



## Part 1 General

### 1.01 General

- A. The QRW1 Drainage EIF System is a non-structural cavity wall system designed for use on residential construction or light commercial construction.

### 1.02 SCOPE OF WORK

- A. Provide all materials, labor, and equipment to install the Field Applied and/or Panelized Master Wall Inc. QRW1 Drainage EIF System.
- B. Related Sections:
  - 1. Concrete 03300
  - 2. Unit Masonry 04200
  - 3. Light Gauge Steel Framing 05400
  - 4. Sheathing 06100
  - 5. Sheet Metal Flashing and Trim 07620
  - 6. Sealants 07900
  - 7. Doors and Windows 08000

### 1.03 TERMS / DEFINITIONS

- A. Applicator – The contractor that applies the EIFS.
- B. Base Coat – The material applied to the face of the insulation board and reinforced with one or more layers of mesh to function as the exterior weather barrier.
- C. Base Coat Mixture – A field mixed blend of base coat and Portland cement.
- D. Building Expansion Joint – A joint through the entire building structure designed to accommodate structural movement.
- E. Designer – The person or firm that is responsible to create the plans and specifications for the entire project.
- F. EIFS – Exterior Insulation and Finish System
- G. Expansion Joint – A designed joint in the continuity of a material, assembly, or system, designed to accommodate movement.
- H. Finish Coat – An acrylic based, factory mixed decorative and protective coating that is applied to the base coat.
- I. Insulation Board – Polyisocyanurate foam core board faced with a specially coated glass fiber mat designed as an EIFS substrate. The manufacturer of the insulation board shall be approved by Master Wall Inc.
- J. Reinforcing Mesh – Balanced, open weave, basic glass fiber mesh(es) supplied by the manufacturer of the EIFS, treated for compatibility with other materials of the system, which functions to strengthen the system and adds impact resistance.
- K. Mechanical Fastener – Typically a plastic washer and a mechanical fastener utilized to attach the insulation board to the substrate.
- L. Sheathing – A substrate in a sheet form.
- M. Substrate – The material to which the EIFS is attached.



## 1.04 QUALITY ASSURANCE

### A. Design and Detailing

#### 1. General

- a. Master Wall Inc.'s current published details, specifications, data sheets, technical bulletins and other literature/information are minimum standards and guidelines that shall be followed when designing and detailing a project with the QRW1 Drainage EIF System.
- b. Details shall conform to Master Wall Inc.'s details and shall be consistent with the project requirements.
- c. Master Wall Inc. must approve deviations from the standard published details in writing.
- d. The architect, engineer or the designer of the project should determine where the dew point would occur in relationship to the wall assembly and the project location during summer and winter conditions.
- e. Proper fastener spacing shall be strictly adhered to. When fastening to wood or steel framing the fasteners shall be installed 12" (305 mm) vertically and 16" (406 mm) or 24" (610 mm) o.c. horizontally depending on the stud spacing. When fastening to masonry walls fasteners shall be installed 24" (610 mm) vertically and 16" (406 mm) o.c.
- f. At all locations, the reinforced base coat, drainage track or the substrate shall encapsulate the approved insulation board.
- g. The minimum slope of inclined surfaces shall not be less than 1:2 with a maximum length of 12" (305 mm) unless approved in writing by Master Wall Inc. Inclined surfaces which are or could be defined as roofs by the building codes or application are not approved by Master Wall Inc.
- h. The use of dark colors must be considered in relation to wall surface temperature as a function of local climatic conditions.
- i. The insulation board shall be separated from the interior of the building by a 15-minute thermal barrier.
- j. The use and maximum thickness of insulation board shall be in accordance with the applicable building codes.
- k. It is the responsibility of the architect and the purchaser to determine if a product is suitable for their intended use. The architect or designer of the project shall be responsible for all decisions pertaining to the design, details, structural capability, attachment details, shop drawings and the like. Master Wall Inc. has prepared specifications, details and data sheets to assist as guidelines for the use and installation of the products. Master Wall Inc. is not responsible for the design, details, structural capability, attachment details and shop drawings whether it is based on Master Wall Inc.'s information or not.



2. Acceptable weather resistive barriers for the QRW1 Drainage System shall be:
  - a. Code approved weather resistive barrier or a code-recognized equivalent such as Tyvek® StuccoWrap® shall be installed over substrate on all exterior walls before application of system begins in accordance with the manufacturer's recommendations.
  - b. Weather resistive barrier shall be installed horizontally with upper layers overlapping lower layers a minimum of 2" (51 mm). Vertical joints shall overlap a minimum of 6" (152 mm).
  - c. Wrap weather resistive barrier into rough openings at windows, doors, mechanical equipment, and any other openings through the system. Overlap sill flashing tape at jambs at least 2". Reference Master Wall Inc.'s details and technical bulletins for additional information.
  - d. Lap weather resistive barrier over attachment flange of drainage track a minimum of 2".
  
3. Acceptable drainage mat materials for the QRW1 Drainage System shall be:
  - a. Colbond® (Enka®) drainage mats as defined in Master Wall Technical Bulletin #126.
  - b. Benjamin Obdyke® Homeslicker® drainage mat.
  - c. Sill seal material applied at stud lines
  - d. Install drainage mat materials in accordance with manufacturer's details and/or accepted industry practices.
  
4. Substrate
  - a. The maximum deflection under full flexural design loads of the substrate system shall not exceed L/240.
  - b. Acceptable substrates for the QRW1 Drainage EIF System include painted or unpainted brick, unit masonry, concrete, stucco brown coat, exterior grade gypsum sheathing, and approved cementitious and exterior wood sheathings.
  - c. Substrates not approved in the manufacturer's published literature shall be approved by the manufacture in writing prior to the application of the system.
  - d. The project architect or engineer shall engineer the substrate with regard to the required structural performance.
  
5. Expansion Joints
  - a. Expansion joints shall be installed in the EIFS a maximum of every 30 lineal feet (9 m). Reference construction documents for specific locations.
  - b. Expansion joints in the system are required at building expansion joints, at prefabricated panel joints, where substrates change, at floor lines in wood framed construction, and where structural movement is anticipated.
  
6. Sealants
  - a. Sealants and backer rod, as required at expansion joints and dissimilar substrates, shall provide a complete watertight system.
  - b. The sealants in an EIFS expansion joint, or any sealant joint that anticipates significant movement, shall be bonded to the reinforced base coat, not the finish coat. The color of the mesh shall not be visible and the texture of the mesh shall not be exposed within base coat at these locations.



Section 07 24 19

Corporate • P.O. Box 397 • Fortson • Georgia • 31808 • 800-755-0825 • FAX 706-569-6704

Technical • 800-760-2861 • FAX 734-433-0930

7. Flashings

a. Roof

- 1) Crickets and step flashing shall be properly installed around chimneys.
- 2) Flashing shall be installed at rooflines in a manner to prevent any intrusion of water behind the weather barrier. This shall include the use of roof kick-out flashing at roof terminations.

b. Openings

- 1) Heads, jambs, and sills of all rough openings must be wrapped with the weather resistive barrier prior to installation of windows, doors, or mechanical equipment.
- 2) Local building codes may require use of self-sealing flashing tape on the sills.
- 3) Drainage track and metal flashing shall be installed at heads of openings.
- 4) Continuous metal flashing shall be installed at heads of ganged windows.

c. Decks

- 1) The system must be terminated at least 2" (51 mm) above poured decks, patios, sidewalks, etc.
- 2) Wooden decks must be flashed before system is installed.

8. Penetrations

- a. All penetrations through the system such as hose bibs, dryer vents, lighting fixtures, air-conditioning hoses, etc. must be properly sealed to insure the integrity of the system.

B. Qualifications

1. The EIFS Manufacturer shall have manufactured Exterior Insulation and Finish Systems in the United States for at least 10 years.
2. The Applicator shall be knowledgeable in the proper installation of the Master Wall Inc. QRW1 Drainage EIF System.
3. The Applicator shall have demonstrated the ability to install the system on projects of similar size and complexity.
4. The Applicator shall provide the proper equipment, manpower and supervision on the job site to install the system in compliance with project plans and specifications.
5. The Insulation Board Manufacturer shall be approved by Master Wall Inc. to produce Polyisocyanurate Insulation Board for the QRW1 Drainage EIF System in accordance with Master Wall Inc.'s specifications and details.
6. The sealant contractor shall be experienced in the installation of high performance industrial and commercial sealants.
7. Prior to the installation of the QRW1 Drainage EIF System, erect sample wall mock-up using materials and joint details required for final work. Provide special features as directed for sealant and contiguous work. Build mock-up at the site where directed of full thickness, indicating the proposed color, texture, and workmanship to be expected in the completed work. Obtain architect's acceptance of the mock-up in regard to aesthetic quality before start of work. Retain mock-up during construction as a standard for judging completed work. Do not alter, move, or destroy mock-up until work is completed, and until final acceptance of the project by architect.



#### 1.05 SUBMITTALS

- A. The Applicator shall submit a list of completed projects of like size and complexity.
- B. The Applicator shall submit a certificate of training indicating that they have been given instructions on the proper installation of the EIF System.
- C. The Applicator shall submit EIFS Manufacturer's current literature, brochures, specifications, and details.
- D. The Applicator shall submit sufficient samples of each finish texture and color selected. The samples shall be prepared with the same tools and techniques required for the actual project. Color and texture should be approved based on the job site mock-up samples.
- E. The Applicator shall provide any shop drawings that may be applicable to the project for approval by the project architect.

#### 1.06 DELIVERY, STORAGE AND HANDLING

- A. Deliver all materials in original unopened packages with labels intact. Verify all quantities, colors, and textures against bill of lading.
- B. Store all materials protected from direct exposure to weather conditions and at temperatures not less than 40° F (5° C) or greater than 110° F (43° C).
- C. Stack insulation board flat, fully supported off the ground and protected from direct exposure to the sun.
- D. Material safety data sheets (MSDS) shall be supplied for the components of the EIFS and be available at the job site.

#### 1.07 JOB CONDITIONS

- A. Ambient air temperatures shall be 40° F (5° C) or greater and rising at the time of installation of the Master Wall Inc. products and shall remain at 40° F (5° C) or greater for at least 24 hours after application.
- 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 affect on the curing or drying time of Master Wall Inc. materials.
- D. Adjacent materials and the QRW1 Drainage EIF System shall be protected during installation and while curing from weather and shall be protected from site damage.
- E. Coordinate installation of the QRW1 Drainage EIF System 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. When this is not possible, temporary protection shall be provided immediately in this area.
- F. All sealants 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 manpower and equipment shall be employed to ensure a continuous operation, free of cold joints, scaffolding lines, texture variations, etc.



## 1.08 REPAIR AND MAINTENANCE

- A. Refer to Master Wall Inc. specific repair and maintenance procedures.
- B. Sealants and flashings shall be inspected annually to verify that the products are not allowing water intrusion behind the weather barrier. If sealant and/or flashings are allowing water intrusion behind the weather barrier, repairs should be made immediately.

## 1.09 LIMITED MATERIALS WARRANTY

- A. A Limited Materials Warranty shall be issued upon the receipt of a properly completed warranty request form.

## PART 2 PRODUCTS

### 2.01 MANUFACTURER

A. All components of the QRW1 Drainage System 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. Mechanical Fasteners for mechanically attached systems: Shall be Wind-lock's Wind Devil™ plates, or Master Wall Inc. approved equivalent, used in conjunction with corrosion resistant fasteners appropriate for the substrate system.
- D. Metal Flashing Components: Complying with SMACNA Recommendations. Reference Section 07620.
- E. Sealant Systems: Reference Sealant Specification, Section 07900.
- F. Window & Door Systems: Detailed by the designer and suitable for EIFS. Reference Section 08000.

### 2.03 COMPONENTS

#### A. Starter Tracks/Drainage Tracks

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.

Alternate termination methods may be used in accordance with Master Wall Inc. details.

#### B. Insulation Board

##### A. Polyisocyanurate Insulation Board

- 1. Thermax Quik-R as manufactured by Celotex/Dow Building Products Division, Stucco-Shield II as manufactured by Atlas Energy Products Division or an approved equal insulation board shall be used with the QRW1 Drainage EIF System. Minimum 1" (25 mm) thickness is required.



**B. Mechanical Fasteners and Plastic Washers**

The Celotex Galvanized Quik-Cap Washer, Wind-lock ULP-402 Plate or an approved equal shall be used when fastening is required. The appropriate fastener shall be used to meet the requirements of the specific project, local building code and the anticipated wind loads.

**D. 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

**E. Base Coats**

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 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 as an adhesive and 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.)

**F. 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.)



G. Superior Finish: Master Wall Inc.'s Superior Finishes are acrylic-based wall coatings available in a variety of colors and textures. The following textures are available:

1. Perfect - riled texture
2. Spray – sand type texture
3. R-Coarse – coarse riled texture
4. Desert Sand – coarse sand texture
5. Refinish – Fine texture used to create numerous finishes
6. Superior Stone/Aggrestone Specialty Finishes

Note: The above textures excluding Superior Stone and Aggrestone Finishes are also available in the Superior Silicone Coat product line and the Superior Elastomeric Coat product line. Superior Silicone Coat combines acrylic and the siloxane polymers to provide the maximum resistance to moisture. Superior Elastomeric Coat utilizes elastomeric polymers to enable the finishes to bridge minor cracking.

H. Water: Shall be clear, clean and potable without any foreign matter in the solution, which may affect the color and setting qualities of the cement, adhesive, base or finish coat.

I. Cement: Type I or I-II Portland cement meeting ASTM C-150.

J. Sealants Systems (waterproofing trades): Reference sealant specification (Section 07920) and Master Wall sealant recommendations (Technical Bulletin MW-131-050101) for acceptable sealants.

## **PART 3 EXECUTION**

### **3.01 EXAMINATION**

A. Prior to installation of the QRW1 Drainage System, the contractor shall verify that the substrate and water barrier:

1. Is of a type listed in Section 1.04.C.1.
2. Is installed to shed water in accordance with Section 1.04.C.2.
3. Is flat within 6.4 mm (1/4 in) in a 1.2 m (4 ft) radius.
4. Is sound, dry, connections are tight, has no surface voids, projections or other conditions that may interfere with the QRW1 Drainage System installation or performance.

B. Prior to the installation of the QRW1 Drainage System, 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 QRW1 Drainage 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 QRW1 Drainage System 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 QRW1 Drainage System Installation Details.



C. Prior to the installation of the QRW1 Drainage System, the contractor shall notify the general contractor, and/or architect, and/or owner of all discrepancies.

### 3.02 PREPARATION

- A. The QRW1 Drainage 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 QRW1 Drainage 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 repellants, moisture, frost and any other condition that inhibit adhesion.

### 3.03 INSTALLATION

- A. The system shall be installed in accordance with the current Master Wall Inc. QRW1 Drainage System 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 QRW1 Drainage System, mechanically attach according to Master Wall Inc. and local requirements.
- E. High impact meshes shall be installed as specified at ground level, high traffic areas and other areas exposed to or susceptible to impact damage.

### 3.04 FIELD QUALITY CONTROL

- A. The contractor shall be responsible for the proper application of the QRW1 Drainage 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.'s specifications.
- E. If required, the sealant contractor shall certify in writing that the sealant application is in accordance with the sealant manufacturer's and Master Wall Inc.'s recommendations.

### 3.05 CLEANING

- A. All excess QRW1 Drainage System materials shall be removed from the job site by the contractor in accordance with contract provisions and as required by applicable law.
- B. All surrounding areas, where the QRW1 Drainage System has been installed, shall be left free of debris and foreign substances resulting from the contractor's work.



### 3.06 PROTECTION

A. The QRW1 Drainage System 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.