

Issue Date: 11-10-2014
Revision Date: 11-20-2019
Renewal Due: 11-14-2020

DIVISION: 09 00 00 - FINISHES
Section: 09 24 00 – Portland Cement Plastering

REPORT HOLDER:
MASTER WALL INC.
Post Office Box 397
Fortson, Georgia 31808
www.masterwall.inc

REPORT SUBJECT:
Master Wall Cemplaster Fiberstucco System

1.0 SCOPE OF EVALUATION

1.1 This Research Report addresses compliance with the following Codes:

- 2018, 2015 and 2012 *International Building Code*® (IBC)
- 2018, 2015 and 2012 *International Residential Code*® (IRC)
- 2014 and 2012 *Florida Building Code* (see Section 9)

NOTE: This report references 2108 Code sections. See Table 1 for code references from previous Code years.

1.2 *Master Wall Cemplaster Fiberstucco System* has been evaluated for the following properties:

- Structural (wind resistance)
- Durability
- Fire-Resistance-Rated Construction
- Weather Protection

1.3 *Master Wall Cemplaster Fiberstucco System* has been evaluated for the following uses:

- Alternative to the exterior wall coverings specified in IBC Section 2512 and IRC Section R703.7 on buildings of Type V construction.
- Use in fire-resistance-rated construction as described in Section 4.2.

2.0 STATEMENT OF COMPLIANCE

Master Wall Cemplaster Fiberstucco System complies with the Codes listed in Section 1.1, for the properties stated in Section 1.2 and uses stated in Section 1.3, when installed as described in this report, including the Conditions of Use stated in Section 6.

3.0 DESCRIPTION

3.1 *Master Wall Cemplaster Fiberstucco System* is a mixture of portland cement, sand, fibers, and proprietary constituents applied over metal lath. Mixture and lath may be applied over gypsum sheathing, wood panel sheathing, concrete or concrete masonry. Mixture is delivered in 80-pound bags.

3.2 Each 80-pound bag is blended at the jobsite with 200 pounds of sand and 5-7 gallons of water to create desired consistency.

3.3 Sand must be clean and free from deleterious amounts of loam, clay, silt, salts and organic matter. Sand must be sampled and tested in accordance with ASTM C144 or ASTM C897 and graded within the following limits:

U.S. STANDARD SIEVE	PERCENT OF AGGREGATE RETAINED WEIGHT ±2 PERCENT	
	MINIMUM	MAXIMUM
No. 4	-----	0
No. 8	0	10
No. 16	10	40
No. 30	30	65
No. 50	70	90
No. 100	95	100



3.4 Metal lath must comply with ICC-ES Acceptance Criteria for Metal Plaster Bases (Lath) AC 191 and ASTM C847.

3.5 Gypsum sheathing must be minimum 1/2-inch-thick with a water-resistant core complying with ASTM C79 or ASTM C1396.

3.6 Wood structural panels must be minimum 15/32-inch plywood complying with Department of Commerce Product Standard PS-1 or 7/16-inch OSB complying with U.S. Department of Commerce Product Standard PS-2.

3.7 Caulking must be acrylic latex that complies with ASTM C834.

3.8 Weather Protection

3.8.1 Water-resistive barriers are required over all substrates, except concrete or masonry, in accordance with IBC Section 1404.2 or IRC R703.2 as applicable.

3.8.2 Water resistive barriers must be a minimum of two layers of water resistive barrier complying with ASTM E2556 Type 1 or approved alternative. Where installed over wood-based sheathing, shall include a water-resistive vapor-permeable barrier installed in accordance with IBC Section 2510.6 or IRC Section R703.7.3.

3.8.2.1 Alternative water-resistive barriers must comply with ICC-ES Acceptance Criteria for Water-resistive Barriers (AC 38) and must be recognized in a current Research Report.

3.8.3 A vapor retarder must be provided in accordance with IBC Section 1404.3 or IRC Section R702.7 unless its omission is permitted under the applicable code.

3.8.4 Flashing complying with IBC Section 1404.4 or IRC Section R703.8.5 is required.

3.8.5 All trim, screeds and corner reinforcement must be approved corrosion resistant materials.

4.0 PERFORMANCE CHARACTERISTICS

4.1 Allowable wind loads for the system are as follows:

WIND LOAD ¹ (PSF)	POSITIVE PRESSURE	NEGATIVE PRESSURE
Wood Studs (Minimum sg .50)	42	28
Steel Studs (Minimum gage 20)	36	27

¹ Design pressure is based on nominal wind speed (V_{asd}).

4.1.1 Support framing must be adequate to resist the wind load and must be designed for a maximum allowable deflection of 1/240 of the wall height.

4.2 A fire-resistance-rated limited loadbearing wall assembly has a one-hour fire resistance rating when constructed as described in Section 5.9.

4.2.1 Axial loads applied to the assembly must be limited to the least of the following:

4.2.1.1 1,100 pounds per stud

4.2.1.2 The wood stud axial design stress for the wall assembly calculated in accordance with Sections 3.6 and 3.7 of ANSI AF&PA NDS-05 (IBC an IRC) is limited to $0.51F'_c$.

4.2.1.3 The maximum stress must not exceed $0.51F'_c$ at a maximum l_e/d ratio of 33.

5.0 INSTALLATION

5.1 Master Wall Cemplaster Fiberstucco System must be installed in accordance with the manufacturer’s published installation instructions, the applicable Code, and this Research Report. A copy of the manufacturer’s instructions must be available on the jobsite during installation.

5.2 The coating must be applied at ambient air temperatures between 40°F and 120°F. The coating may be applied by machine spraying or hand troweling in one coat to a minimum 3/8-inch thickness. The metal lath must be completely embedded in the coating. Texturing or finishing may be performed when the base coat has cured to the point that it can accept the finish.

5.3 The system may be applied over solid substrates of gypsum sheathing, wood structural panel sheathing, concrete or masonry.





5.4 Installation on wood framing:

5.4.1 Wood structural panels, described in Section 3.6, must be applied to wood studs in accordance with IBC Table 2304.6.1 or IRC Table R602.3(3).

5.4.2 Gypsum sheathing described in Section 3.5 must be installed directly over wood studs spaced a maximum of 24 inches on center. The gypsum board must be fastened in accordance with ASTM C1280 and IBC Table 2508.1 or IRC Table R702.3.5.

5.4.3 The lath is attached to the wood studs through the sheathing using No. 11 gage galvanized roofing nails with 3/8-inch diameter heads spaced 6 inches o.c. Penetration depth into wood framing must be at least 1 inch.

5.5 Installation on steel studs:

5.5.1 Gypsum sheathing described in Section 3.5 must be installed directly over 20 gage metal studs spaced a maximum of 24 inches on center.

5.5.2 The lath must be secured through the sheathing to the steel framing with No.8 by 0.42-inch diameter head self-drilling, tapping pan head screws spaced 6 inches o.c. Screws fastening the sheathing and screws fastening lath must be staggered. Minimum screw penetration into framing is 1/2 inch beyond the stud.

5.6 A water-resistive barrier, described in Section 3.8, must be applied between the sheathing and the lath.

5.7 Wood and steel stud framed walls must be braced in accordance with applicable code.

5.8 Concrete and masonry surface preparation must be in accordance with IBC Section 2510.7 and IRC Section R606. Surfaces must be free of oil, dust, or other contaminants. High surface absorption and surface roughness is necessary to ensure proper bonding. In the absence of these properties, a bonding agent must be applied. The coating is applied to the prepared surface at a minimum thickness of 3/8 inch in accordance with Section 5.1 and the manufacturer's published installation instructions.

5.9 Fire-resistance-rated wall assembly:

5.9.1 Framing: Wall framing must be minimum 2x4 No. 2 Douglas Fir-Larch, dimension lumber. Studs are spaced a

maximum of 16 inches o.c. with a single bottom plate, double top plate and horizontal cross-bracing located between studs at mid wall height.

5.9.2 Insulation: Stud cavities must be insulated with Kraft paper-faced R-11 fiberglass bats with the paper face oriented toward the interior side of the wall.

5.9.3 Interior Face: The interior face of the wall must be clad with 5/8-inch-thick Type X gypsum board complying with ASTM C36 or ASTM C1396. The gypsum board must be installed horizontally with end joints staggered a minimum of two stud spaces. Gypsum board must be fastened to the framing with 1-5/8-inch-long galvanized steel, cup-head drywall nails spaced 8 inches o.c. along every stud and plate. Joints must be finished with paper tape and drywall compound, and nail heads must be treated with joint compound in accordance with ASTM C840 or GA216.

5.9.4 Exterior Face: The exterior face of the wall must be clad with OSB sheathing as specified in Section 3.6. Sheathing must be installed horizontally with end joints staggered a minimum of two stud spaces. The OSB sheathing must be fastened to the framing with 1-7/8-inch-long 6d common nails spaced 8 inches o.c. along every stud and plate.

5.9.5 Exterior Finish: The OSB sheathing must be covered with two layers of No. 15 asphalt-saturated organic felt, 40 inches wide with 4 inches overlap at horizontal edges and 6 inches at vertical edges. Lath must be minimum 1.75 lb/yd³ galvanized self-furring metal lath conforming to ASTM C847 as specified in Section 3.4, with a minimum 2-inch overlap and attached with minimum 1 inch wide by 1-1/2-inch-long by 0.56-inch dia. galvanized steel staples spaced 6 inches o.c. along all studs and perimeters and 12 inches o.c. in all fields.

5.9.6 Minimum 3/8-inch-wide J-Metal must be installed on the outside face of the wall along the perimeter of the wall over the OSB sheathing. J-Metal must be attached with 1-3/4-inch-long galvanized steel roofing nails having a 0.4-inch head diameter and 0.125-inch shank diameter, spaced at 8 inches on center.

6.0 CONDITIONS OF USE

6.1 Installation must comply with this Research Report, the manufacturer's published installation instructions, and





the applicable Code. In the event of a conflict, this report governs.

6.2 Materials and methods of installation must be accordance with this report, the applicable code and the manufacturer's installation instructions. Where differences occur between this report and the manufacturer's installation instructions, this report governs.

6.3 Installation must be by report holder approved contractors.

6.4 Installation cards such as shown in Figure 2 must be left at the jobsite for the owner, and a copy must be filed with the building department.

6.5 The coating system is limited to Type V (IBC) and construction permitted by the IRC.

6.6 The *Master Wall Cemplaster Fiberstucco* is manufactured under a quality control program with inspections by Intertek Testing Services NA, Inc.

7.0 SUPPORTING EVIDENCE

7.1 Manufacturer's drawings and installation instructions.

7.2 Reports of testing and engineering analyses demonstrating compliance with the ICC-ES Acceptance Criteria for Cementitious Exterior Wall Coatings (AC11), revised December 2015.

7.3 Reports of tests in accordance with ASTM E119, Fire Tests of Building Construction and Materials.

7.4 Documentation of an Intertek approved quality control system for the manufacturing of products recognized in this report.

8.0 IDENTIFICATION

The *Master Wall Cemplaster Fiberstucco* is identified with the manufacturer's name (Master Wall Inc.), address and telephone number, the product name (*Master Wall Cemplaster Fiberstucco*), identification of the components; weight of the packaged mix, storage Instructions, maximum amount of water and other components that may be added and conditions that must be considered in actual amount; Curing Instructions, the Intertek Mark as shown below, and the Code Compliance Research Report number (CCRR-0215).



9.0 FLORIDA BUILDING CODE

8.1 Scope of Evaluation:

The *Master Wall Cemplaster Fiberstucco System* was evaluated for compliance with the 2014 *Florida Building Code – Building*, *Florida Building Code – Residential* and *Florida Building Code – Energy Conservation*.

8.2 Conclusion:

The *Master Wall Cemplaster Fiberstucco System*, described in Sections 2.0 through 7.0 of this Research Report, comply with the 2014 *Florida Building Code – Building*, *Florida Building Code – Residential* and *Florida Building Code – Energy*, subject to the following conditions:

- Use of the *Master Wall Cemplaster Fiberstucco* for compliance with the High-Velocity Hurricane Zone provisions of the 2017 *Florida Building Code – Building* and the *Florida Building Code – Residential* has not been evaluated and is outside the scope of this Research Report.
- Intertek is a quality assurance entity approved by the Florida Building Commission.

10.0 CODE COMPLIANCE RESEARCH REPORT USE

10.1 Approval of building products and/or materials can only be granted by a building official having legal authority in the specific jurisdiction where approval is sought.

10.2 Code Compliance Research Reports shall not be used in any manner that implies an endorsement of the product by Intertek.

10.3 Reference to the <https://bpdirectory.intertek.com> is recommended to ascertain the current version and status of this report.





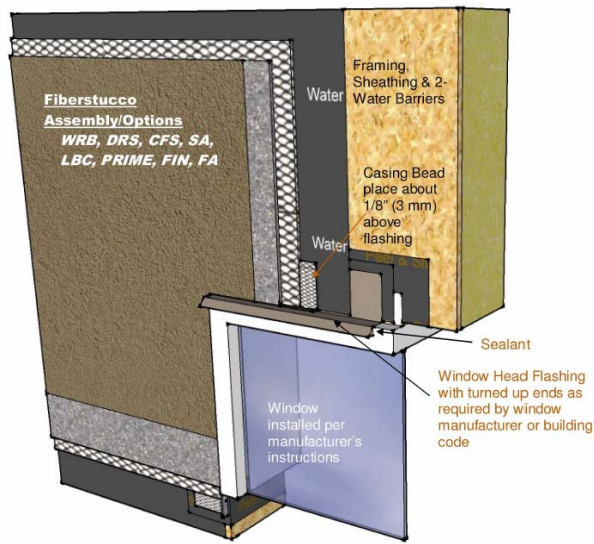
TABLE 1: CODE REFERENCES

Properties	International Building Code (IBC)	International Residential Code (IRC)	Florida Building Code (FBC)
Wind resistance	1609	R301.2.1	1609
Installation	2512	R703.7 R706.6 [2012]	2512
Fire-resistance-rated construction	703.2	R302	703.2
Weather protection	1403.2 2510	R703.1.1 R703.7.3 R703.6.3 [2012]	1403.2 2510
Exterior Plaster	2512	R703.7 R703.6 [2012]	2512
Lathing and Furring for Cement Plaster	2510.6	R703.7.3 R703.6.3 [2012]	2510.6
Vapor Retarder	1404.3 1405.3 [2012]	R702.7	1405.3
Flashing	1404.4 1405.5 [2015]	R703.8.5 R703.8 [2012]	1405.4

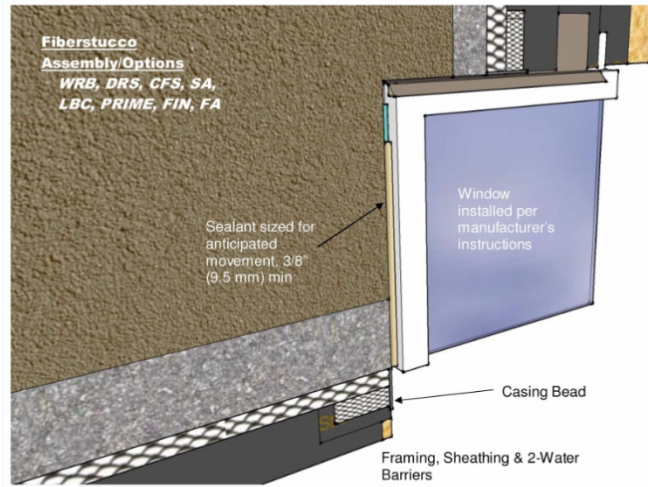
Note: Codes sections listed in Table 1 are for all code years referenced in Section 1.1. If [xxxx] after a code section, that code section is for the code year in brackets.

This Code Compliance Research Report ("Report") is for the exclusive use of Intertek's Client and is provided pursuant to the agreement between Intertek and its Client. Intertek's responsibility and liability are limited to the terms and conditions of the agreement. Intertek assumes no liability to any party, other than to the Client in accordance with the agreement, for any loss, expense or damage occasioned by the use of this Report. Only the Client is authorized to permit copying or distribution of this Report and then only in its entirety, and the Client shall not use the Report in a misleading manner. Client further agrees and understands that reliance upon the Report is limited to the representations made therein. The Report is not an endorsement or recommendation for use of the subject and/or product described herein. This Report is not the Intertek Listing Report covering the subject product and utilized for Intertek Certification and this Report does not represent authorization for the use of any Intertek certification marks. Any use of the Intertek name or one of its marks for the sale or advertisement of the tested material, product or service must first be approved in writing by Intertek.

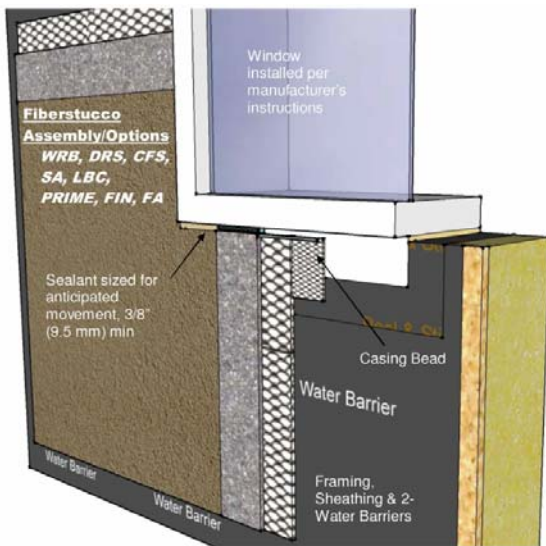




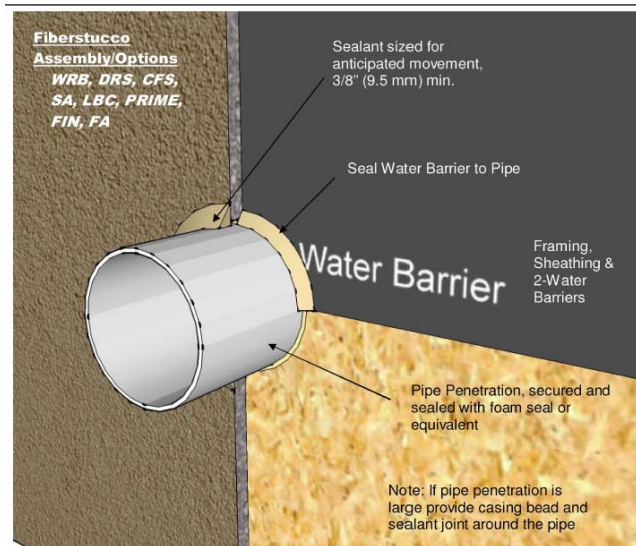
Window Head with Nailing Fin



Window Jamb with Nailing Fin



Window Sill with Nailing Fin



Pipe Penetration

FIGURE 1: TYPICAL INSTALLATION DETAILS



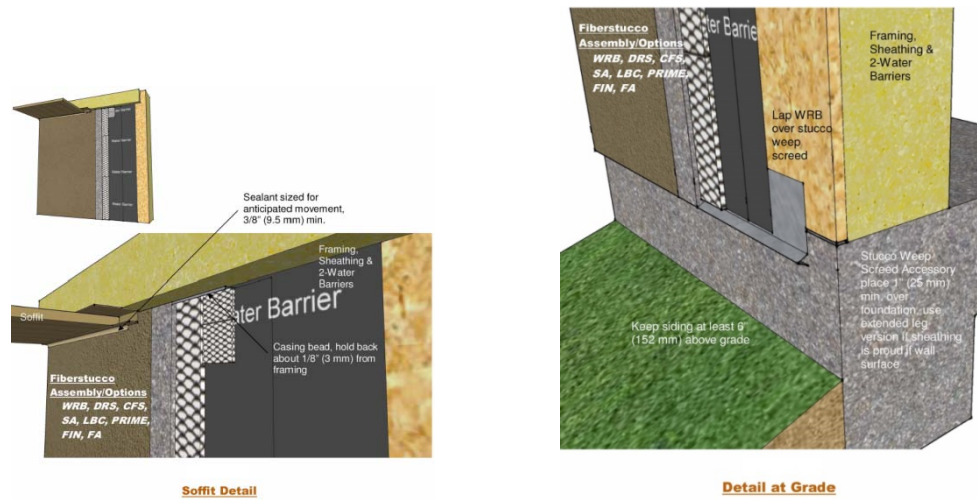


FIGURE 1: TYPICAL INSTALLATION DETAILS (CONTINUED)



INSTALLATION CARD

Master Wall Inc.
PO Box 397 Fortson Georgia 31808
(800)755-0825

Project Address:

Intertek Code Compliance Research Report:
CCRR-0215

Date of Job Completion: _____

Plastering Contractor

Name:

Address:

Phone:

Approved Contractor Number as Issued by the Coating Manufacturer: _____

This is to certify that the exterior coating system on the building exterior at the above address has been installed in accordance with code compliance research report and the manufacturer's instructions.

Signature of authorized representative of plastering contractor: _____

Date: _____

This installation card must be presented to the building inspector after completion of work and before final inspection.

FIGURE 2: INSTALLATION CARD





DECLARATION

Master Wall Inc.
PO Box 397 Fortson Georgia 31808
(800)755-0825

Project Address: _____

Date: _____

The field batching and mixing of all components of the exterior wall coating at the noted address have been continuously inspected. The field batching and mixing complies with current code compliance research report CCRR-0215.

Authorized Inspector's Signature: _____

Authorized Inspectors Name: _____

Employer's Name: _____

Employer's Address: _____

*This is to certify that the above noted inspector, approved by Master Wall Inc., is authorized to inspect the project and was trained to properly perform inspection.

Master Wall Inc. Officer Signature: _____

Signer's Name: _____

Date: _____

*Signature required only if inspector is not an employee of Master Wall, Inc.

FIGURE 3: DECLARATION

