use. The designer selected by the purchaser shall be responsible for all decisions pertaining to design, detail, structural capability, attachment details, shop drawings and the like. The Finestone brand of Master Builders Solutions Construction Systems US, LLC (herein referred to as "Master Builders Solutions") has prepared guidelines in the form of specifications, typical application details, and product bulletins to facilitate the design process only. Master Builders Solutions is not liable for any errors or omissions in design, detail, structural capability, attachment details, shop drawings or the like, whether based upon the information provided by Master Builders Solutions or otherwise, or for any changes which the purchasers, specifiers, designers or their appointed representatives may make Master Builders Solutions published comments.

Designing and Detailing a PEBBLETEX ADHERED MAT DESIGN Wall System

General: The system shall be installed in strict accordance with current recommended published details and product specifications from the system's manufacturer.

A. Wind Load

1. Maximum deflection not to exceed L/240 of span under positive or negative design loads unless otherwise approved in writing by Master Builders Solutions before installation.
2. Design for wind load in conformance with local code requirements.

B. Substrate Systems

1. Acceptable substrates are: PermaBase® Cement Board and other cement-boards conforming with ASTM C1325 (Type A-exterior); poured concrete/unit masonry; ASTM C1177 type sheathings, including, Weather Defense™ Platinum sheathing, GreenGlass® sheathing, eXP™ sheathing, GlasRoc® sheathing, Securock™ glass-mat sheathing, and DensGlass® exterior sheathing, DensElement (sheathing only); gypsum sheathing (ASTM C79/C1396); Exposure I or exterior plywood (Grade C/D or better); or Exposure I OSB.
2. Painted and otherwise coated surfaces of brick, unit masonry, stucco and concrete shall be inspected and prepared as approved by Master Builders Solutions before application. The applicator shall verify that the proposed substrate is acceptable prior to the Pebbletex Adhered Mat Design Wall System installation.
3. The substrate systems shall be engineered with regard to structural performance by others.

C. Moisture Control

1. Prevent the accumulation of water behind the EIFS, either by condensation or leakage through the wall construction, in the design and detailing of the wall assembly.
   a. Provide flashing to direct water to the exterior where it is likely to penetrate components in the wall assembly, including, above window and door heads, beneath window and door sills, at roof/wall intersections, decks, abutments of lower walls with higher walls, above projecting features, and at the base of the wall and anywhere else required by local code.
   b. Air Leakage Prevention: provide continuity of air barrier system at foundation, roof, windows, doors and other penetrations through the system with connecting and compatible air barrier components to minimize condensation and leakage caused by air movement.
   c. Vapor Diffusion and Condensation: perform a dew point analysis of the wall assembly to determine the potential for accumulation of moisture in the wall assembly as a result of water vapor diffusion and condensation. Adjust insulation thickness and/or other wall assembly components accordingly to minimize the risk of condensation. Avoid the use of vapor retarders on the interior side of the wall in warm, humid climates.

D. Impact Resistance

1. Provide ultra-high impact resistance to a minimum height of 6'- 0" (1.8m) above finished grade at all areas accessible to pedestrian traffic and other areas exposed to abnormal stress or potential impact. Indicate the areas with impact resistance requirements other than "Standard" on contract drawings.

E. Color Selection

1. The use of dark colors must be considered in relation to wall surface temperature as a function of local climate conditions. Select Finish Coat color with a light reflectance value (LRV) of 20% or higher. The use of dark colors (LRV less than 20%) is not recommended with EIFS that incorporate expanded polystyrene (EPS). EPS has a sustained service temperature limitation of approximately 71°C (160°F).

F. System Joints

1. Expansion joints in the system are required at building expansion joints, at prefabricated panel joints, floor lines of wood frame construction, where substrates change and where structural movement is anticipated. It is the sole responsibility of the project design team, including the architect, engineer, etc., to ultimately determine specific expansion joint placement, width and design. Detail specific locations in construction drawings.
2. Sealant joints are required at all penetrations through the Pebbletex Adhered Mat Design (windows, doors, etc.)
3. Specify compatible closed cell backer rod and acceptable sealant that has been evaluated in accordance with ASTM C 1382, "Test Method for Determining Tensile Adhesion Properties of Sealants When Used in Exterior Insulation and Finish System (EIFS) Joints," and that meets minimum 50% elongation after conditioning.
4. The system must be properly terminated (back-wrapped a min. of 2", properly sealed, flashed) at all penetrations, lighting fixtures, electrical outlets, hose bibs, dryer vents, etc.

G. Grade Condition

1. The Pebbletex Adhered Mat Design is not intended for use below grade or on surfaces subject to continuous or intermittent immersion in water or hydrostatic pressure. Ensure a minimum 8" (203.2 mm) clearance above grade or as required by code, a minimum 1" (25.4 mm) clearance above finished grade (sidewalk/concrete flatwork).

H. Trim, Projecting Architectural Features

(NOTE TO SPECIFIER: Installation of the Finestone Wall System outside the slope guidelines referenced in this specification may still qualify for a standard warranty; however, low sloping EIFS conditions are subject to more extreme heat, increased maintenance and premature deterioration of the system shall be expected and any deleterious effects caused by the lack of slope will not be the responsibility of Master Builders Solutions. Finestone Wall Systems were designed and tested to be applied to vertical surfaces. The design professional has the option to build according to his/her project needs. The design professional must also consider geography, climate, building orientation, wall orientation and adjacent building components when designing with EIFS. The slope guidelines referenced below are provided to offer assistance to the owner and/or design professional. Final design of any building is the responsibility of the design professional.)

1. Minimum slope for all projections shall be 1:2 (27º) with a maximum length of 30.5 cm (12") [e.g. 15 cm in 30.5 cm (6" in 12")]. Increase slope for northern climates to prevent accumulation of ice/snow on the surface.

I. Coordination with other trades

1. Evaluate adjacent materials such as windows, doors, etc. for conformance to manufacturer's details. Adjacent trades shall provide scaled shop drawings for review.
2. Air seals at any joints/gaps between adjoining components (penetrations, etc.) are of primary importance to maintain continuity of an air barrier system and must be considered by the design professional in the overall wall assembly design. Install air seals between the primary air/water-resistive barrier and other wall components (penetrations, etc.) in order to maintain continuity of an air barrier system.
3. Provide site grading such that Pebbletex Adhered Mat Design terminates a minimum of 8" (203 mm) above finished grade or as required by code.

4. Provide protection of rough openings in accordance with Finestone Moisture Protection Guidelines for Pebbletex Adhered Mat Design Wall Systems before installing windows, doors, and other penetrations through the wall.
5. Install copings and sealant immediately after installation of the Pebbletex Adhered Mat Design and when Finestone coatings are completely dry.

TECHNICAL INFORMATION

Consult Master Builders Solutions' Technical Services Department for specific recommendations concerning all other applications. Consult the Finestone website, www.finestone.master-builders-solutions.com, for additional information about products and systems and for updated literature.

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NOTE TO SPECIFIER: Items in blue/underlined indicate a system option or choice of options. Throughout the specification, delete those which are not required or utilized.

1.01 SECTION INCLUDES

A. Refer to all drawings and other sections of this specification to determine the type and extent of work therein affecting the work of this section, whether or not such work is specifically mentioned herein.
B. Pebbletex Adhered Mat Design: Composite wall Exterior Insulation and Finish System consisting of air/water-resistive barrier, PERMALATH 1000 or expanded galvanized metal lath, adhesive, rigid insulation, base coat, reinforcing mesh, and finish coat.
C. Finestone products are listed in this specification to establish a standard of quality. Any substitutions to this specification shall be submitted to and receive approval from the Architect at least 10 days before bidding. Proof of equality shall be borne by the submitter.
D. The system type shall be Finestone Pebbletex Adhered Mat Design as manufactured by Master Builders Solutions, Minneapolis, Minnesota.

1.02 RELATED SECTIONS

A. Section 03 00 00 Concrete substrate
B. Section 04 00 00 Masonry substrate
C. Section 05 40 00 Cold-formed metal framing
D. Section 06 16 00 Sheathing
E. Section 06 11 00 Wood framing
F. Section 07 27 00 Air barriers
G. Section 07 62 00 Sheet Metal Flashing and Trim
H. Section 07 65 00 Flexible flashing
I. Section 07 90 00 Joint protection
J. Section 08 00 00 Openings
K. Section 09 22 00 Supports for plaster and gypsum board
L. Section 09 22 16 Non-structural metal framing
M. Section 09 29 00 Gypsum board

1.03 DEFINITIONS

A. Exterior Insulation and Finish System: Exterior assembly comprised of adhesive, rigid insulation, base coat, reinforcing mesh, and finish coat.
B. Class PB Systems: a class of EIFS where the base coat varies in thickness depending upon the number of layers or thickness of reinforcing mesh. The reinforcing material is glass fiber mesh, which is embedded into the base coat at the time of installation. The base coat shall be applied so as to achieve reinforcing mesh embedment with no reinforcing mesh color visible, nominal thickness of 1.6 mm (1/16"). Protective finish coats, of various thicknesses, in a variety of textures and colors, are applied over the base coat.

1.04 SUBMITTALS

A. Submit under provisions of Section [01 33 00]
B. Product Data: Provide data on Pebbletex Adhered Mat Design materials, product characteristics, performance criteria, limitations and durability.
C. Code Compliance: Provide manufacturer's applicable code compliance report.
D. Samples: Submit [two] [x] [millimeter] [inch] size samples of Pebbletex Adhered Mat Design illustrating finish coat color and texture range.
E. Certificate: System manufacturer's approval of applicator.
F. Sealant: Sealant manufacturer's certificate of compliance with ASTM C1382.
G. System manufacturer's current specifications, typical details, system overview and related product literature which indicate preparation required, storage, installation techniques, jointing requirements and finishing techniques.

1.05 QUALITY ASSURANCE

A. Manufacturer: More than 10 years in the EIFS industry, with more than 1000 completed EIFS projects.
B. Applicator: Approved by Master Builders Solutions in performing work of this section.

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C. Regulatory Requirements: Conform to applicable code requirements for EIFS.
D. Field Samples
   1. Provide under provisions of Section [01 43 36] [01 43 39].
   2. Construct one field sample panel for each color and texture, [x] [meters] [feet] in size of system materials illustrating method of attachment, surface finish color and texture.
   3. Prepare each sample panel using the same tools and techniques to be used for the actual application.
   4. Locate sample panel where directed.
   5. Accepted sample panel [may] [may not] remain as part of the work.
   6. Field samples shall be comprised of all wall assembly components including substrate, air/water-resistive barrier, insulation board, base coat, reinforcing mesh, primer (if specified), finish coat, and typical sealant/flashing conditions.
E. Testing:
   1. General Air/Water-Resistive Barrier Minimum Performance:

TEST	METHOD	CRITERIA	RESULTS
Water-resistive barrier coatings used under EIFS	ASTM E2570		Meets all performance requirements
Air Leakage of Air Barrier Assemblies	ASTM E2357	0.2 l/(s.m2) @75 Pa (0.04 cfm/ft2 @ 1.57 psf)	0.0007 l/s.m2 (0.0001 cfm/ft2) @ 75 Pa (1.57 psf) positive / post conditioning 0.0014 l/s.m2 (0.0003 cfm/ft2) @ 75 Pa (1.57 psf) negative / post conditioning
Air Permeance of Building Materials	ASTM E2178	0.02 l/(s.m2) @75 Pa (0.004 cfm/ft2 @ 1.57 psf)	0.0049 l/s.m2 @ 75 Pa (0.00098 cfm/ft2 @ 1.57 psf)
Rate of Air Leakage	ASTM E283		0.0185 l/s·m2 @ 75 Pa (0.0037 cfm/ft2 @ 1.57 psf)
Water Vapor Transmission	ASTM E96	Report value	FINESTOP RA - 18 Perms (grains/Hr. in Hg. ft2) @ 10 mils wet film thickness FINESTOP RA - 14 Perms (grains/Hr. in Hg. ft2) @ 20 mils wet film thickness FINESTOP VB - 0.09 Perms (grains/Hr. in Hg. ft2) @ 26 mils wet film thickness
Pull-Off Strength of Coatings	ASTM D4541	Min. 110 kPa (15.9 psi) or substrate failure	Pass - Tested over exterior gypsum sheathing, ASTM C1177 glass-mat sheathing, cement board, OSB, plywood; pvc and galvanized flashing
Nail Sealability (without Sheathing Fabric)	ASTM D1970	No water penetration at galvanized roofing nail penetration under 127 mm (5”) head of water after 3 days at 4° C (40° F)	Pass
Surface Burning	ASTM E84	Flame Spread < 25 Smoke Development < 450	Meets Class A: Flame spread =15 Smoke developed = 95

   2. Air/Water-Resistive Barrier ICC-ES AC-212:

TEST	METHOD	CRITERIA	RESULTS
Sequential Testing: 1. Structural 2. Racking 3. Restrained Environmental Conditioning 4. Water Penetration	1. ASTM E 1233 Procedure A 2. ASTM E 72 3. ICC-ES AC-212 4. ASTM E 331	No cracking at joints or interface of flashing No water penetration after 15 min @ 137 Pa (2.86 psf)	Pass - Tested over OSB and gypsum sheathing No water penetration after 90 min @ 299 Pa (6.24 psf)
Sequential Testing: 1. UV Light Exposure 2. Accelerated Aging 3. Hydrostatic Pressure Test	1. ICC-ES AC-212 2. ICC-ES AC-212 3. AATCC 127-1985	No cracking or bond failure to substrate No water penetration after 21.7 in (550 mm) water for 5 hours	Pass
Freeze-Thaw	ASTM E 2485 (Method B)	No sign of deleterious effects after 10 cycles	Pass - Tested over exterior gypsum sheathing, ASTM C1177 glass-mat sheathing, cement board, OSB, plywood
Water Resistance	ASTM D2247	No deleterious effects after 14 day exposure	Pass - Tested over exterior gypsum sheathing, ASTM C1177 glass-mat sheathing, cement board, OSB, plywood
Tensile Bond	ASTM C 297	Minimum 103 kPa (15 psi)	Pass - Tested over exterior gypsum sheathing, ASTM C1177 glass-mat sheathing,

			cement board, OSB, plywood, CMU; pvc and galvanized flashing
Tensile Bond (after freeze-thaw)	ASTM C 297	Minimum 103 kPa (15 psi) avg; no failure after 10 cycles freeze-thaw	Pass

3. Air/Water-Resistance Barrier ICC-ES AC 148:

TEST	METHOD	CRITERIA	RESULTS
Sequential Testing: 1. UV Light Exposure 2. Accelerated Aging 3. Hydrostatic Pressure Test	1. ICC-ES AC 148 2. ICC-ES AC 148 3. AATCC 127-1985	No cracking or bond failure to substrate No water penetration after 21.7 in (550 mm) water for 5 hours	Pass
Peel Adhesion	ASTM D 3330 Method F	After UV Exposure After Accelerated Aging After Elevated Temperature Exposure After Water Immersion	Pass - tested over ASTM C1177 glass-mat sheathing, OSB, plywood, PVC and uncoated aluminum
Nail Sealability after Thermal Cycling	ASTM D 1970 (Modified), AAMA 711	No water penetration at galvanized roofing nail penetration under 31 mm (1.2") head of water after 24 hours at 4° C (40° F)	Pass
Tensile Strength after UV Exposure	ASTM D 5034, AAMA 711	Minimum 0.5 N/mm (2.9 lbs/in)	Pass
Cold Temperature Pliability	ASTM D 1970, AAMA 711	No cracking after bending around a 25 mm (1") mandrel after 2 hour exposure to -18° C (0° F)	Pass
Resistance to Peeling	AAMA 711	No signs of distress or failure after 24 hours of exposure at room temperature, 50° C (122° F), 65° C (149° F), 80° C (176° F)	Pass

4. Pebbletex Adhered Mat Design System and Component Performance:

TEST	METHOD	CRITERIA	RESULTS
EIFS and EIFS with Drainage	ASTM E2568 and ICC-ES AC 235		Meets all performance requirements
Drainage Efficiency	ASTM E2273	90% Minimum	Pass
Transverse Wind-load	ASTM E330	Steel stud framing (16 gauge) 16"o.c., 1/2" gypsum sheathing, WRB, metal lath, Finestone Adhesive, 1" expanded polystyrene insulation board, Finestone Base Coat, STANDARD MESH REINFORCING MESH, Finestone Finish.	Average ultimate loads[1]: - 7421 Pa (- 155 psf) + 7804 Pa (+ 163 psf)
Transverse Wind-load	ASTM E330	Wood assembly (2' x 6"') 16"o.c., 5/8" plywood, WRB, PermaLath 1000, Finestone Adhesive, 1" expanded polystyrene insulation board, Finestone Base Coat, STANDARD MESH REINFORCING MESH, Finestone Finish.	Average ultimate loads: - 14411 Pa (- 301 psf), no failure in assembly, maximum force achieved by test lab equipment
Transverse Wind-load	ASTM E330	CMU assembly (8" x 8" x 16"), WRB, PermaLath 1000, Finestone Adhesive, 1" expanded polystyrene insulation board, Finestone Base Coat, STANDARD MESH REINFORCING MESH, Finestone Finish.	Average ultimate loads: - 10102 Pa (- 211 psf), no failure in assembly, maximum force achieved by test lab equipment
Tensile Bond	ASTM C297/E2134	Minimum 103 kPa (15 psi)	Pass
Water Penetration	ASTM E 331	No water penetration after 15 minutes @ 137 Pa (2.86 psf)	Pass
Radiant Heat Exposure	NFPA 268	No ignition at 20 minutes	Met test criteria with 4" thick EPS insulation.
Fire Endurance	ASTM E119	Maintain fire resistance of existing rated assembly	1 hour rating with maximum 4" thick EPS insulation
Intermediate Scale Multi-	NFPA 285 / UBC	1. Resist flame propagation over	Met test criteria with 4" thick EPS insulation.

story Fire Test	Standard 26-9	the exterior surface 2. Resist vertical spread of flame within combustible core/component of panel from one story to the next 3. Resist vertical spread of flame over the interior surface from one story to the next 4. Resist lateral spread of flame from the compartment of fire origin to adjacent spaces	
Surface Burning	ASTM E84 / UL 723	Flame spread < 25 Smoke developed < 450	All components of the system meet Class A performance (FS < 25; SD < 450)
Abrasion Resistance	ASTM D968	No Cracking or loss of film integrity at 528 qt. (500L) of sand	Finish Coat not worn through after 686 liters of falling sand
Accelerated Weathering	ASTM G 153 (formerly G23)	No deleterious effects after 2000 hours.	Pass
Accelerated Weathering	ASTM G 154 (formerly G53)	No deleterious effects after 2000 hours.	Pass - No deleterious effects after 7500 hours.
Freeze-Thaw	ASTM C67, E2485 Method A	No deleterious effects after 60 cycles	Pass
Mildew Resistance	Mil Std 810B Method 508	No fungus growth after 28 days	Pass
Salt Fog Resistance	ASTM B117	No deleterious effects after 300 hours	Pass
Water Resistance of Coating in 100% R.H.	ASTM D 2247	No deleterious effects after 14 days exposure	Pass

[1] No failure in the Finestone materials; failure in framing and/or sheathing connections

5. Reinforcing Mesh Testing and Impact Resistance

TEST	METHOD	CRITERIA	RESULTS
Alkali Resistance of Reinforcing Mesh	ASTM E 2098	Greater than 120 pli (21 dN/CM) retained tensile strength	Pass (all mesh)
STANDARD MESH	ASTM E2486 (formerly EIMA 101.86)	25-49 inch-lbs. (2.8-5.6 j)	Pass
INTERMEDIATE 6	ASTM E2486 (formerly EIMA 101.86)	25-49 inch-lbs. (2.8-5.6 j)	Pass
INTERMEDIATE 12	ASTM E2486 (formerly EIMA 101.86)	50-89 inch-lbs. (5.7-10.1 j)	Pass
INTERMEDIATE 12 & STANDARD MESH	ASTM E2486 (formerly EIMA 101.86)	90-150 inch-lbs. (10.2-17.0 j)	Pass
STRONG 15 & STANDARD MESH	ASTM E2486 (formerly EIMA 101.86)	150 inch-lbs. (17 j)	Pass
HI-IMPACT 20 & STANDARD MESH	ASTM E2486 (formerly EIMA 101.86)	150 inch-lbs. (17 j)	Pass

1.06 DELIVERY, STORAGE AND HANDLING

A. Deliver, store and handle products under provisions of Section [01 65 00] [01 66 00] [ ].
B. Deliver Master Builders Solutions materials in original unopened packages with manufacturer's labels intact.
C. Protect Master Builders Solutions materials during transportation and installation to avoid physical damage.
D. Store Master Builders Solutions materials in cool, dry place protected from freezing. Store at no less than 40°F/4°C (50°F/10°C AURORA STONE, AURORA TC-100 and ALUMINA finish).
E. Store MAXFLASH at a minimum of 40F. In cold weather, keep containers at room temperature for at least 24 hours before using.
F. Store insulation boards flat and protected from direct sunlight and extreme heat.
G. Store Reinforcing Mesh, SHEATHING FABRIC and WS FLASH flexible flashing in cool, dry place protected from exposure to moisture.

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1.07 PROJECT/SITE CONDITIONS

A. Do not apply Master Builders Solutions material in ambient temperatures below 40°F/4°C (50°F/10°C for AURORA STONE, AURORA TC-100 and ALUMINA Finish). Provide properly vented, supplementary heat during installation and drying period when temperatures less than 40°F/4°C (50°F/10°C for AURORA STONE, AURORA TC-100 and ALUMINA Finish) prevail.
B. Do not apply materials to frozen surfaces.
C. Maintain ambient temperature at or above 40°F/4°C (50°F/10°C for AURORA STONE, AURORA TC-100 and ALUMINA Finish) during and at least 24 hours after product installation and until dry.

1.08 SEQUENCING AND SCHEDULING

A. Coordinate and schedule installation of Pebbletex Adhered Mat Design with related work of other sections.
B. Coordinate and schedule installation of trim, flashing, and joint sealers to prevent water infiltration behind the system.

1.09 WARRANTY

A. Provide Master Builders Solutions standard warranty for Pebbletex Adhered Mat Design installations under provisions of Section [01 70 00]. Reference Finestone's *EIFS and Coating Warranty Schedul*e technical bulletin for specific information.
B. Comply with Master Builders Solutions project review requirements and notification procedures to assure qualification for warranty.

PART 2 PRODUCTS

2.01 MANUFACTURERS

A. Pebbletex Adhered Mat Design (Class PB System) manufactured by Master Builders Solutions.

2.02 MATERIALS

NOTE TO SPECIFIER: Items in blue/underlined indicate a system option or choice of options. Throughout the specification, delete those which are not required or utilized. Contact Master Builders Solutions' Technical Service Department for further assistance.

A. Air/Water-Resistive Barrier Components:

1. Air/Water-Resistive Barrier: ***(Required, Select a or b)***
   a. FINESTOP RA: a one-component fluid-applied vapor permeable air/water-resistive barrier.
   b. FINESTOP VB: a one-component fluid-applied vapor impermeable air/water-resistive barrier.
2. Rough Opening and Joint Treatment: **(Required, Select a or b)**
   a. SHEATHING FABRIC: A spun-bonded non-woven reinforced polyester web for use with Finestone fluid applied air/weather-resistive barriers.
   b. MAXFLASH: A one-component elastomeric material for use as a flexible flashing membrane.
3. Transitional Membrane / Expansion Joint Flashing **(If selected, both a & b are required)**
   a. WS FLASH: 30-mil thick, self-sealing, self-healing composite membrane of polyester fabric and rubberized asphalt. Compatible with Finestone liquid air/weather resistive barriers.
   b. FLASHING PRIMER: A water-based primer for use prior to application of WS FLASH on all acceptable surfaces.
4. LT ADDITIVE Cold Temperature Additive: Blending of LT ADDITIVE with a pail of FINESTOP RA and FINESTOP VB enables application of these materials at temperatures as low as 25°F (-4°C).

B. Lath: *(Required, Select One)*

1. PERMALATH 1000: An open weave, three-dimensional self-furring, nominal 1/4" thick glass fiber reinforcing lath is for use with a minimum thickness of 12.7mm (1/2"). Complies with ASTM C1764, C1787 and C1788.
2. Expanded Metal Lath: The lath shall comply with ASTM C847. Furring and self-furring requirements shall be as set forth for wire lath. Minimum weight is 1.36 kg/m2 (2.5 lb./yd2). Refer to ASTM C 1063 for additional information.

C. Adhesives/Base Coats: *(Required, Select One or More)*

1. A/BC Base Coat: a 100% acrylic base coat, field-mixed with Type I or Type II Portland cement. It has a creamy texture that is easily spread.

2. A/BC 1 STEP Base Coat: a dry-mix polymer adhesive and base coat containing Portland cement, and requiring only water for mixing.
3. FINEGUARD Base Coat: a 100% acrylic-based, water-resistant base coat, field-mixed with Type I or Type II Portland cement.
4. FINEBUILD Base Coat: a 100% acrylic, fiber-reinforced base coat, adhesive and leveler that is field-mixed with Type I or Type II Portland cement.

NOTE TO SPECIFIER: Portland cement is not required if A/BC 1 STEP Base Coat is specified.

D. Portland cement:
1. Conform to ASTM C150, Type I, II, or I/II, grey or white; fresh and free of lumps.

E. Water:
1. Clean and potable without foreign matter.

F. Insulation Board:
1. Expanded Polystyrene; ASTM C578, Type I; Flame spread less than 25, smoke developed less than 450 per ASTM E84, UL 723.
   a. Minimum density 15.22 kg/m^3 (0.95 lb. /ft^3; K=6.09 per mm (0.24 per inch).
   b. Minimum thickness as indicated on drawings [minimum 19 mm (3/4").
   c. Air-dried (aged) six weeks, or equivalent, prior to installation.
   d. Edges: square within 0.8 mm per meter (1/32" per foot).
   e. Thickness: tolerance of plus or minus 1.6 mm (1/16").
   f. Size: 0.6 m x 1.22 m (2' x 4').
   g. Length and width: tolerance of plus or minus 1.6 mm (1/16").

G. Finestone Reinforcing Mesh: balanced, open-weave glass, fiber reinforcing mesh, twisted multi-end strands treated for compatibility with Finestone Base Coats. ***(Required, Select One or More)***
1. STANDARD MESH: standard weight, 4 oz.
2. INTERMEDIATE 6: standard/medium weight, 6 oz.
3. INTERMEDIATE 12: intermediate weight, 12 oz.
4. STRONG 15: heavy weight, 15 oz. used only in combination with STANDARD MESH or INTERMEDIATE 6.
5. HI-IMPACT 20: heavy weight, 20 oz. used only in combination with STANDARD MESH or INTERMEDIATE 6.
6. CORNER MESH: Intermediate weight, pre-marked for easy bending, for reinforcing at exterior corners.

H. COLOR COAT by Master Builders Solutions Coating (Optional): A 100% acrylic-based coating. It is designed for spray-, roller- or brush-application over EIFS with minimum change in finish texture or sheen.

I. TINTED PRIMER by Master Builders Solutions Primer (Optional): A 100% acrylic-based primer that helps alleviate shadowing and enhances performance of the Finestone Wall Systems. Color to closely match the selected Finestone Finish Coat color.

J. Finestone Finish Coat: ***(Required, Select One or More Finishes and Textures)***
1. PEBBLETEX Finish: 100% acrylic polymer finishes with advanced technology to improve long-term performance and dirt pick-up resistance; air cured, compatible with base coat; Finestone finish color [ ] as selected; finish texture:
   a. NATURAL SWIRL: has a medium “worm-holed” appearance which is achieved by the random aggregate sizes in the Finish. The “worm-holed” look can be circular, random, vertical or horizontal.
   b. LIMESTONE: utilizes uniformly-sized aggregates for a uniform, fine texture.
   c. FINETEX: can achieve a wide variety of free-formed, textured appearances, including stipple and skip-trowel
   d. MOJAVE: provides a uniform, “pebble” appearance.
2. PEBBLETEX TERSUS Finish: modified acrylic based finish with water repellent properties, compatible with base coat; Finestone finish color [ ] as selected; finish texture:
   a. F1.0: a 1.0 mm uniform aggregate creating a fine texture.
   b. M1.0: a 1.5 mm uniform aggregate creating a medium sand texture.
3. Specialty Finishes: 100% acrylic polymer finishes that can be hand-troweled to simulate stone or create a time-honored, mottled tone-on-tone look that achieves a soft and weathered patina over time

a. ENCAUSTO VERONA: utilizes uniformly-sized aggregate to achieve a free-formed, flat texture. It can be used to achieve a mottled look and unlimited tone on tone designs by combining multiple colors.
b. METALLIC: has a pearlescent appearance. It utilizes uniformly-sized aggregates for a uniform fine texture.
c. AURORA TC-100: provides a stone-like appearance, either rough or smooth depending upon application.
d. AURORA STONE: provides a rough, stone-like appearance.
e. ALUMINA: is a factory-mixed, reflective stone finish consisting of colored aggregate and large black mica flakes in a 100% acrylic transparent binder that provides a classic granite or marble-like textured finished appearance.

4. CHROMA Finish: 100% acrylic polymer based finish with integrated high performance colorants for superior fade resistance, compatible with base coat; Finestone finish color [ ] as selected; finish texture:
   a. F1.0: utilizes uniformly-sized aggregates for a uniformly fine texture.
   b. M1.5: provides a uniform “pebble” appearance.
   c. R1.5: has a medium “worm-holed” appearance which is achieved by the random aggregate sizes in the Finish. The “worm-holed” look can be circular, random, vertical or horizontal

K. ANTICOGLAZE by Master Builders Solutions Glaze/Stain (Optional): 100% acrylic antiquing stain product used to impart an ‘old world’ mottled look to textured finishes.

2.03 ACCESSORIES

A. Window/Door Drip Edge: Rigid polyvinyl chloride (PVC), UV resistant for exterior use, with a drip edge, as furnished by Plastic Components, Inc. or equal. Accessories shall conform to ASTM D1784-97, C1063-99 and D4216-99.

PART 3 EXECUTION

3.01 EXAMINATION

A. Site Conditions: Verify project site conditions under provisions of Section [01 00 00].

B. Walls:

1. Substrates:
   a. Acceptable substrates are: PermaBase® Cement Board and other cement-boards conforming with ASTM C1325 (Type A-exterior); poured concrete/unit masonry; ASTM C1177 type sheathings, including, Weather Defense™ Platinum sheathing, GreenGlass® sheathing, eXP™ sheathing, GlasRoc® sheathing, Securock™ glass-mat sheathing, and DensGlass® exterior sheathing, DensElement (sheathing only); gypsum sheathing (ASTM C79/C1396); Exposure I or exterior plywood (Grade C/D or better); or Exposure I OSB. Consult the Master Builders Solutions’ Technical Services Department for all other applications.
   b. Wall sheathing must be securely fastened per applicable building code and sheathing manufacturer’s requirements.
   c. Examine surfaces to receive Pebbletex Adhered Mat Design and verify that substrate and adjacent materials are dry, clean, sound, and free of releasing agents, paint, or other residue or coatings. Verify substrate is flat, free of fins or planar irregularities greater than 6.4 mm in 3 m (1/4" in 10').
2. Flashings:
   a. All flashings are by others and must be installed in accordance with specific manufacturer’s requirements. Where appropriate, end-dams must be provided.
   b. Openings must be flashed prior to window/door, HVAC, etc. installation. Refer to WS FLASH product bulletin and Finestone Moisture Protection Guidelines Wall Systems Bulletin for further information.
   c. Windows and openings shall be flashed according to design and Building Code Requirements.
   d. Individual windows that are ganged to make multiple units require continuous head flashing and the joints between the units must be fully sealed.
3. Roof:
   a. Verify that all roof flashings have been installed in accordance with the guidelines set by the Asphalt Roofing Manufacturers Association (ARMA).

4. Kick-out flashing:
   a. Kick-out flashing must be installed leak-proof and angled (min 100°) to allow for proper drainage and water diversion.

C. Do not proceed until all unsatisfactory conditions have been corrected.

3.02 PREPARATION

A. Protect all surrounding areas and surfaces from damage and staining during application of Pebbletex Adhered Mat Design.
B. Finish: protect finished work at end of each day to prevent water penetration.
C. Substrate preparation: prepare substrates in accordance with Finestone instructions.

3.03 MIXING

General: No additives are permitted unless specified in product mixing instructions. Close containers when not in use. Prepare in a container that is clean and free of foreign substances. Do not use a container which has contained or been cleaned with a petroleum-based product. Clean tools and equipment with water immediately after use. Dried material can only be removed mechanically.
NOTE TO SPECIFIER: Keep only the products in this section which were selected in Section 2.02. Delete those not to be utilized.

A. Air/Water-Resistive Barriers:
1. FINESTOP RA: Mix with a clean, rust-free paddle and drill until thoroughly blended. Do not add water.
2. FINESTOP VB: Mix with a clean, rust-free paddle and drill until thoroughly blended. Do not add water.
3. Cold Temperature Additive: LT ADDITIVE: Pour the entire contents of one (1) bottle of LT ADDITIVE into one (1) full pail of FINESTOP RA or FINESTOP VB. Mix with a clean, rust-free paddle and drill until fully blended.

B. Finestone Base Coat:
1. A/BC Base Coat: mix base coat with a clean, rust-free paddle and drill until thoroughly blended, before adding Portland cement. Mix one part (by weight) Portland cement with one part base coat. Add Portland cement in small increments, mixing until thoroughly blended after each additional increment. Clean, potable water may be added to adjust workability.
2. FINEGUARD Base Coat: mix base coat with a clean, rust-free paddle and drill until thoroughly blended, before adding Portland cement. Mix one part (by weight) Portland cement with one part base coat. Add Portland cement in small increments, mixing until thoroughly blended after each additional increment. Clean, potable water may be added to adjust workability.
3. FINEBUILD Base Coat: mix base coat with a clean, rust-free paddle and drill until thoroughly blended, before adding Portland cement. Mix one part (by weight) Portland cement with one part base coat. Add Portland cement in small increments, mixing until thoroughly blended after each additional increment. Clean, potable water may be added to adjust workability.
4. A/BC 1 STEP Base Coat: mix and prepare each bag in a 19-liter (5-gallon) pail. Fill the container with approximately 5.6-liters (1.5-gallons) of clean, potable water. Add A/BC 1 STEP Base Coat in small increments, mixing after each additional increment. Mix A/BC 1 STEP Base Coat and water with a clean, rust-free paddle and drill until thoroughly blended. Additional A/BC 1 STEP Base Coat or water may be added to adjust workability.

C. COLOR COAT: Mix the factory-prepared material with a clean, rust-free paddle and drill until thoroughly blended. A small amount of clean, potable water may be added to adjust workability. Do not overwater.
D. TINTED PRIMER: Mix the factory-prepared material with a clean, rust-free paddle and drill until thoroughly blended. A small amount of clean, potable water may be added to adjust workability. Do not overwater.
E. Finestone Finishes - PEBBLETEX, PEBBLETEX TERSUS, CHROMA, and ENCAUSTO VERONA Finish: Mix the factory-prepared material with a clean, rust-free paddle and drill until thoroughly blended. A small amount of clean, potable water may be added to adjust workability. Do not overwater.
F. Specialty Finishes - AURORA TC-100, AURORA STONE and ALUMINA Finish: Gently mix the contents of the pail for 1 minute using a low RPM ½" drill equipped with a mixing paddle such as a Demand Twister or a Wind-Lock B-MEW, B-M1 or B-M9.

G. ANTICOGLAZE: Mix the contents of the pail with a slow speed drill and paddle mixer until thoroughly blended.

3.04 APPLICATION

A. Accessories:

1. Attach Window/Door Drip Edge level and per manufacturer's instructions.

NOTE TO SPECIFIER: Keep only the products in this section which were selected in Section 2.02. Delete those not to be utilized.

B. Air/Water-Resistive Barrier:

1. All sheathing joints and windows/openings must be protected and the air/water-resistive barrier applied in accordance with *Air/Water-Resistive/Vapor Barrier Application Guideline* technical bulletin.
2. Substrate shall be dry, clean, sound, and free of releasing agents, paint, or other residue or coatings. Verify substrate is flat, free of fins or planar irregularities greater than 6.4 mm in 3 m (¼" in 10').
3. Unsatisfactory conditions shall be corrected before application of the Finestone air/water-resistive barriers.
4. Apply the SHEATHING FABRIC and Finestone air/water-resistive barrier in accordance with the Finestone air/water-resistive barrier product bulletin.
5. Apply the MAXFLASH in accordance with MAXFLASH product bulletin.
6. Installed materials shall be checked before continuing system application.
7. Ensure SHEATHING FABRIC Finestone air/water-resistive barrier or MAXFLASH overlaps the top flange of the starter track.
8. Installed materials shall be checked before continuing system application.

C. Lath:

1. PERMALTH 1000:
   a. Apply with minimum 76mm (3") overlap at vertical and horizontal edges and overlap on flange of trim accessories. PERMALATH 1000 can be applied horizontally or vertically and should be applied such that it is flat and free of ripples, wrinkles, etc. Fastener System type appropriate for application and substrate, reference PERMALTH 1000 product bulletin. Fastener spacing 152 mm (6" o.c.) vertically and 406 mm (16" o.c.) horizontally.
   b. Install PEBBLETEX ADHERED MAT DESIGN within 60 days of PERMALATH 1000 application.
   c. Refer to ASTM C1787 for additional fastening information
2. Expanded Metal Lath:
   a. The metal lath shall be applied with minimum 13 mm (1/2") side laps and 25 mm (1") end laps.
   b. When end laps occur between supports, lace or wire ties the ends of the sheets with 1.2 mm (0.0475") galvanized annealed steel wire.
   c. Refer to ASTM C1063 for additional fastening information.

D. Insulation Board:

1. Vertical surfaces: begin at base of wall with firm, temporary support or spacer.
2. Stagger joints horizontally in a running bond pattern offset a minimum of 6".
3. Pre-cut insulation board to fit openings and projections. Insulation board must be a single piece around corners of openings. Stagger vertical joints and corners. Stagger insulation and sheathing board joints. Offset insulation board joints from sheathing joints by a minimum of 16".
4. Apply mixed Finestone Base Coat to entire surface of insulation board using a stainless steel trowel with 13 mm x 13 mm (1/2"x 1/2") notches spaced 50 mm (2") apart. Ribbons of adhesive must be applied parallel to the 2' dimension of the EPS insulation board to ensure they are vertical when the EPS insulation board is applied to the substrate.
5. Immediately set board into place and apply pressure over entire surface of board to ensure positive uniform contact and high initial grab. Do not slide board into place. Do not allow base coat to dry prior to installing.
6. Abut all joints tightly and ensure overall flush level surface.
7. Fill 1/16" and larger gaps between insulation boards with slivers of insulation board.
8. Check adhesion periodically by removing a board prior to set. Properly installed insulation board will be difficult to remove and Finestone adhesive/base coat will be adhered to both the Finestone air/water-resistive barrier and the insulation board.

9. Allow application of insulation board to dry (normally 8 to 10 hours) prior to application of base coat/reinforcing mesh.
10. Rasp flush any irregularities of the insulation board greater than 1.6 mm (1/16").
11. Install expansion joints and aesthetic grooves as indicated on drawings. Do not align aesthetic grooves with insulation board joints.

E. Finestone Base Coat/Reinforcing Mesh:

1. Base coat shall be applied so as to achieve reinforcing mesh embedment with no reinforcing mesh color visible.

NOTE TO SPECIFIER: Indicate on drawings the required locations of standard, medium, high or ultra-high impact reinforcing mesh.

F. Finestone CORNER MESH:

1. Install CORNER MESH at corners.
2. Apply CORNER MESH prior to application of reinforcing mesh.
3. Cut CORNER MESH to workable lengths.
4. Apply mixed Finestone Base Coat to insulation board at outside corners using a stainless steel trowel.
5. Immediately place CORNER MESH against the wet base coat and embed the CORNER MESH into the Base Coat by troweling from the corner; butt edges and avoid wrinkles.
6. After base coat is dry and hard, apply a layer of STANDARD MESH, INTERMEDIATE 6 or 12 Reinforcing Mesh over the entire surface of the CORNER MESH in accordance with 3.04 F.

G. Standard Impact or Medium Impact Resistance Reinforcing Mesh: STANDARD MESH INTERMEDIATE 6 and INTERMEDIATE 12

1. Install Finestone Reinforcing Mesh where indicated on drawings.
2. Apply mixed Finestone Base Coat to entire surface of insulation board with a stainless steel trowel to embed the Reinforcing Mesh.
3. Immediately place Finestone Reinforcing Mesh against wet base coat and embed the reinforcing mesh into the base coat by troweling from the center to the edges.
4. Lap reinforcing mesh 64 mm (2 ½") minimum at edges.
5. Ensure reinforcing mesh is continuous at corners, void of wrinkles and embedded in base coat so that no reinforcing mesh color is visible.
6. If required, apply a second layer of base coat to achieve total nominal base coat/reinforcing mesh thickness of 1.6 mm (1/16").
7. Allow base coat with embedded reinforcing mesh to dry hard (normally 8 to 10 hours).

H. High Impact or Ultra High Impact Resistance Reinforcing Mesh: INTERMEDIATE 12, STRONG 15 and HI-IMPACT 20

NOTE TO SPECIFIER: Where STRONG 15 or HI-IMPACT 20 is specified, STANDARD MESH or INTERMEDIATE 6 must be specified also.

1. Install Finestone Reinforcing Mesh where indicated on drawings.
2. Apply mixed Finestone Base Coat to entire surface of insulation board with a stainless steel trowel to embed the reinforcing mesh.
3. Immediately place Finestone Reinforcing Mesh against wet base coat and embed the Reinforcing Mesh into the base coat by troweling from the center to the edges.
4. Butt Finestone Reinforcing Mesh at all adjoining edges; do not use to backwrap or bend around corners.
5. Butt Finestone Reinforcing Mesh at adjoining edges of CORNER MESH.
6. Ensure reinforcing mesh is free of wrinkles and embedded in base coat so that no reinforcing mesh color is visible.
7. After base coat with embedded reinforcing mesh is dry and hard (normally 8 to 10 hours), apply a layer of STANDARD MESH or INTERMEDIATE 6 Reinforcing Mesh over the entire surface in accordance with 3.04 F to achieve total nominal base coat/ reinforcing mesh thickness of 2.4 mm (3/32").

I. COLOR COAT:

1. Apply material to the base coat/reinforcing mesh in sealant joints with a high-quality, latex-type paintbrush.
2. Work material continuously until a uniform appearance is obtained.
3. Allow to dry thoroughly (approximately 24 hours) prior to application of sealant primer and sealant.

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J. TINTED PRIMER:

1. Apply Primer to the base coat/reinforcing mesh with a sprayer, ⅜" (10 mm) nap roller, or good quality latex paint brush at a rate of approximately 150–250 ft² per gallon (3.6–6.1m² per liter).
2. Primer shall be dry to the touch before proceeding to the Finestone Finish coat application.

K. Finestone Finish Coat: PEBBLETEX, PEBBLETEX TERSUS and CHROMA.

1. Apply Finestone finish directly to the base coat with a clean, stainless steel trowel.
2. Apply and level Finestone finish during the same operation to minimum obtainable thickness consistent with uniform coverage.
3. Maintain a wet edge on Finestone finish by applying and texturing continually over the wall surface.
4. Work Finestone finish to corners, joints or other natural breaks and do not allow material to set up within an uninterrupted wall area.
5. Float Finestone finish to achieve final texture.

L. Specialty Finish:

1. AURORA TC-100 Finish:
   a. Apply TINTED PRIMER by Master Builders Solutions to substrate in accordance with current product bulletin. Primer shall be of corresponding color for selected AURORA TC-100 Finish color. Allow Primer to dry to the touch before proceeding Finish application.
   b. Apply a tight coat of finish with a clean, stainless steel trowel.
   c. Maintain a wet edge on finish by applying and leveling continually over the wall surface.
   d. Work finish to corners, joints or other natural breaks and do not allow material to set up within an uninterrupted wall area. Allow first coat to set until surface is completely dry prior to applying a second coat of finish.
   e. For a smooth appearance, use a stainless-steel trowel and apply the second coat of finish. Achieve final texture using circular motions.
   f. For a textured appearance, apply the second coat of finish using a spray gun and hopper. Double-back to achieve final texture.
   g. Total thickness of finish shall be approximately 1/16 (1.6 mm).
2. AURORA STONE Finish:
   a. Apply TINTED PRIMER by Master Builders Solutions to substrate in accordance with current product bulletin. Primer shall be of corresponding color for selected AURORA STONE Finish color. Allow Primer to dry to the touch before proceeding Finish application.
   b. Apply a coat of Finish using a spray gun and hopper, maintaining a wet edge. Work to corners, joints or other natural breaks and do not allow material to set up within an uninterrupted wall area.
   c. Allow first coat of AURORA STONE Finish to set until surface is completely dry prior to applying a second coat of Finish.
   d. Apply a second coat of Finish using a spray gun and hopper; double back to achieve final texture.
   e. Thickness of Finish may vary between 1/16" (1.6 mm) and 1/8" (3.2 mm), depending upon texture.

   Note: Spraying of AURORA STONE shall be in the same manner and direction and by the same mechanic on a particular elevation or project whenever possible, to maintain a uniform appearance. Maintain consistent air pressure to minimize texture variations. Stator or rotor design pumps are not recommended.
3. ALUMINA Finish:
   a. Apply TINTED PRIMER by Master Builders Solutions to substrate in accordance with current product bulletin. Primer shall be of corresponding color for selected ALUMINA Finish color. Allow Primer to dry to the touch before proceeding Finish application.
   b. Apply a tight coat of finish with a clean, stainless steel trowel.
   c. Maintain a wet edge on finish by applying and leveling continually over the wall surface.
   d. Work finish to corners, joints or other natural breaks and do not allow material to set up within an uninterrupted wall area. Allow first coat to set until surface is completely dry prior to applying a second coat of finish
   e. Use a stainless-steel trowel and apply the second coat of finish. Achieve final texture using circular motions
   f. Total thickness of finish may be between 1/16" (1.6 mm) and 1/8" (3.2 mm)

M. ANTICOGLAZE Glaze/Stain: Apply in accordance with recommendations contained in current product literature.

3.05 CLEANING
A. Clean work under provisions of Section [01 74 00] [ ].
B. Clean adjacent surfaces and remove excess material, droppings, and debris.

3.06 PROTECTION
A. Protect base coat from rain, snow and frost for 48–72 hours following application.
B. Protect installed construction under provisions of Section [01 76 00] [ ].

END OF SECTION

WARRANTY
Master Builders Solutions Construction Systems US, LLC (hereinafter "Master Builders Solutions") warrants this product to be free from manufacturing defects and to meet the technical properties on the current Product Bulletin, if used as directed within shelf life. Satisfactory results depend not only on quality products but also upon many factors beyond our control. MASTER BUILDERS SOLUTIONS MAKES NO OTHER WARRANTY OR GUARANTEE, EXPRESS OR IMPLIED, INCLUDING WARRANTIES OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE WITH RESPECT TO ITS PRODUCTS. The sole and exclusive remedy of Purchaser for any claim concerning this product, including but not limited to, claims alleging breach of warranty, negligence, strict liability or otherwise, is shipment to purchaser of product equal to the amount of product that fails to meet this warranty or refund of the original purchase price of product that fails to meet this warranty, at the sole option of Master Builders Solutions. In the absence of an extended warranty issued by Master Builders Solutions, any claims concerning this product must be received in writing within one (1) year from the date of shipment and any claims not presented within that period are waived by Purchaser. Master Builders Solutions WILL NOT BE RESPONSIBLE FOR ANY SPECIAL, INCIDENTAL, CONSEQUENTIAL (INCLUDING LOST PROFITS) OR PUNITIVE DAMAGES OF ANY KIND.

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