



SECTION 04 05 13
Stone Veneer Mortar

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PART 1 GENERAL

1.1 SECTION INCLUDES

- A. Standard Stone Veneer Mortar for stone specified in other sections
- B. Polymer Modified Stone Veneer Mortar for stone specified in other sections.

1.2 RELATED SECTIONS

- A. Section 04 05 13 – Masonry Mortaring and Grout
- B. Section 04 20 00 – Unit Masonry.
- C. Section 04 43-00 - Stone Masonry.
- D. Section 04 73 00 – Manufactured Stone Masonry.
- E. Section 09 30 33 Stone Tiling
- F. Section 09 75 00 Stone Facing

1.3 REFERENCES

- A. ASTM International (ASTM):
 - 1. ASTM C 109 - Standard Test Method for Compressive Strength of Hydraulic Cement Mortars
 - 2. ASTM C 144- Standard Specification for Aggregate for Masonry Mortar
 - 3. ASTM C 150- Standard Specification for Portland Cement.
 - 4. ASTM C 207- Standard Specification for Hydrated Lime for Masonry Purposes.
 - 5. ASTM C 270 - Standard Specification for Mortar for Unit Masonry.
 - 6. ASTM C 482
 - 7. ASTM C 595 - Standard Specification for Blended Hydraulic Cements.
 - 8. ASTM C 780 - Standard Test Method for Preconstruction and Construction Evaluation of Mortars for Plain and Reinforced Masonry.
 - 9. ASTM C 1157 - Standard Performance Specification for Hydraulic Cement.
 - 10. ASTM C1314
 - 11. ASTM C 1329 - Standard Specification for Mortar Cement.
 - 12. ASTM C 1384- Standard Specification for Admixtures for Masonry Mortars.
- B. ANSI American National Standard Specifications for The Installation Of Ceramic Tile.
 - 1. ANSI 118.4 – American National Standard Specifications for Modified Dry-Set Cement Mortar
 - 2. ANSI 118.11 – American National Standard Specifications for EGP (Exterior Glue Plywood) Latex-Portland Cement Mortar

- 3. ANSO 118.15 – American National Standard Specifications for Improved Modified Dry-Set Cement Mortar.
- C. Masonry Veneer Manufacturers Association (MVMA) Installation Guide for Adhered Concrete Masonry Veneer
- D. Tile Council of North America (TCNA) Handbook for Ceramic, Glass and Stone Tile Installations.
- E. NCMA TR-88 - Hot & Cold Weather Masonry Construction Manual.

1.4 SUBMITTALS

- A. Submit under provisions of Section 01 30 00 - Administrative Requirements.
- B. Product Data: Manufacturer's data sheets on each product to be used, including:
 - 1. Mixing and preparation instructions and recommendations.
 - 2. Storage and handling requirements and recommendations.
 - 3. Installation methods.
- C. LEED Submittals:
 - 1. Product Certificates: For products and materials required to comply with requirements for regional materials, certificates indicating location of material manufacturer and point of extraction, harvest, or recovery for each raw material. Include statement indicating distance to Project, cost for each regional material, and fraction by weight that is considered regional.
 - 2. Low-Emitting Materials
- D. Test Reports:
 - 1. Submit certified test reports showing that the cementitious components of the mortar mix comply with the specified requirements.
 - 2. Submit certified test report showing that the mortar complies with the specified requirements.
- E. Selection Samples: For each finish product specified, two complete sets of color chips representing manufacturer's full range of available colors.
- F. Verification Samples: For each finish product specified, two samples, minimum size 36 inches (150 mm) high and long representing actual product, in color selected.

1.5 QUALITY ASSURANCE

- A. Manufacturer Qualifications: Firm specializing in manufacture of Stone Veneer materials with minimum 10 years' experience.
- B. Installer Qualifications: Minimum 2 year experience installing similar products.
- C. Quality Assurance Testing: Test Reports prepared by a qualified independent laboratory indicating compliance with the following performance requirements.
 - 1. ANSI 118.4- American National Standard Specifications for Modified Dry-Set Cement Mortar
 - 2. ANSI 118.11- American National Standard Specifications for EGP (Exterior Glue Plywood) Latex-Portland Cement Mortar
 - 3. ANSI 118.15- American National Standard Specifications for Improved Modified Dry-Set Cement Mortar
 - 4. Mortar tested in accordance with ASTM C270.
- D. Mock-Up: Provide a mock-up for evaluation of each type of masonry stone veneer

installations including surface preparation techniques and application workmanship.

1. Finish veneer areas designated by Architect.
2. Do not proceed with remaining work until workmanship is approved by Architect.
3. Refinish mock-up area as required to produce acceptable work.

1.6 PRE-INSTALLATION MEETINGS

- A. Pre-Installation Meeting: At least three weeks prior to commencing work conduct a meeting at the project site to discuss contract requirements and job conditions; require the attendance of stone veneer installer, installers of related materials; notify Architect in advance of meeting.

1.7 DELIVERY, STORAGE, AND HANDLING

- A. Deliver Stone Veneer mortar to site in sealed bags. Identify each bag with material name and type.
- B. Handle materials to avoid damage.

1.8 PROJECT CONDITIONS

- A. Maintain environmental conditions and protect work during and after installation to comply with referenced standards and manufacturer's published recommendations.
- B. Proceed with work after all surfaces and conditions comply with requirements indicated in referenced Masonry Veneer Manufacturers Association (MVMA) Installation Guide for Adhered Concrete Masonry Veneer and manufacturer's published instructions.

1.9 SEQUENCING

- A. Ensure that products of this section are supplied to affected trades in time to prevent interruption of construction progress.

PART 2 PRODUCTS

2.1 MANUFACTURERS

- A. Acceptable Manufacturer: Amerimix, which is located at: 625 Griffith Road. ; Charlotte, NC 28217; Toll Free Tel: 888-313-0755; Tel: 800-334-0784; Email: [request info \(support@amerimix.com\)](mailto:request_info@amerimix.com); Web:www.amerimix.com
- B. Substitutions: Not permitted.
- C. Requests for substitutions will be considered in accordance with provisions of Section 01 60 00 - Product Requirements.

2.2 APPLICATIONS/SCOPE

- A. Stone Veneer Mortar: Comply with ANSI 118.4, 118.11, 118.15, ASTM C 270, Property/Performance Specification. Provide the following types of stone veneer mortar based on project requirements:
- B. Provide the following types of stone veneer mortar based on project requirements:
- C. AMX 470 Stone Veneer Mortar - Mix to the Property Specifications of ASTM C 270 Type S Mortar:
 1. Compressive Strength: 1800 psi (12.4 MPa), minimum, at 28 days for laboratory mixed mortar with a flow of 110 plus/minus 5 percent.

2. Water Retention: 75 percent, minimum.
 3. Air Content: 12 percent, maximum.
- D. AMX 475 Stone Veneer Mortar: Meets ANSI 118.4
1. 7 Day Porcelain/Mosaic Shear Bond Strength - >200 psi (1.38 MPa)
 2. 28 Day Porcelain/Mosaic Shear Bond Strength- >225 psi (1.55 MPa)
 3. 28 Day Quarry Tile Shear Bond Strength - >225 psi (1.55 MPa)
- E. AMX 480 Premium Polymer Modified Stone Veneer Mortar: Meets ANSI 118.4/118.11
1. 7 Day Glazed Wall Tile Shear Bond Strength - >450 psi (>3.1 MPa)
 2. 7 Day Glazed Wall Tile Water Immersion Shear Bonds- >400 psi (>2.8 MPa)
 3. 1 Day Porcelain/Mosaic Shear Bond Strength - >200 psi (1.38 MPa)
 4. 7 Day Porcelain/Mosaic Shear Bond Strength - >250 psi (>1.72 MPa)
 5. 7 Day Porcelain/Mosaic Water Immersion Shear Bond Strength >150 psi (>1.03 MPa)
 6. 28 Day Porcelain/Mosaic Shear Bond Strength – 350 psi (2.4 MPa)
 7. 12 Week Porcelain/Mosaic Shear Bond Strength - >300 psi (2.07 MPa)
 8. 28 Day Quarry Tile Shear Bond Strength - >200 psi (1.38 MPa)
 9. Quarry to Plywood Shear Bond Strength ->150 psi (1.03 MPa)
 10. 28 Day Compressive Strength (ASTM C 109) >2500 psi (>17.2 MPa)
 11. SAG 0.01 in. (0.25mm)
- F. AMX 485 Ultimate Polymer Modified Stone Veneer Mortar : Meets ANSI 118.4/118.15
1. 7 Day Glazed Wall Tile Shear Bond Strength - >450 psi (>3.1 MPa)
 2. 7 Day Glazed Wall Tile Water Immersion Shear Bonds- >250 psi (1.72 MPa)
 3. 28 Day Glazed Wall Tile Heat Aging Shear Bonds - >450 psi (3.10 MPa)
 4. 1 Day Porcelain/Mosaic Shear Bond Strength - >100 psi (0.69 MPa)
 5. 7 Day Porcelain/Mosaic Shear Bond Strength - >300 psi (>2.07 MPa)
 6. 7 Day Porcelain/Mosaic Water Immersion Shear Bond Strength >200 psi (>1.38 MPa)
 7. 28 Day Porcelain/Mosaic Shear Bond Strength – 400 psi (2.76 MPa)
 8. 28 Day Freeze Thaw Cycling Porcelain/Mosaic Shear Bond Strength >250 psi (1.72 MPa)
 9. 28 Day Heat Aging Porcelain/Mosaic Shear Bond Strength - >400 psi (2.76 MPa)
 10. 28 Day Quarry Tile Shear Bond Strength - >150 psi (1.03 MPa)
 11. 28 Day Freeze Thaw Cycling Quarry Tile Shear Bond Strength - >100 psi (0.69 MPa)
 12. 28 Day Compressive Strength (ASTM C 109) >2500 psi (>17.2 MPa)
 13. SAG ≤0.02 in. (0.5mm)

2.3 ACCESSORY Material's

- A. Water: Clean, potable and free from deleterious acids, alkali's, and organic matter.

2.4 MIXING

- A. Mixing Procedure: As published in the Amerimix products Technical Data Sheet.
- B. Retempering: Use mortar within 2 hours of initial mixing. Retemper only by remixing. DO NOT ADD ADDITIONAL WATER.
- C. Cold Weather: Follow National Concrete Masonry Association recommendations for cold weather construction.
- D. Hot Weather: Follow National Concrete Masonry Association recommendations for hot weather construction.

PART 3 EXECUTION

3.1 EXAMINATION

- A. Do not begin installation until substrates have been properly prepared.
- B. If substrate preparation is the responsibility of another installer, notify Architect of unsatisfactory preparation before proceeding.

3.2 PREPARATION

- A. Clean surfaces thoroughly prior to installation including but not limited to removing any efflorescence, dirt, grease, sealers or any foreign materials that will inhibit performance.
- B. Prepare surfaces using the methods recommended by the manufacturer for achieving the best result for the substrate under the project conditions and the same approved procedure used on the sampled mock up panel.
- C. Follow ASTM C 926/ASTM C1063 for scratch and brown coat and local building code requirements.

3.3 INSTALLATION

- A. Install in accordance with Amerimix materials published instructions, Masonry Veneer Manufacturers Association (MVMA) Installation Guide for Adhered Concrete Masonry Veneer and local building code specifications.
- B. Reference ACI/ASCE-530.1 Section 04 43 00 – Stone Masonry and Section 04 73 00 – Manufactured Stone Masonry.

3.4 FIELD QUALITY CONTROL

- A. Owner will arrange and pay for field testing.
- B. Contractor shall arrange and pay for field testing by an acceptable testing agency.
- C. Field Testing: In accordance with ASTM C 780 with following exception: Verify compressive strength by obtaining minimum 20 pound (9 kg) uniform sample of dry blend, prepare mix as specified, and test in accordance with applicable portions of ASTM C 270.

3.5 PROTECTION

- A. Protect installed products until completion of project.
- B. Touch-up, repair or replace damaged products before Substantial Completion.

END OF SECTION