Master Wall Guide Specification RDCIFS
Rollershield Drainage CIFS®

PART I – GENERAL

1.01 SUMMARY

A. This document is to be used in preparing specifications for projects utilizing the Master Wall Inc.® Rollershield Drainage CIFS® is a Continuous Insulation and Finish System (CIFS) and Exterior Insulation and Finish System (EIFS) meeting Class PB (polymer-based) drainage type Exterior Insulation and Finish System (EIFS) classifications and designed to provide drainage of incidental water entering the system. Related Master Wall Inc.® documents:
   1. Master Wall Inc.® Rollershield Drainage CIFS® Data Sheet
   2. Master Wall Inc.® Rollershield Drainage CIFS® Application Instructions
   3. Master Wall Inc.® Rollershield Drainage CIFS® Installation Details
   4. Master Wall product data sheets

B. Related Sections
   1. Unit Masonry – Section 04200
   2. Concrete – Sections 03300 and 03400
   3. Light Gauge Cold Formed Steel Framing – Section 05400
   4. Wood Framing – Section 06100
   5. Sealant – Section 07900
   6. Flashing – Section 07600

1.02 SUBMITTALS

A. Manufacturer's specifications, details, installation instructions and product data
B. Manufacturer’s code compliance report
C. Manufacturer's standard warranty
D. Applicator's industry training credentials
E. Samples for approval as directed by architect or owner
F. Sealant manufacturer's certificate of compliance with ASTM C 1382
G. Prepare and submit project-specific details (when required by contract documents)

1.03 REFERENCES

A. ASTM Standards:

ASTM B117 (Federal Test Standard 141A Method 6061) Standard Practice for Operating Salt Spray (Fog) Apparatus
ASTM C150 Standard Specification for Portland Cement
ASTM C297 Standard Test Method for Flatwise Tensile Strength of Sandwich Constructions
ASTM C578 Specification for Preformed Cellular Polystyrene Thermal Insulation
ASTM C1177 Standard Specification for Glass Mat Gypsum Substrate for Use as Sheathing
ASTM C1396 (formerly C 79) Standard Specification for Gypsum Board
ASTM D968 (Federal Test Standard 141A Method 6191) Standard Test Methods for Abrasion Resistance of Organic Coatings by Falling Abrasive
ASTM D1784 Specification for Rigid Poly (Vinyl Chloride) (PVC) and Chlorinated Poly (Vinyl Chloride) (CPVC) Compounds
ASTM D2247 (Federal Test Standard 141A Method 6201) Standard Practice for Testing Water Resistance of Coatings in 100% Relative Humidity

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ASTM D3273 Standard Test Method for Resistance to Growth of Mold on the Surface of Interior Coatings in an Environmental Chamber
ASTM E84 Standard Test Method for Surface Burning Characteristics of Building Materials
ASTM E96 Test Methods for Water Vapor Transmission of Materials
ASTM E330 Test Method for Structural Performance of Exterior Windows, Doors, and Curtain Walls by Uniform Static Air Pressure Difference
ASTM E331 Test Method for Water Penetration of Exterior Windows, Skylights, Doors, and Curtain Walls by Uniform Static Air Pressure Difference.
ASTM E2098 Test Method for Determining Tensile Breaking Strength of Glass Fiber Reinforcing Mesh for Use in Class PB Exterior Insulation and Finish System after exposure to Sodium-Hydroxide Solution
ASTM E2134 Test Method for Evaluating the Tensile-Adhesion Performance of an Exterior Insulation and Finish System (EIFS)
ASTM E2178 Test Method for Air Permeance of Building Materials
ASTM E2273 Test Method for Determining the Drainage Efficiency of Exterior Insulation and Finish System (EIFS) Clad Wall Assemblies
ASTM E2357 Standard Test Method for Determining Air Leakage of Air Barrier Assemblies
ASTM E2485 (formerly EIMA Std. 101.01) Standard Test Method for Freeze-Thaw Resistance of Exterior Insulation and Finish Systems (EIFS) and Water-Resistive Barrier Coatings
ASTM E2486 (formerly EIMA Std. 101.86) Standard Test Method for Impact Resistance of Class PB and PI Exterior Insulation and Finish Systems (EIFS)
ASTM E2568 Standard Specification for Class PB Exterior Insulation and Finish Systems
ASTM E2570 Test Method for Water-Resistive (WRB) Coatings used Under Exterior Insulation and Finish Systems (EIFS) or EIFS with Drainage
ASTM G23 Standard Practice for Operating Light-Exposure Apparatus (Carbon-Arc Type) with and without Water for Exposure of Nonmetallic Materials
ASTM G53 Practice for Operating Light- and Water-Exposure Apparatus (Fluorescent UV-Condensation Type) for Exposure of Nonmetallic Materials

B. Building Code Standards

AC235 Acceptance Criteria for EIFS Clad Drainage Wall Assemblies (November 2009)

C. National Fire Protection Association (NFPA) Standards

NFPA 268 Standard Test Method for Determining Ignitibility of Exterior Wall Assemblies Using a Radiant Heat Energy Source
NFPA 285 Standard Method of Test for the Evaluation of Flammability Characteristics of Exterior Non-Load Bearing Wall Assemblies containing Combustible Components Using the Intermediate-Scale, Multistory Test Apparatus

D. Other Referenced Documents

American Association of Textile Chemists and Colorists AATCC-127 Water Resistance: Hydrostatic Pressure Test
APA Engineered Wood Association E30, Engineered Wood Construction Guide
UES Evaluation Report 384, Rollershield Water Barrier
UES Evaluation Report 433, Master Wall EIF Systems

1.04 SYSTEM DESCRIPTION

A. General: The Master Wall Inc.® Rollershield Drainage CIFS® is a continuously insulated (CI) Exterior Insulation and Finish System, Class PB (polymer-based), consisting of an air/water barrier, adhesive, insulation board, base coat, reinforcing mesh(es) and finish. The System shall be attached over an approved substrate in accordance with the Rollershield Drainage CIFS® application details.

B. Methods of Installation

1. Field Applied: The Rollershield Drainage CIFS® is applied to the substrate in place.
2. Panelized: The Rollershield Drainage CIFS® is shop-applied to the prefabricated wall panels.

C. Design Requirements

1. Acceptable substrates for the Rollershield Drainage CIFS® shall be:
   a. Exterior sheathing having a water-resistant core with fiberglass mat facers meeting ASTM C 1177.
   b. Exterior fiber reinforced cement or calcium silicate boards.
   c. APA Exterior or Exposure 1 Rated Plywood, Grade C-D or better, nominal 12.7 mm (1/2 in), minimum 4-ply.
   d. Unglazed, unpainted brick, cement plaster, concrete, or masonry.
   e. APA Exposure 1 rated Oriented Strand Board (OSB) or plywood, nominal 12.7 mm (1/2 in).

f. Other substrates approved in writing from the manufacturer.

2. Deflection of substrate systems shall not exceed 1/240 times the span.
3. The substrate shall be flat within 6.4 mm (1/4 in) in a 3.05 m (10 ft) radius.
4. The recommended slope of inclined surfaces is not less than 6:12, and the length shall not exceed 305 mm (12 in).
5. All areas requiring an impact resistance classification higher than "medium", as defined by ASTM E 2486 (formerly EIMA Std. 101.86), shall be as detailed in the drawings, and described in the contract documents.
6. Expansion Joints
   a. Design and location of expansion joints in the Rollershield Drainage CIFS® is the responsibility of the project designer and shall be noted on the project drawings. As a minimum, expansion joints shall be placed at the following locations:
      1) Where expansion joints occur in the substrate system.
      2) Where building expansion joints occur.
      3) At floor lines in wood frame construction (Reference Technical Bulletin #140).
      4) At floor lines of non-wood framed buildings where significant movement is expected.
      5) Where the Rollershield Drainage CIFS® abuts dissimilar materials.
      6) Where the substrate type changes
      7) Where prefabricated panels abut one another
      8) Where significant structural movement occurs such as changes in roofline, building shape or structural system.
7. Terminations
   a. Interior foam expanding foam sealant may be required behind penetration openings.
   b. The Rollershield Drainage CIFS® shall be held back from adjoining materials around openings and penetrations such as windows, doors, and mechanical equipment a minimum of 12.7 mm (1/2 in) for sealant application. Sealant joints shall be properly sized and designed for their anticipated movement (Reference Master Wall Inc.® Technical Bulletins #148 & 149).
   c. The system shall be terminated a minimum of 152 mm (6 in) above finished grade, 50 mm (2 in) above pavement or 19 mm (3/4 in) above supported surfaces.
   d. Sealants
      1) Shall be manufactured and supplied by others.
      2) Shall be compatible with Rollershield Drainage CIFS® materials. Refer to current Master Wall Inc.® Technical Bulletin #131 for listing of sealants approved by sealant manufacturer for use with EIFS.
      3) The sealant backer rod shall be of closed cell.
8. Vapor Retarders and barriers – The use and location of vapor retarders and/or barriers within a wall assembly is the responsibility of the project designer and shall comply with local building code requirements.
9. Dark Colors - The use of dark colors must be considered in relation to wall surface temperature as a function of local climatic conditions. Use of dark colors in high temperature climates can affect the performance of the system.
10. Flashing: Shall be provided at all roof-wall intersections, windows, doors, chimneys, decks, balconies, and other areas as necessary to prevent water from entering behind the Rollershield Drainage CIFS® and wall system.

1.05 PERFORMANCE REQUIREMENTS

A. Rollershield Drainage CIFS® shall have been tested as follows:

Air/Moisture Barrier Performance

TEST	METHOD	CRITERIA	RESULT
1. Water Penetration Resistance	AATCC 127 (Water Column) ICC ES (AC 212)*	Resist 21.6 in (55 cm) water for 5 hours before and after aging	Pass
2. Water Penetration Resistance after Cyclic Wind Loading	ASTM E 1233 / ASTM E 331	No water penetration beyond the inner-most plane of the wall after 15 minutes at 137 Pa (2.86 psf)	No water penetration
3. Water Resistance Testing	ASTM D 2247 ICC ES (AC 212)*	Absence of deleterious effects after 14-day exposure	Pass: Plywood Cement Board, OSB, Exterior Gypsum (ASTM C79/C1396) and Dens Glass Gold (ASTM C1377) substrates
4. Water Vapor Transmission	ASTM E 96 Method B (Water Method)	Measure	30 perms (Rollershield-RS) 12 perms (Rollershield-TG)
5. Air Leakage (material)	ASTM E 2178	≤ 0.004 cfm/ft2 at 1.57 psf (0.02 L/s•m2 at 75 Pa)	0.0002 cfm/ft^2
6. Air Leakage (assembly)	ASTM E 2357	≤ 0.04 cfm/ft2 (0.2 L/s•m2) @ 75 Pa	0.003 L/s.m^2 @ 75 Pa 0.02 L/s.m^2 @ 300 Pa
7. Racking	ASTM E72 ICC ES (AC 212)*	No cracking in field, at joints or interface with flashing at net deflection of 3.2 mm (1/8 inch)	Pass
8. Freeze-thaw	ASTM E2485/ICC-ES Proc. ICC ES (AC 212)*	No deleterious effects after 10 cycles	Pass: Plywood, Cement Board, OSB, Exterior Gypsum (ASTM C79/C1396) and Dens Glass Gold (ASTM C1377) substrates
9. UV Exposure	ICC ES Proc. ICC ES (AC 212)*	210 hours of exposure	Pass
10. Surface Burning	ASTM E 84	Flame Spread 0 – 25 for NFPA Class A, UBC Class I	Flame Spread: 5 Smoke Density: 5
11. Tensile Adhesion	ASTM C 297	>15 psi (103 kPa)	Dens Glass Gold 31 (215), Exterior Gypsum 28 (194), OSB 40 (277), Plywood 79 (563), Cement Board 70 (485), Copper 185 (1282), Galvanized steel 180 (1248), PVC 168 (1165), Aluminum 184 (1275), Coated Aluminum 203 (1407), Stainless Steel 183 (1269)

* AC212 – Acceptance Criteria for Water-Resistive Coatings Used as Water-Resistive Barriers over Exterior Sheathing, also referred to as ASTM E 2570

EIFS Weather Resistance and Durability Performance*

TEST	METHOD	CRITERIA	RESULTS
1. Accelerated Weathering	ASTM G 153 (Formerly ASTM G 23)	No deleterious effects at 2000 hours when viewed under 5x magnification	Pass
2. Accelerated Weathering	ASTM G 154 (Formerly ASTM G 53)	No deleterious effects at 2000 hours	Pass
3. Freeze/Thaw Resistance	ASTM E 2485	No deleterious effects at 10 cycles when viewed under 5x magnification	Pass
4. Water Penetration	ASTM E 331 (modified per ICC-ES AC 235)	No water penetration beyond the plane of the base coat/insulation board interface after 15 minutes at 6.24 psf (299 Pa) or 20% of design wind pressure, whichever is greater	Pass at 2.86 psf (137 Pa), 6.24 psf (299 Pa), and 12.0 psf (575 Pa) consecutively
5. Drainage Efficiency	ASTM E 2273	90% minimum	99.2%
6. Tensile Adhesion	ASTM E 2134	Minimum 15 psi (103kPa) tensile strength	Plywood/EPSA 67 psi (464) OSB/EPSA 22 psi (152) Brick/F&M 105 psi (728) Concrete/F&M 94 psi (651) Gypsum/F&M 30 psi (208)
7. Water Resistance	ASTM D 2247	No deleterious effects at 14-day exposure	Pass @ 28 days
8. Salt Spray	ASTM B 117	No deleterious effects* at 300 hours	Pass @ 300 hrs
9. Abrasion Resistance	ASTM D 968	No cracking or loss of film integrity at 528 quarts (500 L) of sand	Pass
10. Mildew Resistance	ASTM D 3273	No growth supported during 28-day exposure period	Pass
11. Impact Resistance	ASTM E 2486	Level 1: 25-49 in-lbs (2.83-5.54J) Level 2: 50-89 in-lbs (5.65-10.1J) Level 3: 90-150 in-lbs (10.2-17J) Level 4: >150 in-lbs (>17J)	Pass with one-layer Standard Mesh Pass with one-layer Standard Mesh Pass with Medium & Standard Mesh Pass with Strong & Standard Mesh
12. Transverse Wind Load	ASTM E330	Withstand positive and negative wind loads as specified by the building code.	Pass. Assemblies vary from 68-287 psf*

* Ultimate wind loads – contact Master Wall for specific assemblies.

Air/Moisture Barrier and EIFS Fire Performance

TEST	METHOD	CRITERIA	RESULT
1. Fire Endurance	ASTM E 119	Maintain fire resistance of existing rated assembly	See Technical Bulletin MW#168 for assemblies
2. Intermediate Scale Multi-Story Fire Test	NFPA 285 (Formerly UBC Standard 26-9)	1. Resistance to vertical spread of flame within the core of the panel from one story to the next 2. Resistance to flame propagation over the exterior surface 3. Resistance to vertical spread of flame over the interior surface from one story to the next 4. Resistance to significant lateral spread of flame from the compartment of fire origin to adjacent spaces	Pass
3. Radiant Heat Ignition	NFPA 268	No ignition @ 20 minutes	Pass
4. Surface Burning (individual components)	ASTM E 84	Individual components shall each have a flame spread of 25 or less, and smoke developed of 450 or less	Flame Spread: 0 Smoke Developed: 0

EIFS Component Performance

TEST	METHOD	CRITERIA	RESULT
1. Alkali Resistance of Reinforcing Mesh	ASTM E2098 (formerly EIMA 105.01)	Greater than 120 pli (21 dN/cm) retained tensile strength	Pass
2. Requirements for Rigid PVC Accessories	ASTM D 1784	Meets cell classification 13244C	Pass
EPS (Physical Properties)	ASTM C303, D1622		Pass
Thermal Resistance	ASTM C272	4.0 @ 4.4 °C (40 °F) 3.6 @ 23.9 °C (75 °F)	Pass
Flame Spread Smoke Developed	ASTM E84	25 max. 450 max.	Pass

1.06 QUALITY ASSURANCE

A. Qualifications

1. System Manufacturer: Shall be Master Wall Inc.®. All materials shall be manufactured or sold by Master Wall Inc.® and shall be purchased from Master Wall Inc.® or its authorized distributors.
2. Contractor: Shall be knowledgeable in the proper installation of the Master Wall Inc.® Rollershield Drainage CIFS® and shall be experienced and competent in the installation of Exterior Insulation and Finish Systems. Additionally, the contractor shall possess a current Master Wall Inc.® applicator certificate issued by Master Wall Inc.®
3. Insulation Board Manufacturer: Shall be approved by Master Wall Inc.®, shall be capable of producing the Expanded Polystyrene (EPS) in accordance with current Master Wall Inc.® specification and code requirements and have a third-party quality assurance program in place.

B. Regulatory Requirements

1. The insulation board shall be separated from the interior of the building by a minimum 15-minute thermal barrier.
2. The use and maximum thickness of the insulation board shall be in accordance with the applicable building codes.

C. Certification

1. The Rollershield Drainage CIFS® shall be recognized for the intended use by the applicable building code(s).

D. Mock-Up

1. The contractor shall, before the project commences, provide the owner/architect with a mock-up for approval.
2. The mock-up shall be of suitable size as required to accurately represent the products being installed, as well as each color and texture to be utilized on the project.
3. The mock-up shall be prepared with the same products, tools, equipment, and techniques required for the actual application. The finish used shall be from the same batch that is being used on the project.
4. The approved mock-up shall be available and maintained at the job site.
5. For panelized construction, the mock-up shall be available and maintained at the panel fabrication location.

1.07 DELIVERY, STORAGE AND HANDLING

A. All Master Wall Inc.® materials shall be delivered to the job site in the original, unopened packages with labels intact.

B. Upon arrival, materials shall be inspected for physical damage, freezing, or overheating. Questionable materials shall not be used.

C. Deliver all materials in original unopened packages with labels intact. Verify all quantities, colors, and textures against bill of lading.

D. Store all materials protected from direct exposure to weather conditions and at temperatures not less than 40°F (4°C) or greater than 110°F (43°C).

E. Stack insulation board flat, fully supported off the ground and protected from direct exposure to the sun.

F. Material Safety Data Sheets (MSDS) or Safety Data Sheets (SDS) shall be supplied for the components of the EIFS and be available at the job site.

1.08 PROJECT CONDITIONS

A. Ambient air temperatures shall be 40°F (4°C) or greater and rising at the time of installation of the Master Wall Inc.® products and shall remain at 40°F (4°C) or greater for at least 24 hours after application except where other limits are noted on product data sheets.

B. Provide supplemental heat and protection as required when the temperature and conditions are not in accordance with installation requirements. Sufficient ventilation and time shall be provided to ensure that materials have sufficiently dried prior to removing supplemental heat.

C. Adequate protection shall be provided to prevent weather conditions (humidity, temperature, and precipitation) from having an effect on the curing or drying time of Master Wall Inc.® materials.

D. Adjacent materials and the Rollershield Drainage CIFS® shall be protected during installation and while curing from weather and shall be protected from site damage.

E. Coordinate installation of the Rollershield Drainage CIFS® with related work specified in other sections to ensure that the wall assembly is protected to prevent water from getting behind the system. The cap flashing shall be installed as soon as possible after the finish coat has been applied. If this is not possible, temporary protection shall be provided immediately in this area.

F. All sealant work shall be installed in a timely manner. Protect open joints from water intrusion during construction with backer rod, or temporary covering, until permanently sealed.

G. Sufficient workforce and equipment shall be employed to ensure a continuous operation, free of cold joints, scaffolding lines, and texture variations, etc.

H. Existing Conditions - The contractor shall have access to electric power, clean water, and a clean work area at the location where the Master Wall Inc.® materials are to be applied.

I. Exposure Limitations – Rollershield LAB is limited to a maximum of 30 days exposure when Rollershield Drainage CIFS® EIFS is to be adhered to the product. The surface must be clean and dry prior to application of EIFS. Under all other cladding products, the exposure limitation is a maximum of six months.

1.09 SEQUENCING AND SCHEDULING

A. Installation of the Rollershield Drainage CIFS® shall be coordinated with other construction trades.

B. Sufficient workforce and equipment shall be employed to ensure continuous operation, free of cold joints, scaffold lines, texture variations, etc.

1.10 LIMITED MATERIALS WARRANTY

A. Provide a manufacturer's warranty against defective material upon request.

1.11 MAINTENANCE

A. Maintenance and repair shall follow the procedures noted in Master Wall Inc.® Technical Bulletins #112 and #129.

PART II – PRODUCTS

2.01 MANUFACTURER

A. All components of the Rollershield Drainage CIFS® shall be supplied or obtained from Master Wall Inc.® or its authorized distributors. Substitutions or additions of materials other than specified will void the warranty.

2.02 MATERIALS

A. Portland Cement: Shall be Type I or II, meeting ASTM C 150, white or gray in color, fresh and free of lumps.
B. Water: Shall be potable, clean, and free of foreign matter.
C. Metal Flashing Components: Complying with SMACNA Recommendations. Reference Section 07620.
D. Sealant Systems: Reference Sealant Specification, Section 07900.
E. Window & Door Systems: Detailed by the designer and suitable for EIFS. Reference Section 08000.

2.03 COMPONENTS

(Typical Application/Optional Component)

A. Starter Tracks/Drainage Tracks
1. Vinyl Corp. foundation sill screed product #WS50-250U, Plastic Components Product # 632-50, Amico Foundation Weep Screed AMFWS425-500, Amico Foundation Weep Screed (NO. 7) or approved equal.
2. SuperiorShield Drainage Venting Roll manufactured by Master Wall Inc.®.
3. Vinyl Corp. PB Starter Strip/Casing Bead product # CBS 150-16W or Plastic Components Starter Trac product # STWP-15 shall be used in accordance with Master Wall Inc.® details.
4. Alternate termination methods may be used in accordance with Master Wall Inc.® details and recommendations.

B. Sheathing Joint Treatment/Transition Treatment
1. SuperiorShield Flashing Tape, 4” (104 mm) width, other widths available.
2. SuperiorShield SuperiorFlash: Fluid applied flashing.
3. SuperiorShield SMP Sealant: Fluid applied seam sealer.
4. SuperiorShield Mesh: Lightweight self-adhesive woven mesh.

C. SuperiorShield Weather Resistive Barrier & Flashing
1. SuperiorShield Rollershield (RS): A flexible polymer-based roll applied air barrier and waterproof membrane.
2. SuperiorShield Trowel Grade (TG): A trowel grade air barrier and waterproof membrane.
3. SuperiorShield Vapor Barrier (VB): A vapor barrier version of Rollershield, recommended only for specific assemblies.
4. SuperiorShield WeatherSTOP Tape: Flexible peel & stick flashing tape.
5. SuperiorShield SuperiorFlash: Fluid applied flashing.

D. Adhesive
1. Master Wall Inc.® Foam & Mesh (F&M) Adhesive: An acrylic-based product mixed one-to-one by weight with Portland cement designed for use as an adhesive for the insulation board.
2. Master Wall Bagged Base Coat (MBB): A polymer based cementitious product mixed with 5 to 6 quarts of water for use as an adhesive for the insulation board.

3. F&M Plus: An acrylic-based high build product mixed one-to-one by weight with Portland cement for use as an adhesive for the insulation board.
4. Dow® INSTA STIK™ Foam Adhesive.

E. Insulation Board
1. The Insulation Board shall meet or exceed ASTM C-578.
2. Flamespread and smoke development shall be 25 and 450 or less respectively per ASTM E-84.
3. Maximum size 2'x4'x4" (.61 m x 1.22 m x 102 mm). Refer to actual contract documents to determine actual insulation board thickness.
4. Insulation Board Type:
   a. ASTM C578, Type I, 0.90pcf minimum density flat insulation board, R3.6@75°F (Standard Wall Grade).
   b. ASTM C578, Type I, 0.90pcf minimum density grooved insulation board, R3.6@75°F.
   c. ASTM C578, Type II, 1.35pcf minimum density flat insulation board, R4@75°F.
   d. ASTM C578, Type II, 1.35pcf minimum density grooved insulation board, R4@75°F.
   e. ASTM C578, Type VIII, 1.15pcf minimum density flat insulation board, R3.8@75°F.
   f. ASTM C578, Type VIII, 1.15pcf minimum density grooved insulation board, R3.8@75°F.
   g. Dow® STYROFOAM™ Panel Core 20 ASTM C578, Type X, 1.5pcf minimum density flat insulation board, R5.0@75°F.
   h. Owens Corning® Foamular® 250 ASTM Type IV, planed.
   i. Neopor® GPS Insulation Board ASTM C578, Type I, 0.90pcf, minimum density, 10psi rated flat insulation board, R5.0@75°F (at 1-1/16" thickness) with additional support of four Wind-Devil 2 plate or approved equal with the appropriate corrosion-resistant fastener to meet Neopor® requirements. Two coats of Rollershield-RS are required.
   j. Neopor® GPS Insulation Board ASTM C578, Type I, 0.90pcf, minimum density, 10psi rated grooved insulation board, R5.0@75°F (at 1-1/16" thickness) with additional support of four Wind-Devil 2 plate or approved equal with the appropriate corrosion-resistant fastener to meet Neopor® requirements. Two coats of Rollershield-RS are required.
   k. Neopor® GPS Insulation Board ASTM C578, Type II, 1.35pcf, minimum density, 15 psi rated flat insulation board, R5.0@75°F (at 1-1/16" thickness) with additional support of four Wind-Devil 2 plate or approved equal with the appropriate corrosion-resistant fastener to meet Neopor® requirements. Two coats of Rollershield-RS are required.
   l. Neopor® GPS Insulation Board ASTM C578, Type II, 1.35pcf, minimum density, 15 psi rated grooved insulation board, R5.0@75°F (at 1-1/16" thickness) with additional support of four Wind-Devil 2 plate or approved equal with the appropriate corrosion-resistant fastener to meet Neopor® requirements. Two coats of Rollershield-RS are required.
   m. Neopor® GPS Insulation Board ASTM C578, Type VIII, 1.15pcf, minimum density, 14 psi rated flat insulation board, R5.0@75°F (at 1-1/16" thickness) with additional support of four Wind-Devil 2 plate or approved equal with the appropriate corrosion-resistant fastener to meet Neopor® requirements. Two coats of Rollershield-RS are required.

n. Neopor® GPS Insulation Board ASTM C578, Type VIII, 1.15pcf, minimum density, 14 psi rated grooved insulation board, R5.0@75°F (at 1-1/16" thickness) with additional support of four Wind-Devil 2 plate or approved equal with the appropriate corrosion-resistant fastener to meet Neopor® requirements. Two coats of Rollershield-RS are required.

F. Reinforcing Mesh

Open weave glass fiber fabric, treated for alkaline resistance and compatibility with Master Wall Base Coats, and conforming ASTM D-76, D-579, D-5035, MIL-Y-1140 and meeting a minimum Medium Impact Resistance (50-89 in-lbs) when tested to EIMA 101.86 Impact Resistance Standards.

1. Detail Mesh
2. Standard Mesh
3. Hi-Tech Mesh
4. Medium Mesh
5. Strong Mesh
6. Ultra Mesh

G. Base Coats

1. Master Wall Inc.® Foam & Mesh (F&M) Base Coat: An acrylic-based product mixed one-to-one by weight with Portland cement for use with reinforcing mesh as the base coating over the insulation board.
2. Master Wall Bagged Base Coat (MBB): A polymer based cementitious product mixed with 5 to 6 quarts of water for use with reinforcing mesh as the base coating over the insulation board.
3. F&M Plus: An acrylic-based high build product mixed one-to-one by weight with Portland cement designed for use with reinforcing mesh as the base coating over the insulation board. (This product shall be used where indicated on the construction drawings when a leveling base coat is required.)
4. Expanded Polystyrene Base (EPSB): a 100% pure acrylic polymer based noncementitious base coat.

H. Water Resistant Adhesive & Base Coat

1. Guardian – An acrylic-based product mixed one-to-one by weight with Portland cement for use as the adhesive to bond insulation board to an approved substrate and/or as a base coat with reinforcing mesh over insulation board. (This product should be used as designated on the construction drawings where additional resistance to moisture is needed.)

I. Primer – Especially useful under dark colors

1. Primecoat Primer - Acrylic-based tintable primer
2. Sanded Primecoat Primer - Acrylic-based tintable primer with sand

J. Superior Finishes: Master Wall Inc.® Superior Finishes are acrylic-based dirt pickup resistant (DPR) wall coatings available in a variety of colors and textures. The following textures are available:

1. Perfect 2.0 - riled texture
2. Fine Sand 1.0 – sand type texture
3. Medium Sand 1.5 – coarse sand texture
4. Versatex 0.5 – Fine texture used to create numerous finishes

K. Finish Enhancements

1. Silicone Coat - Factory added silicone enhancement for better water resistance and to keep buildings cleaner.

2. Excel Mildew Enhancement - Factory added mildew booster exceeding ASTM D3273 requirements.
3. Elastomeric Plus - Increases flexibility and bridges minor hairline cracks.
4. DuroTone Pigments – Hi performance inorganic pigment for bright or dark colors.

L. Specialty Finishes
1. Aggrelime – Limestone Look Finish
2. Aggre-stone – Rough Granite Look
3. CIFS® Brick - Realistic Brick
4. CIFS® Wood Grain
5. Brick Stencil
6. LaCantera – Beautiful Cantera Stone Look
7. Lumia – Granite with Sparkling Mica
8. Metallic Cote – Metallic Look Finish Coating
9. Metal-Tex - Integrally Colored Metallic Look Textured Finish
10. Savannah – Interior/Exterior Venetian Plaster Type Finish
11. Superior Finishes HP – Hydrophobic Textured Finish
12. Superior Stone – Smooth Granite Look
13. Taratex – Earthen look Plaster
14. Travertine – Recreates the look of Travertine Limestone
15. Varius – Fine Smooth acrylic plaster

M. Accents & Coatings
1. SuperiorCote™ architectural coating (Flat/Satin)
2. SuperiorCote HP – Hydrophobic coating
3. Elasto-flex elastomeric architectural coating
4. Clearshield clear protective coating
5. Vintique antiquing accent

PART III – EXECUTION

3.01 EXAMINATION

A. Prior to installation of the Rollershield Drainage CIFS® , the contractor shall verify that the substrate:
1. Is of a type approved by Master Wall Inc.®.
2. Is flat within 6.4 mm (1/4 in) in a 3 m (10 ft) radius.
3. Is sound, dry, connections are tight, has no surface voids, projections or other conditions that may interfere with the Rollershield Drainage CIFS® installation or performance.

B. Prior to the installation of the Rollershield Drainage CIFS® , the architect or general contractor shall insure that all needed flashings and other waterproofing details have been completed, if such completion is required prior to the Rollershield Drainage CIFS® application. Additionally, the Contractor shall ensure that:
1. Metal roof flashing has been installed in accordance with Asphalt Roofing Manufacturers Association (ARMA) Standards.

2. Openings are flashed in accordance with the Rollershield Drainage CIFS® Installation Details or as otherwise necessary to prevent water penetration.
3. Chimneys, Balconies, and Decks have been properly flashed.
4. Windows, Doors, etc. are installed and flashed per manufacturer's requirements and the Rollershield Drainage CIFS® Installation Details.

C. Prior to the installation of the Rollershield Drainage CIFS®, the contractor shall notify the general contractor, and/or architect, and/or owner of all discrepancies.

3.02 PREPARATION

A. Rollershield Drainage CIFS® materials shall be protected by permanent or temporary means from inclement weather and other sources of damage prior to, during, and following application until completely dry.
B. Protect adjoining work and property during Rollershield Drainage CIFS® installation.
C. The substrate shall be prepared as to be free of foreign materials, such as, oil, dust, dirt, form release agents, efflorescence, paint, wax, water repellents, moisture, frost, and any other condition that inhibits adhesion.

3.03 GENERAL GUIDELINES

A. The system shall be installed in accordance with the current Master Wall Inc.® Rollershield Drainage CIFS® Application Instructions.
B. The overall minimum base coat thickness shall be sufficient to fully embed the mesh.
C. Sealant shall not be applied directly to textured finishes.
D. When installing the Rollershield Drainage CIFS® , adhere according to Master Wall Inc.® and local requirements.

3.04 FIELD QUALITY CONTROL

A. The contractor shall be responsible for the proper application of the Rollershield Drainage CIFS® materials.
B. Master Wall Inc.® assumes no responsibility for on-site inspections or application of its products.
C. If required, the contractor shall certify in writing the quality of work performed relative to the substrate system, details, installation procedures, workmanship and as to the specific products used.
D. If required, the EPS supplier shall certify in writing that the EPS meets Master Wall Inc.® specifications.
E. If required, the sealant contractor shall certify in writing that the sealant application is in accordance with the sealant manufacturers and Master Wall Inc.® recommendations.

3.05 ROLLERSHIELD LIQUID-APPLIED AIR/WATER BARRIER (LAB) APPLICATION

A. Mixing
1. Mix the products following the instructions on the product data sheets.
2. Additives shall not be added to Master Wall Inc.® materials unless written approval has been received from Master Wall Inc.®

B. Preparation
1. Protect contiguous work from damage during application of the Rollershield LAB. Temporary covering may be required to prevent overspray or splattering of coatings on other work.

2. Protect substrate from inclement weather during installation. Prevent infiltration of moisture behind the wall system that may affect the substrate or the attachment of the insulation board to the substrate.
3. Adhesive, Base Coats and Finishes shall not be installed when ambient air temperature is below 40ºF (4ºC). The temperature shall remain at or above 40ºF (4ºC) during mixing, application and until materials have cured.
4. Flashings, water barriers and drainage spacers (if used) shall be installed as required by construction documents and Master Wall Inc.® details in a manner to prevent the intrusion of water behind the wall system. All flashing materials should direct the water to the exterior face of the finished system.

C. Installation, General
1. Reference architectural details for full wall system requirements.
2. Comply with the manufacturers' current published instructions, (specifications, details, data sheets and technical bulletins) for the installation of the Rollershield LAB.
3. Comply with local building codes.
4. Verify that all flashings and other items are in place.

D. Rollershield Liquid-applied Air/Water Barrier (LAB) Application
1. The substrate must be approved by Master Wall Inc.®, clean, dry, structurally sound, and free of efflorescence, oil, grease, form release agents and curing compounds or anything that would affect bond. Painted surfaces are not acceptable and must be removed. Substrates must be flat and free of fins or planar irregularities greater than 1/4" in 10'-0" (6.35 mm in 3.05m).

   Concrete – Must have cured a minimum of 28 days prior to the application of Rollershield LAB. If form release agents or curing compounds exist on the surface, they must be removed with a solution of muriatic acid or similar product (with appropriate precautions). Remove any residual acid by flushing with water.

   Brick/Masonry – If joints are not struck flush, multiple coats may be required. Contact Master Wall for more information.

   Sheathing Applications - Sheathing gaps must be less than 1/4" (6.4 mm). Gap wood-based sheathing per manufacturer's recommendations, typically 1/8" (3.2 mm) minimum.

2. Stir the Rollershield-RS to a homogeneous consistency.
3. Rollershield-RS is applied by first treating the joints and fastener locations, then coating the entire surface using brush, roller, trowel, or airless spray equipment techniques.
4. Seams, Transition Corners, Fasteners
   a. Apply a thin layer of Rollershield-RS at all joints, corners, openings, or transitions. While the Rollershield is still wet, center Rollershield Flashing Tape and immediately embed it into the wet Rollershield. Recoat as necessary to ensure full embedment. Rollershield-RS may be flashed into window, door and other openings using the same techniques. Reference details for flashing options.
   b. Apply SuperiorFlash to treat the joints and use as a flashing at window openings following data sheet instructions.
   c. Apply SuperiorShield SMP Sealant at wall seams following data sheet instructions.
   d. Spot fasteners where needed with Rollershield, SuperiorFlash or SMP Sealant and allow to dry.

5. Rollershield Wall Application

a. Roll or spray apply Rollershield-RS over the prepared sheathing to a nominal uniform thickness of 15 mils wet, 10 mils dry with no pinholes or voids. When using a foam roller, a maximum ¾" (19 mm) nap is recommended. Apply Rollershield-RS in an even, continuous coat, maintaining a wet edge of approximately 15 mils thickness, 10 mils dry. Oriented Strand Board, Neopor® insulation board applications and other porous substrates require two (2) coats of Rollershield-RS.

b. Spray Recommendations: Rollershield-RS is compatible with GRACO and Titan airless spray equipment with the following specifications: Minimum 1 gallon per minute output, Minimum hose width of 3/8 inch, minimum tip size of 0.027–0.031, Minimum pressure requirement to spray of 2,000 psi at the gun with an airless sprayer rated no lower than 3,300 psi. Remove all filters in sprayer and gun before application. Hopper Gun: 3/16"-1/4" (6-6.5 mm) orifice, 23-25 psi.

c. Apply Rollershield-RS as a continuous barrier of 10 mils dry thickness with no breaks or skips, although some areas will appear lighter than others due to the application process. The Rollershield application need not look like a painted surface.

d. Repair any voids or holes with additional coats of Rollershield LAB or spot applications of Rollershield-TG.

e. Allow it to dry completely before proceeding with installation.

E. Flashings or Terminations

1. Install flashing terminations as recommended. Apply a thin layer of Rollershield-RS at the transitions. While the Rollershield is still wet, center Rollershield Flashing Tape and immediately embed it into the wet Rollershield. Recoat as necessary to ensure full embedment.

F. Drying and Curing

1. Provide protection from rain and temperatures below 40ºF (4ºC) for a minimum of 24 hours after application. Longer protection may be necessary during lower temperatures and/or higher humidity conditions.
2. Once cured, Rollershield may be exposed to the elements as long as 30-days once fully dry but should be covered as soon as practical.

3.06 ROLLERSHIELD DRAINAGE CIFS® EIFS INSTALLATION

A. General

1. Follow data sheet application instructions for the specific products used in the application.

B. Mixing

1. Mix the products following the instructions on the product data sheets.
2. Additives shall not be added to Master Wall Inc.® materials unless written approval has been received from Master Wall Inc.®

C. Preparation

1. Protect contiguous work from damage during application of the Rollershield Drainage CIFS®. Temporary covering may be required to prevent overspray or splattering of exterior finish coatings on other work.
2. Protect substrate from inclement weather during installation. Prevent infiltration of moisture behind the system that may affect the substrate or the attachment of the insulation board to the substrate.
3. Adhesive, Base Coats and Finishes shall not be installed when ambient air temperature is below 40ºF (4ºC). The temperature shall remain at or above 40ºF (4ºC) during mixing, application and until materials have cured.

4. Sufficient scaffolding, workforce and tools shall be provided to prevent cold joints.
5. Flashings, water barriers and drainage spacers (if used) shall be installed as required by construction documents and Master Wall Inc.® details in a manner to prevent the intrusion of water behind the insulation board and wall system. All flashing materials should direct the water to the exterior face of the finished system.
6. Insulation boards outside the standard 24"x48" (.61m x 1.22 m) size shall be field cut to that size.

D. Installation, General
1. Reference architectural details for full wall system requirements.
2. Comply with the manufacturers' current published instructions, (specifications, details, data sheets and technical bulletins) for the installation of the Rollershield Drainage CIFS®.
3. Comply with local building codes.
4. Verify that all flashings and other items are in place.

E. Drainage Track or Termination Option
1. Install the stucco weep screed or alternate termination method such as a drainage track where the system ends at the foundation. Install track at least 6" (152 mm) above grade, at least ¾" (19 mm) above structurally supported paving/patios, or at least 2" (51 mm) above unsupported patios
2. Center Rollershield Mesh or Rollershield Flashing Tape over weep screed flange. Immediately embed Rollershield into the reinforcing mesh and spot fasteners using a paint brush or trowel and allow to dry.
3. Backwrap details are used in accordance with Master Wall Inc.® details.
4. Alternatively, casing beads can be installed at other areas such as around window and door openings. Use drainage type casings at window/door heads following the techniques outlined above.

F. Backwrapping
1. Adhesively secure reinforcing detail or standard mesh to the substrate positioned so that a minimum of 2 ½" (63.5 mm) of the mesh is onto the substrate. (The reinforcing mesh shall be wide enough to encapsulate the edge of the insulation board and cover both the substrate and the face of the insulation board a minimum of 2 ½".)
2. After the insulation board is applied, complete the backwrapping procedure by applying the base coat, embedding the remaining mesh, and returning it onto the face of the insulation board.
3. Where sealants are applied the reinforcing mesh color shall not be visible and the texture of the base coat shall be smooth so that the pattern of the mesh is covered.
4. Apply finish in accordance with manufacturer's details. (Finish shall not be applied to areas where the design professional has anticipated dynamic movement or at an EIFS to EIFS joint.).

G. Insulation Application
1. Cut oversize insulation boards to a maximum size of 2'x4' (.61 m x 1.22 m) if not precut (Dow® STYROFOAM™ Panel Core 20, Owens Corning® Foamular® 250).
2. Notched Trowel Method - Foam & Mesh (F& M) Adhesive, Master Wall Bagged Base Coat (MBB), F&M Plus shall be applied to the entire surface of one face of the approved insulation board.
3. Apply the adhesive mixture directly to the back of the insulation board using approved stainless steel notched trowel. With the trowel at a 45-degree angle, cover the entire back of the insulation board with full beads of adhesive. Apply the adhesive so the ribbons run vertically when applied to the wall.
4. Do not adhere the edges of the insulation board to each other.
5. Apply the approved insulation board over a dry substrate with the long edge oriented horizontally.

6. The application of the insulation board shall commence at the base of the wall from a level line of support.
7. After the adhesive has been applied to the insulation board it shall be installed by sliding it into place until it abuts the adjoining insulation board.
8. Uniform pressure shall be applied over the entire surface of the insulation board to achieve contact with the substrate. Periodically check the contact of the adhesive to the substrate by removing a piece of insulation board. Proper adhesive contact should be demonstrated by the evidence of similar amounts of adhesive adhered to both the insulation board and the substrate. The cohesive break should occur when the board is removed. If the cohesive break had occurred prior to the adhesive set the substrate is more than likely out of plane and should be corrected to meet minimum standards of this specification. If a cohesive failure does not occur, contact a Master Wall representative. Mechanically attach Neopor® insulation board per their requirements immediately after adhesive attachment.
9. The insulation board shall be installed in a running bond pattern with staggered vertical joints.
10. Insulation boards shall be interlocked at the inside and outside corners.
11. Insulation board joints shall be offset from the sheathing joints a minimum of 6” (152 mm).
12. Insulation board joints shall be offset from the corners of openings.
13. Allow for proper spacing at windows, doors, penetrations, and other openings so that sealant systems can be installed in accordance with Master Wall Inc.® specification, details, and the construction documents.
14. Provide a proper joint through insulation board where expansion joints occur in substrates and where required in the system.
15. Wrap mesh in or around details in accordance with Master Wall Inc.® instructions.
16. The insulation board shall be butted tightly. Any gaps greater than 1/16” (1.6 mm) between insulation boards shall be filled with slivers of insulation board. Adhesive shall not be used to adhere foam when filling gaps.
17. Gaps between insulation boards shall not be filled with adhesive or base coat materials.
18. Allow adhered insulation to remain undisturbed for a period of 12 hours prior to rasping the foam.

H. Base Coat Preparation

1. Inspect adhered insulation board to ensure the installation meets the requirements set forth in Master Wall Inc.® specification, details, data sheets, technical bulletins, and the construction documents. Make necessary repairs to ensure the installation meets the requirements prior to commencement of the base coat application.
2. Fill any gaps in the insulation board with slivers of insulation.
3. Rasp the insulation board to provide a true surface within specifications. If the foam is yellowed or has developed a powdery film due to sun exposure the foam must be rasped and cleaned prior to the base coat application.
4. Complete the backwrapping at all system terminations by embedding the reinforcing mesh as described in Section 3.06 of this specification.
5. Install minimum 9 ½” x 12” (229x309 mm) diagonal reinforcement at all windows, doors, louvers, or other penetration corners. Apply field mesh as soon as possible after diagonal mesh application.
6. Reference architectural documents for locations of designed impact classifications.

I. Base Coat Application

1. Apply the base coat to the entire surface of the insulation board to the thickness required for the specified reinforcing mesh to be applied in a given area.
   a. Standard, Detail and Hi-Tech Mesh require a nominal 1/16” (1.6 mm).

b. Medium, Strong and Ultra Mesh requires a nominal 3/32" (2.4 mm).

2. Immediately embed Master Wall Inc.® reinforcing mesh into wet base coat with a trowel, working from the center toward the edges, until the mesh is fully covered, and a smooth surface is achieved. The color of the mesh shall not be visible, but a slight mesh pattern may be visible.
3. Lap mesh 2 ½" (64 mm) minimum on all sides. (Do not lap Strong or Ultra mesh.)
4. Reinforcing Mesh shall be continuous through all interior and exterior corners extending beyond the corner a minimum of 12" from both directions creating a minimum of two layers of standard reinforcing mesh on all interior and exterior corners.
5. Standard and Hi-Tech reinforcing mesh can be applied in a single layer.
6. Medium Mesh can be applied in one layer, yet it may require an additional coat of base coat mixture to properly embed the mesh after the first coat has dried.
7. Strong and Ultra Mesh require a second layer of base coat reinforced with Standard or Hi-Tech Mesh.
8. EPS shapes shall have reinforcing mesh embedded into the base coat.
9. Allow the base coat to cure a minimum of 12 hours prior to additional base coat or finish coat applications.

J. Superior Finish Coat Application

1. Surface irregularities in the base coat, such as trowel marks, insulation board lines and reinforcing mesh laps shall be corrected prior to the finish application.
2. Apply the Master Wall Inc.® Superior Finish in the color and texture as approved by the project owner or the project architect with sufficient workforce and equipment to insure a continuous operation without cold joints, scaffolding lines etc. Texture finish shall match approved jobsite samples. Thickness and coverage will vary depending on the specified final appearance.
3. Trowel Application – (Perfect 2.0, Fine Sand 1.0, Medium Sand 1.5, Versatex 0.5)
   a. Apply the Superior Finish to the clean, dry, and cured base coat with a stainless-steel trowel.
   b. Level the surface to a uniform thickness of 3/32" to 1/8" (2.4-3.2 mm).
   c. Float the Finish with a plastic float in a uniform motion to achieve the desired texture. (Versatex 0.5 cannot be floated easily. A second application of the Versatex 0.5 may be applied to create the desired texture.)
4. Spray Application – (Perfect 2.0, Fine Sand 1.0, Medium Sand 1.5, Versatex 0.5)
   a. Prime surface with Master Wall Inc.® Primecoat or Sanded Primecoat tinted to match the selected finish color. Allow Primecoat or SuperiorCote™ to cure a minimum of 12 hours prior to finish coat application.
   b. Using a conventional plaster hopper gun or a proven pump, spray finish over the primed base coat to achieve desired texture using a circular overlapping pattern keeping the spray gun at a 90º angle to the surface and maintaining the same distance to the wall at all times.
   c. Be cautious of flooding an area with too much finish because it may appear shinier when it dries.
5. Specialty Finishes: Follow individual product data sheet application instructions.

3.07 JOB SITE CLEANUP

A. Clean work area in accordance with contract documents removing all excess materials, droppings, and debris. Clean adjacent surfaces.

B. Other trades may now install their work – Sheet Metal (Section 07620), Sealants (Section 07900), Mechanical (Section 15000), Electrical (Section 16000).

3.08 PROTECTION

A. Rollershield Drainage CIFS® shall be protected from inclement weather and other sources of damage until dry and permanent protection in the form of flashings, sealants, etc. are installed.

Disclaimer

This Specification is published for general informational purposes only and is not intended to imply that these are the only materials, procedures, or methods, which are available or suitable. Materials, procedures, or methods may vary according to the particular circumstances, local building code requirements, design conditions, or statutory and regulatory requirements. While the information in this specification is believed to be accurate and reliable, it is presented without guarantee or responsibility on the part of Master Wall Inc.®