SECTION 07 24 30

EIFS INSTALLATION OVER EXISTING WALLS AND EIFS AND STUCCO REPAIR

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\*\* NOTE TO SPECIFIER \*\* Sto Corporation; Integrated exterior wall systems; EIFS, stucco repair.  
This section is based on the products of Sto Corporation, which is located at:  
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Building 1400, Suite 120  
Atlanta, GA 30331  
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[Click Here] for more information  
Sto is the leading global producer of a broad range of next-generation building envelope solutions and coating systems for building construction, maintenance and restoration. For more than 35 years, we have led the way in building technology, while providing customers with the most experienced technical support in the industry.

1. GENERAL
   1. SECTION INCLUDES

\*\* NOTE TO SPECIFIER \*\* Delete items below not required for project.

* + 1. Exterior Insulation and Finish (EIFS) Wall Assemblies Over Existing Wall Cladding Using Metal Lath Attachment. (StoTherm ci)
    2. Repair of Exterior Insulation and Finish (EIFS) Wall Assemblies.
    3. Repair of Portland Cement Plaster (Stucco) Wall Assemblies.
    4. Cleaning of existing wall surface in preparation for resurfacing or recoating.
  1. RELATED SECTIONS

\*\* NOTE TO SPECIFIER \*\* Delete any sections below not relevant to this project; add others as required.

* + 1. Section 07 24 00 - Exterior Insulation and Finish Systems.
    2. Section -
  1. REFERENCES

\*\* NOTE TO SPECIFIER \*\* Delete references from the list below that are not actually required by the text of the edited section.

* + 1. ASTM Standards:
       1. ASTM C578 - Standard Specification for Rigid, Cellular Polystyrene Thermal Insulation.
       2. ASTM C847 - Standard Specification for Metal Lath.
       3. ASTM C920 - Standard Specification for Elastomeric Joint Sealants.
       4. ASTM C926 - Standard Specification for Application of Portland Cement-Based Plaster.
       5. ASTM C1063 - Standard Specification for Installation of Lathing and Furring to Receive Interior and Exterior Portland Cement-Based Plaster.
       6. ASTM C1382 - Standard Test Method for Determining Tensile Adhesion Properties of Sealants When Used in Exterior Insulation and Finish Systems (EIFS) Joints.
       7. ASTM E2430 - Standard Specification for Expanded Polystyrene ("EPS") Thermal Insulation Boards for Use in Exterior Insulation and Finish Systems ("EIFS").
       8. ASTM E2568 - Standard Specification for PB Exterior Insulation and Finish Systems.
       9. ASTM E2570 - Standard Test Methods for Evaluating Water-Resistive Barrier (WRB) Coatings Used under Exterior Insulation and Finish Systems (EIFS) or EIFS with Drainage.
       10. ASTM D4258 - Standard Practice for Surface Cleaning Concrete for Coating.
    2. International Code Council, Evaluation Service (ICC-ES):
       1. ICC-ES ESR-1030 - Sto RainScreen and Sto RainScreen II Evaluation Report.
       2. ICC-ES ESR-1748 StoTherm ci Evaluation Report.
    3. Northwest Wall and Ceiling Bureau (NWCB):
       1. Portland Cement Plaster Resource Guide.
    4. International Concrete Repair Institute (ICRI):
       1. Guidelines for Surface Preparation.
    5. Sealant Waterproofing and Restoration Institute (SWRI):
       1. Validation Program for Wall Coatings (http://www.swrionline.org/validation/).
    6. Society of Protective Coatings (SSPC):
       1. SSPC-SP 13/NACE 6: Surface Preparation of Concrete.
    7. International Concrete Repair Institute (ICRI):
       1. ICRI No. 03732: Selecting and Specifying Concrete Surface Preparation for Sealers, Coatings, and Polymer Overlays.
    8. Sto References:
       1. EIFS Over Existing Wall Cladding Using Metal Lath Attachment:
          1. StoTherm EIFS - Reference Guide: Repair and Maintenance.
          2. Sto Specification RC 100 - reStore Guideline Specification for Cleaning Wall Surfaces.

\*\* NOTE TO SPECIFIER \*\* Delete EIFS options not required.

* + - * 1. Sto Specification: L100G - StoTherm ci Lotusan.
        2. Sto Specification A100G - StoTherm ci Classic.
        3. Sto Specification: E100G - StoTherm ci Essence.
      1. Repair of EIFS Assemblies:

\*\* NOTE TO SPECIFIER \*\* Delete EIFS options not required.

* + - * 1. Sto Specification: L100G, StoTherm Lotusan.
        2. Sto Specification: L100, StoTherm Lotusan.
        3. Sto Specification: A100, StoTherm Classic.
        4. Sto Specification: E100G, StoTherm Essence.
        5. Sto Specification: E100, StoTherm Essence.
      1. Repair of Portland Cement Plaster (Stucco):
         1. Sto RC 100: reStore Guideline Cleaning Specification for Walls Surfaces.
         2. Sto Stucco Repair and Maintenance Guide.
         3. Sto S103: Sto Specification S 103, Sto Powerwall Stucco.
      2. Cleaning of Existing Wall Surface:
         1. StoTherm EIFS Reference Guide: Repair and Maintenance.
         2. Sto Corporation: 1.01 Stucco Repair and Maintenance.
  1. SUBMITTALS
     1. Submit under provisions of Section 01 30 00 - Administrative Requirements.
     2. Product Data:
        1. Manufacturer's data sheets on each product to be used. EIFS, repair materials, and coating manufacturers' specifications, details, installation instructions and product data.
        2. Preparation instructions and recommendations.
        3. Storage and handling requirements and recommendations.
        4. Typical installation methods.

\*\* NOTE TO SPECIFIER \*\* Delete if not applicable to product type.

* + 1. Verification Samples: Two representative units of each type, size, pattern and color.
    2. Manufacturer's standard material warranty for each product or system to be used.
    3. Shop Drawings: Include details of materials, construction and finish. Include relationship with adjacent construction.
  1. QUALITY ASSURANCE

\*\* NOTE TO SPECIFIER \*\* Delete manufacturer qualifications paragraph not required.

* + 1. Manufacturer Qualifications: (EIFS)
       1. EIFS material manufacturer shall have minimum 25 years of experience producing cementitious and polymer-based materials for use in EIFS construction and repair.
       2. EIFS manufacturer shall have a manufacturing quality control system that is certified to comply with ISO 9001-2008 and an environmental quality management system certified to comply with ISO 14001-2004.
       3. EIFS manufacturer shall have current valid code evaluation reports which list the EIFS materials to be used.
    2. Manufacturer Qualifications: (Stucco)
       1. Stucco and finish material manufacturer shall be experienced provider of cementitious and polymer-based materials for use in stucco construction and repair for minimum 25 years.
       2. Stucco and finish manufacturer shall have a manufacturing quality control system that is certified to comply with ISO 9001-2008 and an environmental quality management system certified to comply with ISO 14001-2004.
    3. Installer Qualifications:

\*\* NOTE TO SPECIFIER \*\* Delete one of the following two subparagraphs not required.

* + - 1. Licensed and insured and engaged in EIFS and EIFS repair construction for minimum three years. Minimum three job references.
      2. Licensed and insured and engaged in stucco and stucco repair construction for minimum three years. Minimum three job references.
      3. Knowledgeable in the proper handling, use and installation of Sto materials.
      4. Employ skilled mechanics who are experienced and knowledgeable in the repair procedures and requirements of the specified project.
      5. Provide proper equipment, manpower and supervision on job site to perform repair procedures in accordance with Sto's published repair specifications, applicable Sto details, and the contract documents.
    1. Source Limitations: Provide each type of product from a single manufacturing source to ensure uniformity.

\*\* NOTE TO SPECIFIER \*\* Delete paragraph if not required.

* + 1. Inspection Requirements: EIFS over existing wall cladding using metal lath attachment.
       1. Quality Control Inspections: Provided for by Owner or Owner's representative.
       2. Inspectors: Qualified by experience to evaluate field conditions before and during repair process and familiar with specified repair procedures prior to work commencement.
       3. Inspections: Provided at key intervals during each repair.
          1. Inspect condition of water-resistive barrier, transition elements, and newly installed or replaced flashing for visible evidence of material integrity and continuity of the system before installing lath.
          2. Verify flashing and water-resistive barrier installation is per the repair detail design.
          3. Verify visible continuity of water-resistive barrier system to direct water to exterior of wall via the flashing.
          4. Inspect installed lath to verify proper fastener type and spacing, and wire-tying of lath seams.
          5. Inspect the final appearance of each repair location to verify compliance with owner requirements.
       4. Resolve any visible construction detail conflicts with the repair designer before allowing the contractor to proceed with the repair.

\*\* NOTE TO SPECIFIER \*\* Delete paragraph if not required.

* + 1. Inspection Requirements: Repair of EIFS Assemblies.
       1. Quality Control Inspections: Provided for by the Owner or Owner's representative.
       2. Inspectors: Qualified by experience to evaluate field conditions before and during repair process and familiar with specified repair procedures prior to work commencement.
       3. Inspections: Provided at key intervals during each repair.
          1. Inspect locations of flashing repair and other locations where existing EIFS must be removed after demolition of EIFS is completed and before any existing flashing is removed.
          2. Verify proposed repair is constructible and will function in manner intended based on visible conditions.
          3. Resolve any visible construction detail conflicts with repair designer before allowing contractor to proceed with repair.
          4. Inspect condition of water-resistive barrier and transition elements for visible evidence of material integrity and continuity of system.
          5. Inspect conditions of newly installed or replaced flashing and water-resistive barrier components before installing replacement insulation.
          6. Verify flashing and water-resistive barrier installation is per repair detail design.
          7. Verify visible continuity of water-resistive barrier system to direct water to exterior of wall via flashing.
          8. Inspect final appearance of each repair location to verify compliance with owner requirements.

\*\* NOTE TO SPECIFIER \*\* Delete paragraph if not required.

* + 1. Inspection Requirements: Repair of stucco assemblies.
       1. Quality Control Inspections: Provided for by the Owner or Owner's representative.
       2. Inspectors: Qualified by experience to evaluate field conditions before and during repair process and familiar with specified repair procedures prior to work commencement.
       3. Inspections: Provided at key intervals during each repair.
          1. Inspect locations for flashing repair and other locations where existing stucco must be removed after demolition of the cementitious stucco is completed, before any existing flashing is removed, and before any new materials are installed.
          2. Verify proposed repair is constructible and will function in manner intended based on the visible conditions. Resolve any visible construction detail conflicts with repair designer before allowing contractor to proceed with repair.
          3. Inspect condition of water-resistive barrier and transition elements for visible evidence of material integrity and continuity of system.
          4. Inspect conditions of newly installed or replaced flashing, water-resistive barrier components and replacement lath (if applicable) before installing replacement scratch coat.
          5. Verify flashing and water-resistive barrier installation is per the repair detail design.
          6. Verify visible continuity of water-resistive barrier system to direct water to exterior of wall via flashing.
          7. Inspect final appearance of each repair location to verify compliance with owner requirements.

\*\* NOTE TO SPECIFIER \*\* Include mock-up if the project size or quality warrant the expense. The following is one example of how a mock-up on might be specified. When deciding on the extent of the mock-up, consider all the major different types of work on the project.

* + 1. Mock-Up: Construct a mock-up with actual materials in sufficient time for Architect's review and to not delay construction progress. Locate mock-up as acceptable to Architect and provide temporary foundations and support.
       1. Intent of mock-up is to demonstrate quality of workmanship and visual appearance.
       2. If mock-up is not acceptable, rebuild mock-up until satisfactory results are achieved.
       3. Retain mock-up during construction as a standard for comparison with completed work.
       4. Do not alter or remove mock-up until work is completed or removal is authorized.
  1. COORDINATION AND SCHEDULING
     1. Schedule and conduct a preconstruction conference with all trades providing work for this section.
        1. Discuss the Following:
           1. Full scope of repairs.
           2. Repair locations as noted on project drawings.
           3. Coordination and location of repairs that specifically require coordination between trades to set the proper sequence of installation.
     2. Schedule repairs to permit inspections.
     3. Do not start repairs in an area unless sufficient work can be completed such that the area is weather-tight at the end of the work shift. Alternatively allow sufficient time before the end of the work shift to provide temporary weather protection until work can resume.
     4. Coordinate with all trades involved to schedule work to result in the proper sequencing of materials within the repair (proper lapping of water resistive system components and flashing).
     5. Schedule finish and coating application to large areas such that each day's application will end at an architectural break.
  2. DELIVERY, STORAGE AND HANDLING
     1. Deliver materials in their original sealed containers bearing manufacturer's name and product identification.
     2. Protect liquid products (pails) from freezing and temperatures greater than 90 degrees F (32 degrees C). Do not store in direct sunlight.
     3. Protect Portland cement based materials (bag products) from moisture and humidity. Store under cover and off of the ground in a dry location.
  3. PROJECT CONDITIONS
     1. Apply materials only when surface and ambient temperatures are above 40 degrees F (4 degrees C) and are expected to remain above 40 degrees F (4 degrees C) for 24 hours after application.
     2. Provide supplementary heat for installation in temperatures less than 40 degrees F (4 degrees C).
     3. Provide protection of surrounding areas and adjacent surfaces from spillage, splatter, overspray or other unintended contact with the materials that are being applied.
  4. WARRANTY
     1. Provide manufacturer's standard warranty for products used.

1. PRODUCTS
   1. MANUFACTURERS
      1. Acceptable Manufacturers: Sto Corporation which is located at: 3800 Camp Creek Parkway, Building 1400, Suite 120; Atlanta, GA 30331; ASD Toll Free: 800-221-2397; Phone: 404-346-3666; Fax: 404-346-3119; Email: \_\_\_\_\_\_\_\_; Web: www.stocorp.com

\*\* NOTE TO SPECIFIER \*\* Delete one of the following two paragraphs; coordinate with requirements of Division 1 section on product options and substitutions.

* + 1. Substitutions: Not permitted.
    2. Requests for substitutions will be considered in accordance with provisions of Section 01 60 00 - Product Requirements.

\*\* NOTE TO SPECIFIER \*\* Detailed Sto product information is available at [www.stocorp.com](http://www.stocorp.com) . Many different product options are presented below. All products may not be required. Product selection assistance is available from your local Sto representative and Sto Corp. Technical Services. Delete paragraph following if not required.

* 1. EIFS OVER EXISTING WALL CLADDING USING METAL LATH ATTACHMENT (StoTherm ci)
     1. Design Requirements:
        1. Determine repair scope and detail design requirements based on inspection of field conditions.
        2. Identify and design repairs to structure and to existing facade as required to provide a sound substrate for installation of the water-resistive barrier, metal lath support and EIFS.
        3. Provide flashing installation, repair and/or replacement details for applicable conditions and indicate locations of each repair on project drawings.
        4. Flashing Remediation: Based on standard flashing requirements listed below and indications of distress or leakage observed during inspection.
           1. Provide head flashing above and sill flashing below window and door openings, and similar through wall penetrations.
           2. Provide flashing at bottom of EIFS system.
           3. Provide flashing at floor line expansion joints in multi-story construction.
           4. Terminate EIFS minimum 2 inches (51 mm) above paved area or surfaces and roofing materials.
           5. Terminate EIFS minimum 6 inches (152 mm) above soil and landscaped finished grades.

\*\* NOTE TO SPECIFIER \*\* Verify local code requirements and comply with them for minimum distance above grade for EIFS termination.

* + - * 1. Metal Cap Flashing: For parapets; sloped to drain water onto roof system.
        2. Metal Flashing: Non-vertical or low slope projections to drain water away from the wall exterior.

\*\* NOTE TO SPECIFIER \*\* Best practice where no sill flashing is present beneath windows is to remove the window and properly install a sill pan flashing.

* + - 1. Integrate flashing repair and replacement with water-resistive barrier system to provide direct and continuous drainage to exterior of wall.
      2. Pre-wrap exterior insulation terminations at grade, expansion joints, and perimeters of wall openings and mechanical penetrations.
         1. Provide minimum 1/2 inch-wide (13 mm) space between the pre-wrapped insulation and window/door frames.
         2. Install backer rod and sealant joint at perimeters of window, doors and mechanical penetrations.
      3. Provide detail drawings consistent with Sto guideline details and Sto product installation instructions.
      4. As an option to flashing, apply waterproof base coat with reinforcing mesh to standard EIFS base coat on the top surfaces of projecting elements and immediately above and below the projecting elements.
         1. Slope projecting elements sufficiently to provide drainage to the exterior. Protect these surfaces with horizontal grade coating.
         2. Limit this option to small, easily accessible areas.
         3. Dirt pick-up, bird droppings, excess wear, and other issues may occur that necessitate frequent maintenance of projecting elements.
    1. Performance Requirements:
       1. Wind Resistance: Provide fastening and support equivalent to that used over frame construction as described in ICC ES ESR-1030, Assembly No. 3.
          1. Allowable Negative Wind Pressure: 55 psf (269 N per sq m).
          2. Fastener type, spacing, pattern and washer type must be determined by project design professional in consultation with fastener manufacturer for applications requiring greater than 55 psf (269 N per sq m) allowable negative pressure, and must be tested per ASTM E 330.
          3. Acceptance of system must be determined to be acceptable by the responsible design professional.
    2. Waterproof Air Barrier: Waterproof air barrier coating and transition membrane system.
       1. Waterproof Air Barrier: Sto Gold Coat - fluid-applied waterproof air-barrier coating for moisture protection of sheathing, masonry and concrete substrates behind EIFS.
       2. Rough Opening Protection and Joint Treatment:
          1. Sto RapidGuard: One component STPE rapid drying gun-applied treatment. For Sheathing joints, seams, cracks, penetrations and other transitions in above grade wall construction.
          2. Sto Gold Fill with StoGuard Mesh: Trowel-applied treatment for waterproof air barrier system terminations and transitions to flashing and other construction elements.
          3. StoGuard Fabric: Non-woven fabric tape for use with Sto Gold Coat as a transition element by embedment of the StoGuard Fabric into wet Sto Gold Coat. Used as transition membrane from Sto Gold Coat onto top edge of StoGuard Tape. In some cases may be used as an alternate to StoGuard Transition Membrane.
          4. StoGuard Tape: Fabric-faced, self-adhesive modified asphaltic flashing tape for use with Sto Gold Coat as transition at flashing, windows, mechanical penetrations and static system terminations.
       3. Transition Membrane: StoGuard Transition Membrane. Flexible air barrier membrane with Sto Gold Coat for transition at flashing and dynamic system terminations.
    3. Cementitious Adhesive:

\*\* NOTE TO SPECIFIER \*\* Delete adhesives options not required.

* + - 1. BTS Plus: One component, polymer-modified, high build EIFS adhesive.
      2. BTS Xtra: Lightweight, one component, polymer-modified, high build adhesive.
      3. Primer/Adhesive-B: One component, polymer-modified, adhesive.
      4. Primer/Adhesive: Two component, polymer-modified, adhesive. Combined in the field with Portland cement.
    1. Insulation Board: Nominal 1.0 pcf (16 kg per cu m) Expanded Polystyrene (EPS) insulation board in compliance with ASTM E 2430 and ASTM C 578, Type I requirements.
       1. Thickness: Minimum thickness is 1 inch (25 mm). Maximum thickness is 4 inches (305 mm). Use of insulation thickness greater than 4 inches (305 mm) requires evaluation by a qualified fire professional and approval by local code agency.
    2. Base Coat:

\*\* NOTE TO SPECIFIER \*\* Delete base coat options not required.

* + - 1. Cementitious Base Coat: BTS Plus. One component, polymer-modified, high build EIFS adhesive.
      2. Cementitious Base Coat: BTS Xtra. Lightweight, one component, polymer-modified, high build adhesive.
      3. Cementitious Base Coat: Primer/Adhesive-B. One component, polymer-modified, adhesive.
      4. Cementitious Base Coat: Primer/Adhesive. Two component, polymer-modified, adhesive. Combined in the field with Portland cement.
      5. Non-Cementitious Base Coat: Sto RFP. Single component, ready-mixed, non-cementitious fiber reinforced acrylic base coat.
      6. Waterproof Base Coat: Sto Flexyl. Two component fiber-reinforced acrylic-based waterproof base coat mixed in the field with Portland cement (provided by others). Embedded in Sto reinforcing mesh where waterproofing is required.
      7. Waterproof Base Coat: Sto Watertight Coat. Two component, pre-proportioned acrylic based waterproof base coat. Combine two components in field. Embedded in Sto reinforcing mesh where waterproofing is required.
    1. Glass Fiber Mesh Reinforcement: Alkali resistant, open weave glass fiber mesh reinforcing for surface leveling and waterproof base coat.
       1. Sto Mesh: Alkali-resistant, glass-fiber reinforcing mesh for use with Sto base coat products to provide crack resistance.
       2. Sto Detail Mesh: Alkali-resistant, glass-fiber reinforcing mesh for use with Sto base coats to provide crack resistance and at system terminations.
       3. Sto Intermediate Mesh. Nominal 11.2 oz per sq yd (380 g per sq m), high impact, interwoven, open weave glass fiber fabric with alkaline resistant coating for compatibility with Sto materials.
       4. Sto Armor Mat: High impact resistant, 15 oz per sq yd (509 g per sq m) alkali resistant, glass-fiber reinforcing mesh.
       5. Sto Armor Mat XX: Ultra-high impact resistant, 20 oz per sq yd (678 g per sq m) alkali resistant glass-fiber reinforcing mesh.
    2. Acrylic Primer:

\*\* NOTE TO SPECIFIER \*\* Delete primer options not required.

* + - 1. StoPrime.
      2. StoPrime Sand.
      3. StoPrime UV.
    1. Polymeric Acrylic EIFS Finish: Color and texture to be determined based on mockup.

\*\* NOTE TO SPECIFIER \*\* Delete acrylic finish options not required.

* + - 1. Acrylic Finish Products: Stolit Lotusan. Textured finish with Lotus Effect. Maximum water repellency, significantly reduced cleaning requirements over time.
      2. Acrylic Finish Products: Stolit. Acrylic textured finish. premium acrylic based exterior or interior textured wall finish enhanced with advanced polymer technology.
      3. Acrylic Finish Products: Stolit X. Ready-mixed, acrylic-based exterior or interior decorative and protective textured wall finish.
      4. Acrylic Finish Products: Sto Essence DPR. Acrylic textured finish. acrylic-based exterior or interior textured finishes used as decorative and protective wall coatings.
      5. standard acrylic finish.

\*\* NOTE TO SPECIFIER \*\* These finishes are accent or nontraditional finishes. These products require application of mesh-reinforced base coat prior to finish installation and may require significant additional surface preparation and clear sealer for exterior use. See written installation instructions for the specified product and specify accordingly.

* + - 1. Specialty Acrylic Finishes: Sto Decocoat. Trowel or spray-applied colored aggregate textured finish.
      2. Specialty Acrylic Finishes: Stolit Milano. Light texture, smooth or ultra-smooth finish.
      3. Specialty Acrylic Finishes: Sto Granitex. Spray applied colored aggregate finish with coarse texture.
      4. Specialty Acrylic Finishes: StoCreativ Granite. Trowel applied colored aggregate faux granite finish.
      5. Specialty Acrylic Finishes: StoCreative Lux. Trowel applied colored aggregate faux granite finish with reflective accent.
      6. Specialty Acrylic Finishes: StoTique. Faux finish translucent surface application for smooth or textured Sto acrylic finishes to produce mottled color and old-world appearance.
    1. Portland Cement: Provide ASTM C 150 Type I, Type II, or Type I-II cement for mixing with Sto Primer/Adhesive and/or Sto Flexyl.
    2. Sealant: Sealant shall be low-modulus, comply with ASTM C 920, ASTM C 1382 and be recommended for use with EIFS by the sealant manufacturer.
    3. Lath: Provide minimum 2.5 lb per sq yd (1.36 kg per sq m), galvanized expanded metal lath, complying with ASTM C 847.

\*\* NOTE TO SPECIFIER \*\* Delete article if not required.

* 1. REPAIR OF EXTERIOR INSULATION AND FINISH SYSTEM (EIFS) WALL ASSEMBLlES
     1. Summary: The combination of StoTherm ci base coat, reinforcing mesh and finish may be referred to as "EIFS lamina" and, for purposes of this specification, treated as a single construction element
        1. Repair distress and construction deficiencies of EIFS cladding.
        2. Repair nonstructural EIFS base coat and finish.
        3. Repair flashing and waterproofing deficiencies at EIFS terminations.
        4. Resurface wall to provide uniform appearance per owner's requirements.
     2. Design Requirements:
        1. Determine scope and design requirements based on inspection of field conditions.
        2. Provide crack repair detail for cracks not wider than 1/16 inch (1.6 mm) nominal width.
        3. Provide crack repair detail for cracks wider than 1/16 inch (1.6 mm) but not wider than 1/8 inch (3.2 mm).
        4. Provide flashing installation, repair or replacement details for applicable conditions and indicate locations of repairs on project drawings.
        5. Flashing remediation shall be based on standard flashing requirements listed below and indications of distress or leakage observed during inspection.
           1. Head flashing above window and door openings.
           2. Flashing at bottom of EIFS.
           3. Flashing at floor line expansion joints in multi-story construction.
           4. Terminate EIFS 2 inches (51 mm) above paved areas and roofing materials.
           5. Terminate EIFS 6 inches (153 mm) above soil and landscaped finished grades. Verify and comply with local code for distance above grade EIFS termination.
           6. Metal cap flashing for parapets, sloped to drain water onto roof system.
           7. Metal flashing for non-vertical or low slope projections to drain water away from wall exterior.

\*\* NOTE TO SPECIFIER \*\* Best practice where no sill flashing is present beneath windows is to remove the window and properly install a sill pan flashing.

* + - 1. Integrate flashing repair and replacement with water-resistive barrier system providing direct and continuous drainage to exterior of wall.
      2. Back wrap EIFS terminations at grade, expansion joints, and perimeters of wall openings and mechanical penetrations. Provide minimum 1/2 inch-wide (13 mm) space between the back wrapped insulation and window/door frames. Install backer rod and sealant joint at perimeters of window, doors and mechanical penetrations.
      3. Indicate on project drawings locations where resurfacing, refinishing, and/or recoating is required.
      4. Detail drawings to be consistent with Sto guideline details and Sto product installation instructions.
      5. An Option to Flashing: Apply waterproof base coat with reinforcing mesh to standard EIFS base coat on top surfaces of projecting elements and immediately above and below projecting elements. Slope projecting elements sufficiently to provide drainage to the exterior. Protect these surfaces with horizontal grade coating. Limit this option to small and easily accessible areas. Dirt pick-up, bird droppings, excess wear, and other issues may occur necessitating frequent maintenance of projecting elements.
    1. Water-Resistive Barrier Coating and Transition Membrane System:
       1. Sto Gold Coat: Fluid-applied waterproof air-barrier coating for moisture protection of sheathing, masonry and concrete substrates behind EIFS.
       2. Sto RapidGuard: One component STPE rapid drying gun-applied treatment. For Sheathing joints, seams, cracks, penetrations and other transitions in above grade wall construction.
       3. Sto Gold Fill: Knife-grade, trowel-applied transition material for use with Sto Gold Coat and StoGuard Mesh as transition at flashing, windows, mechanical penetrations and at system terminations.
       4. StoGuard Fabric: Non-woven fabric tape for use with Sto Gold Coat as a transition element by embedment of the StoGuard Fabric into wet Sto Gold Coat. Used as transition membrane from Sto Gold Coat onto top edge of StoGuard Tape. May be alternate to Sto Gold Fill with StoGuard Mesh.
       5. StoGuard Tape: Fabric-faced, self-adhesive modified asphaltic flashing tape for use with Sto Gold Coat as transition at flashing, windows, mechanical penetrations and at system terminations. May be alternate to or used with Sto Gold Fill.
    2. Cementitious Adhesive:

\*\* NOTE TO SPECIFIER \*\* Delete adhesive options not required.

* + - 1. BTS Plus: One component, polymer-modified, high build adhesive for use over exterior glass mat faced gypsum sheathing (compliant with ASTM C 1177), exterior cementitious sheathing (compliant with ASTM C 1325), concrete, masonry or cement plaster surfaces. Also used over Exposure 1 OSB and plywood sheathing when protected with StoGuard.
      2. BTS Xtra: Lightweight, one component, polymer-modified, high build adhesive for use over exterior glass mat faced gypsum sheathing (compliant with ASTM C 1177), exterior cementitious sheathing (compliant with ASTM C 1325), concrete, masonry or cement plaster surfaces. Also used over Exposure 1 OSB and plywood sheathing when protected with StoGuard).
      3. Primer/Adhesive-B: One component, polymer-modified, adhesive for use over exterior glass mat faced gypsum sheathing (compliant with ASTM C 1177), exterior cementitious sheathing (compliant with ASTM C 1325), concrete, masonry or cement plaster surfaces. Also used over Exposure 1 OSB and plywood sheathing when protected with StoGuard.
      4. Primer/Adhesive: Two component, polymer-modified, adhesive for use over exterior glass mat faced gypsum sheathing (compliant with ASTM C 1177), exterior cementitious sheathing(compliant with ASTM C 1325), concrete, masonry or cement plaster surfaces. Also used over Exposure 1 OSB and plywood sheathing when protected with StoGuard). Combined in the field with Portland cement.
      5. Non-Cementious Adhesive, Sto TurboStick Mini: Urethane spray foam adhesive for use adhering insulation board for localized repairs and filling gaps in insulation at the perimeter of localized repairs.
      6. Non-Cementious Adhesive, Sto TurboStick: Urethane spray foam adhesive for use adhering insulation board for localized repairs and filling gaps in insulation at the perimeter of localized repairs.
    1. Insulation Board: Nominal 1.0 pcf (16 kg per cu m ) Expanded Polystyrene (EPS) insulation board in compliance with ASTM E 2430 and ASTM C 578, Type I requirements.
       1. Thickness: Minimum thickness is 1 inch (25 mm). Maximum allowable thickness is 12 inches (305 mm) when installed in accordance with ICC-ES ESR 1748).
    2. Base Coat:

\*\* NOTE TO SPECIFIER \*\* Delete base coat options not required.

* + - 1. Cementitious Base Coat: BTS Plus. One component, polymer-modified, high build adhesive for use over exterior glass mat faced gypsum sheathing (compliant with ASTM C 1177), exterior cementitious sheathing (compliant with ASTM C 1325), concrete, masonry or cement plaster surfaces. Also used over Exposure 1 OSB and plywood sheathing when protected with StoGuard.
      2. Cementitious Base Coat: BTS Xtra. Lightweight, one component, polymer-modified, high build adhesive for use over exterior glass mat faced gypsum sheathing (compliant with ASTM C 1177), exterior cementitious sheathing (compliant with ASTM C 1325), concrete, masonry or cement plaster surfaces. Also used over Exposure 1 OSB and plywood sheathing when protected with StoGuard.
      3. Cementitious Base Coat: Primer/Adhesive-B. One component, polymer-modified, adhesive for use over exterior glass mat faced gypsum sheathing (compliant with ASTM C 1177), exterior cementitious sheathing (compliant with ASTM C 1325), concrete, masonry or cement plaster surfaces. Also used over Exposure 1 OSB and plywood sheathing when protected with StoGuard.
      4. Cementitious Base Coat: Primer/Adhesive. two component, polymer-modified, adhesive for use over exterior glass mat faced gypsum sheathing (compliant with ASTM C 1177), exterior cementitious sheathing (compliant with ASTM C 1325), concrete, masonry or cement plaster surfaces. Also used over Exposure 1 OSB and plywood sheathing when protected with StoGuard. Combined in the field with Portland cement
      5. Non-Cementitious Base Coat: Sto RFP: Single component, ready-mixed, non-cementitious fiber reinforced acrylic base coat.
      6. Waterproof Base Coat: Sto Flexyl: Two component fiber-reinforced acrylic-based waterproof base coat mixed in the field with Portland cement (provided by others). Use with reinforcing mesh where waterproofing is required.
      7. Waterproof Base Coat: Sto Watertight Coat. Two component, pre-proportioned acrylic based waterproof base coat. Combine two components in field. Use with reinforcing mesh where waterproofing is required.
    1. Glass fiber Mesh Reinforcement: Alkali resistant, open weave glass fiber mesh reinforcing for surface leveling and waterproof base coat.

\*\* NOTE TO SPECIFIER \*\* Delete mesh options not required.

* + - 1. Sto Mesh: Alkali-resistant, glass-fiber reinforcing mesh for use with Sto base coat products to provide crack resistance.
      2. Sto Detail Mesh: Alkali-resistant, glass-fiber reinforcing mesh for use with Sto base coats to provide crack resistance and at system terminations.
      3. Sto Intermediate Mesh. Nominal 11.2 oz per sq yd (380 g per sq m), high impact, interwoven, open weave glass fiber fabric with alkaline resistant coating for compatibility with Sto materials.
      4. Sto Armor Mat: High impact resistant, 15 oz per sq yd (509 g per sq m) alkali resistant, glass-fiber reinforcing mesh.
      5. Sto Armor Mat XX: Ultra-high impact resistant, 20 oz per sq yd (678 g per sq m) alkali resistant glass-fiber reinforcing mesh.
    1. Acrylic Primer:

\*\* NOTE TO SPECIFIER \*\* Delete primer options not required.

* + - 1. StoPrime.
      2. StoPrime Sand.
      3. Sto Prime UV.

I.Polymeric Acrylic EIFS Finish: Color and texture to be determined based on mockup.  
\*\* NOTE TO SPECIFIER \*\* Delete acrylic finish options not required.

* + - 1. Acrylic Finish Products: Stolit Lotusan. Textured finish with Lotus Effect. Maximum water repellency, significantly reduced cleaning requirements over time.
      2. Acrylic Finish Products: Stolit. Acrylic textured finish. premium acrylic based exterior or interior textured wall finish enhanced with advanced polymer technology.
      3. Acrylic Finish Products: Stolit X. Ready-mixed, acrylic-based exterior or interior decorative and protective textured wall finish.
      4. Acrylic Finish Products: Sto Essence DPR. Acrylic textured finish. acrylic-based exterior or interior textured finishes used as decorative and protective wall coatings.
      5. standard acrylic finish.

\*\* NOTE TO SPECIFIER \*\* These finishes are accent or nontraditional finishes. These products require application of mesh-reinforced base coat prior to finish installation and may require significant additional surface preparation and clear sealer for exterior use. See written installation instructions for the specified product and specify accordingly.

* + - 1. Specialty Acrylic Finishes: Sto Decocoat. Trowel or spray-applied colored aggregate textured finish.
      2. Specialty Acrylic Finishes: Stolit Milano. Light texture, smooth or ultra-smooth finish.
      3. Specialty Acrylic Finishes: Sto Granitex. Spray applied colored aggregate finish with coarse texture.
      4. Specialty Acrylic Finishes: StoCreativ Granite. Trowel applied colored aggregate faux granite finish.
      5. Specialty Acrylic Finishes: StoCreative Lux. Trowel applied colored aggregate faux granite finish with reflective accent.
      6. Specialty Acrylic Finishes: StoTique. Faux finish translucent surface application for smooth or textured Sto acrylic finishes to produce mottled color and old-world appearance.
      7. Specialty Acrylic Finishes: StoCoat Metallic. Smooth reflective coating with metallic pigment.
    1. Acrylic Crack Filler: Sto Flexible Crack Filler. Acrylic-based crack filler packaged in sealant tube for use (unreinforced) in repair of cracks not wider than 1/16 inch (1.6 mm) and up to 1/8 inch (3.2 mm) wide with mesh reinforcement.
    2. Portland Cement: Provide ASTM C 150 Type I, Type II, or Type I-II cement for mixing with Sto Primer/Adhesive and/or Sto Flexyl.
    3. Architectural Coating:

\*\* NOTE TO SPECIFIER \*\* Delete coating options not required.

* + - 1. StoCoat Lotusan: Smooth acrylic architectural coating with Lotus Effect and pronounced self-cleaning performance.
      2. StoCoat Acryl: Smooth acrylic architectural coating.

\*\* NOTE TO SPECIFIER \*\* Horizontal-rated coating for additional weather resistance to top surfaces of projecting elements where Sto waterproof base coat has been applied. Delete if not required.

* + - 1. StoCoat Acryl Plus: Smooth acrylic premium horizontal or vertical grade architectural coating.
    1. Sealant: Sealant shall be low-modulus, comply with ASTM C 920, ASTM C 1382 and be recommended for use with EIFS by the sealant manufacturer.
    2. EIFS Fasteners: Fasteners and washer plates for reattachment of EIFS not bonded to substrate.
       1. Fastener type, size and length based on fastener manufacturer's recommendations for substrate conditions.
       2. Provide ULP-402, surface mounted, plastic washer plates, or equivalent.
       3. Acceptable Manufacturer: STO Corp., which is located at: 3800 Camp Creek Pkwy. Building 1400 Suite 120; Atlanta, GA 30331; Toll Free Tel: 800-221-2397; Tel: 404-346-3666; Fax: 404-346-3119; Email: [request info (marketingsupport@stocorp.com)](https://admin.arcat.com/users.pl?action=UserEmail&company=STO+Corp.&coid=35783&rep=&fax=404-346-3119&message=RE:%20Spec%20Question%20(07243sto):%20%20&mf=); Web: <http://www.stocorp.com>

\*\* NOTE TO SPECIFIER \*\* Delete article if not required.

* 1. REPAIR OF PORTLAND CEMENT PLASTER (STUCCO) WALL ASSEMBLlES
     1. Summary:
        1. Repair distress and construction deficiencies in Portland cement-based plaster (stucco) walls.
        2. Repair nonstructural cracks in stucco brown coat and finish.
        3. Repair flashing and waterproofing deficiencies at stucco system terminations.
        4. Resurface wall to provide uniform appearance in accordance with owner's requirements.
     2. Design Requirements:
        1. Determine repair scope and detail design requirements based on inspection of field conditions.
        2. Provide crack repair detail for cracks not wider than 1/16 inch (1.6 mm) nominal width.
        3. Provide crack repair detail for cracks wider than 1/16 inch (1.6 mm) but not wider than 1/8 inch (3.2 mm).
        4. Provide flashing installation, repair and/or replacement details for applicable conditions listed in this specification and indicate locations of each repair on project drawings.
        5. Base flashing remediation on standard flashing requirements listed below and indications of distress or leakage observed.

\*\* NOTE TO SPECIFIER \*\* Best practice where no sill flashing is present beneath windows is to remove the window and properly install a sill pan flashing.

* + - * 1. Provide head flashing above all window and door openings.
        2. Provide weep screed and/or flashing at the bottom of the stucco system.
        3. Provide flashing at floor lines in multi-story construction.
        4. Terminate stucco system minimum 2 inches (51 mm) above paved grade and roofing materials.
        5. Terminate stucco system minimum 4 inches (102 mm) above soil and landscaped finished grades.
        6. Metal Cap Flashing for Parapets, sloped to drain water onto roof system.
        7. Metal flashing for non-vertical or low slope projections to drain water away from wall exterior.
      1. Integrate flashing repair and replacement with water-resistive barrier system to provide direct and continuous drainage to exterior of wall.
      2. Terminate stucco system using casing bead around perimeters of windows and doors. Provide minimum 1/2 inch-wide (13 mm) space between casing and window frame. Install sealant joint at perimeters of window, doors and mechanical penetrations.
      3. Indicate on project drawings locations where resurfacing, refinishing, and/or recoating is required.
      4. Provide detail drawings consistent with Sto guideline details and Sto product installation instructions.
      5. Where lath is cut to facilitate repairs, wire-tie replacement lath to surrounding lath with 1/2 inch (13 mm) overlap.
      6. An Option to Flashing: Apply waterproof base coat with reinforcing mesh to stucco brown coat on the top surfaces of projecting elements and immediately above and below Projecting elements shall be sufficiently sloped to provide drainage to the exterior. Protect these surfaces with horizontal grade coating.
    1. Surface Conditioner: Provide acrylic polymer surface conditioner for pretreatment of friable, chalking, or heavily weathered existing coating surfaces.
       1. Product: Sto Surface Conditioner. Acrylic surface conditioner for preparation existing painted or finished surfaces that exhibit chalking or are heavily weathered.
    2. Glass Fiber Mesh Reinforcement: Alkali resistant, open weave glass fiber mesh reinforcing for surface leveling and waterproof base coat.

\*\* NOTE TO SPECIFIER \*\* Delete mesh options not required.

* + - 1. Sto Mesh: Alkali-resistant, glass-fiber reinforcing mesh for use with Sto base coat products to provide crack resistance.
      2. Sto Detail Mesh: Alkali-resistant, glass-fiber reinforcing mesh for use with Sto base coats to provide crack resistance and at system terminations.
    1. Acrylic Crack Filler: Sto Flexible Crack Filler. Acrylic-based crack filler packaged in sealant tube for use (unreinforced) in repair of cracks not wider than 1/16 inch (1.6 mm) and up to 1/8 inch (3.2 mm) wide with mesh reinforcement.

\*\* NOTE TO SPECIFIER \*\* Products used to level or skim the surface of existing finish should have similar properties to the finish. Sto recommends using Sto Flexible Skim Coat over elastomeric finish, Sto RFP over acrylic finish, and Sto BTS Xtra over cementitious finish.

* + 1. Leveler, Base Coat, and Skim Coat: High-build polymer-modified Portland cement-based base coat for surface leveling over cementitious finishes and brown coat.
       1. Sto BTS Xtra: Lightweight polymer-modified cementitious base coat used with or without mesh reinforcement to smooth and fill existing textured surfaces or to correct planar irregularities up to 1/4 inch (6.4 mm).
       2. Sto Leveler: Normal-weight polymer-modified cementitious leveling coat used to correct planar irregularities up to 1/4 inch (6.4 mm).
    2. Acrylic surface leveler, base coat for surface leveling over elastomeric finishes.
       1. Sto RFP: Acrylic base coat used with or without mesh reinforcement to smooth and fill existing textured elastomeric, acrylic or cementitious finish surfaces.
       2. Sto Flexible Skim Coat: Acrylic base coat used with or without mesh reinforcement to smooth and fill existing textured elastomeric, acrylic, or cementitious finish coats and with mesh reinforcement for repair of cracks up to 1/8 inch (3.2 mm) wide.
    3. Provide waterproof polymer-modified Portland cement-based base coat.

\*\* NOTE TO SPECIFIER \*\* Delete options not required.

* + - 1. Sto Flexyl: Field-mixed waterproof base coat. Combine with Portland cement in the field to provide a waterproof base coat. Use with reinforcing mesh to skim areas and features that require waterproofing.
      2. Sto Watertight Coat: Pre-packaged, two component cementitious waterproof base coat. Combine two components in field to provide a waterproof base coat. Use with reinforcing mesh to skim areas and features that require waterproofing, as designated on project drawings or by the repair design professional.
    1. Water resistive barrier: Water-resistive barrier coating and transition membrane system.

\*\* NOTE TO SPECIFIER \*\* Delete barrier options not required.

* + - 1. Sto EmeraldCoat: Fluid-applied waterproof air-barrier coating for moisture protection of sheathing, masonry and concrete substrates behind stucco cladding.
      2. StoRapidGuard: One component STPE rapid drying gun-applied treatment. For Sheathing joints, seams, cracks, penetrations and other transitions in above grade wall construction.
      3. Sto Gold Fill: Knife-grade, trowel-applied transition material for use with Sto EmeraldCoat and StoGuard Mesh as transition at flashing, windows, mechanical penetrations and at system terminations.
      4. StoGuard Fabric: Non-woven fabric tape for use with Sto EmeraldCoat as a transition element by embedment of the StoGuard Fabric into wet EmeraldCoat. Used as transition membrane from Sto EmeraldCoat onto top edge of StoGuard Tape. May be alternate to Sto Gold Fill with StoGuard Mesh.
      5. StoGuard Tape: Fabric-faced, self-adhesive modified asphaltic flashing tape for use with Sto EmeraldCoat as transition at flashing, windows, mechanical penetrations and at system terminations. May be alternate to or used with Sto Gold Fill.
      6. StoGuard Transition Membrane: A flexible pre-cured waterproof air barrier membrane sheet used above grade as a transition element at expansion joints and transitions between substrate materials.
    1. Asphalt Saturated Kraft Building Paper per ASTM D 226: Grade D, No. 15 (where required) over Sto EmeraldCoat.
    2. Portland Cement Plaster: Provide Portland cement stucco scratch and brown coat.

\*\* NOTE TO SPECIFIER \*\* Delete options not required.

* + - 1. StoPowerwall Stucco, No. 80103: Portland cement-based stucco, field-mixed with water and sand in accordance with product instructions.
      2. StoPowerwall Stucco Pre-Blended, No. 80102: Factory proportioned Portland cement-based stucco combined with water in the field.
      3. Field-Mixed Stucco per ASTM C 926.
      4. Pre-Packaged Stucco Mix per ASTM C 926.
    1. Portland Cement: Provide ASTM C 150 Type I, Type II, or Type I-II cement for mixing with Sto Flexyl.
    2. Primer: StoPrime Hot. Provide pH resistant acrylic primer to be used on stucco brown coat.
    3. Polymeric Elastomeric or Acrylic Finish: Color and texture to be determined based on mockup.

\*\* NOTE TO SPECIFIER \*\* Delete finish types and finish product options not required.

* + - 1. Elastomeric Finishes:
         1. Sto Powerflex Silco: Elastomeric acrylic textured stucco finish with silicone enhancement.
         2. Sto Powerflex: Elastomeric acrylic textured stucco finish.
         3. Sto Powerwall Finish: Elastomeric acrylic textured stucco finish.
      2. Acrylic Finishes:
         1. Stolit Lotusan: Acrylic textured finish with Lotus-Effect Technology. Maximum water repellency, significantly reduced cleaning requirements over time.
         2. Sto Essence DPR: Acrylic textured finish. acrylic-based exterior or interior textured finishes used as decorative and protective wall coatings, standard acrylic finish.
         3. Stolit: Acrylic textured finish. premium acrylic based exterior or interior textured wall finish enhanced with advanced polymer technology.
         4. Stolit X: Ready-mixed, acrylic-based exterior or interior decorative and protective textured wall finish.
      3. Specialty Acrylic Finishes:

\*\* NOTE TO SPECIFIER \*\* These finishes are accent or nontraditional stucco finishes. These products require application of mesh-reinforced base coat prior to finish installation and may require significant additional surface preparation and clear sealer for exterior use. See written installation instructions for the specified product and specify accordingly.

* + - * 1. Sto Decocoat: Trowel or spray-applied colored aggregate textured finish.
        2. Stolit Milano: Light texture, smooth or ultra smooth finish.
        3. Sto Granitex: Spray applied colored aggregate finish with coarse texture.
        4. StoCreativ Granite: Trowel applied colored aggregate faux granite finish.
        5. StoCreative Lux: Trowel applied colored aggregate faux granite finish with reflective accent.
        6. StoTique: Faux finish translucent surface application for smooth or textured Sto acrylic finishes to produce mottled color and old-world appearance.
    1. Architectural Coating: Provide uniform appearance to repaired walls.

\*\* NOTE TO SPECIFIER \*\* Delete Coating type and product options not required.

* + - 1. Elastomeric Coating Products:
         1. StoColor Silcolastic: Silicone-enhanced elastomeric architectural coating for stucco, masonry and concrete. Complies with and is listed by SWR Institute Validation Program for Wall Coatings.
         2. StoColor Lastic: Elastomeric architectural coating for stucco, masonry and concrete. Complies with and is listed by SWR Institute Validation Program for Wall Coatings.
      2. Acrylic Coating Products:
         1. StoColor Lotusan: Smooth acrylic architectural coating with Lotus Effect and pronounced self-cleaning performance.
         2. StoCoat Acryl Plus: Smooth acrylic premium horizontal or vertical grade architectural coating.
         3. StoCoat Acryl: Smooth acrylic architectural coating,

\*\* NOTE TO SPECIFIER \*\* Horizontal-rated coating for additional weather resistance to top surfaces of projecting elements where Sto waterproof base coat has been applied. Delete if not required.

* + - * 1. StoCoat Acryl Plus: Smooth acrylic premium horizontal or vertical grade architectural coating.

\*\* NOTE TO SPECIFIER \*\* Delete article if not required.

* 1. MATERIALS FOR CLEANING SURFACE IN PREPARATION FOR RESURFACING AND/OR RECOATING
     1. Cleaning Solutions:
        1. Mix and use commercially available cleaning solutions in accordance with the cleaning product manufacturer's instructions.
        2. Refer technical questions about specific commercial cleaning products to the cleaning product manufacturer.
        3. Use and dispose of cleaning solutions and rinse water in accordance with applicable local regulations.
        4. Do not use solvent based cleaners such as acetone, gasoline, ketones, mineral oils, or turpentine.
     2. Mild Detergent Wash:
        1. Solution of 1 to 2 cups (0.24 to 0.48 L) tri-sodium-phosphate (TSP) or TSP substitute per gallon of warm water.
        2. General Purpose Cleaner by Wind-lock Corp., www.wind-lock.com.
        3. Wash Down by Demand Products, www.demandproducts.com.
        4. EIFS Clean ' N Prep by PROSOCO, www.prosoco.com.
        5. Other commercial general cleaners as recommended by the cleaning material manufacturer for the surface to be cleaned.
     3. Efflorescence Removal:
        1. Efflorescence and Scale Remover, by Demand Products.
        2. Sentry Efflorescence and Scale Remover, by Wind-lock Corp.
        3. Other commercial efflorescence cleaners as recommended by the cleaning material manufacturer for the surface to be cleaned.

\*\* NOTE TO SPECIFIER \*\* Limit this option by area and to easily accessible areas for ongoing maintenance, as dirt pick-up, bird droppings, excess wear, and other issues may occur that necessitate frequent maintenance.

* + 1. Algae and Mildew Removal:

\*\* NOTE TO SPECIFIER \*\* Bleach is not required if algae or mildew are not present, but existing algae or mildew will recur if bleach solution is not used)

* + - 1. Solution of 1/2 to 1 quart (0.47 to 0.95 L) household bleach to 1 gallon (3.78 L) of water. May be added to TSP detergent solution for general cleaning.
      2. Miracle Mildew Remover by Wind-lock Corp.
      3. Other commercial algae and mildew cleaners as recommended by the cleaning material manufacturer for the surface to be cleaned.

1. EXECUTION
   1. EXAMINATION
      1. Do not begin installation until substrates have been properly constructed and prepared.
      2. If substrate preparation is the responsibility of another installer, notify Architect in writing of unsatisfactory preparation before proceeding.

\*\* NOTE TO SPECIFIER \*\* Refers to repair of EIFS Assemblies. Delete if not required.

* + 1. EIFS or Stucco Repair:
       1. Inspect locations identified on the project drawings for repair.
       2. Establish clear understanding of the repair scope and process with the mechanics that will perform the work for each individual location.
  1. PREPARATION
     1. Clean surfaces thoroughly prior to installation.
     2. Prepare surfaces using the methods recommended by the manufacturer for achieving the best result for the substrate under the project conditions.
     3. For painted surfaces, perform bond tests to verify adhesion of StoGuard materials to existing coatings.

\*\* NOTE TO SPECIFIER \*\* Repair of EIFS Assemblies. Delete if not required.

* + 1. Selective Demolition:
       1. Remove and replace EIFS in areas requiring localized repair as indicated on the project drawings.
       2. Use hearing, eye, ear and respiratory personal protective equipment when performing demolition.
       3. Provide adequate protection to persons and property from potential falling debris from demolition and repair construction.
       4. Comply with local environmental regulations with regard to handling and disposal of construction waste produced by selective EIFS demolition.
       5. Comply with StoTherm EIFS Repair and Maintenance Guide available at [www.stocorp.com](http://www.stocorp.com) .
       6. Limit the depth of cuts through the EIFS lamina into the insulation board to prevent damage of the substrate.
       7. Remove damaged insulation board by hand or in a manner which minimizes damage to the substrate.
       8. Remove and replace damaged substrate as required by conditions that may become evident as a result of the demolition process.

\*\* NOTE TO SPECIFIER \*\* Repair of stucco assemblies. Delete if not required.

* + 1. Selective Demolition:
       1. Use hearing, eye, ear and respiratory personal protective equipment when performing demolition.
       2. Provide adequate protection to persons and property from potential falling debris from demolition and repair construction.
       3. Stucco Removal:
          1. Saw cut perimeter of repair area with a masonry blade set to a depth that will not cut into the sheathing.
          2. Chip stucco at the edges of the saw cut to provide a minimum 1/2 inch (13 mm) perimeter of exposed lath where lath is to be repaired or replaced.
          3. Remove stucco such that patches will be square or rectangular shaped. Avoid re-entrant corners within patches and constructing patches with greater than 2.5:1 length-to-width ratios.
       4. Finish Removal:
          1. Remove finish where required to cosmetically match finish texture with surrounding unaltered stucco. Finish shall be removed a minimum 1 inch (25 mm) around the perimeter of saw-cut or chipped areas, and on both sides of cracks to be repaired using crack-filling and bridging techniques.
          2. Removal of finish can be omitted along crack repairs. However, a trial area should be done to verify that the finished appearance will comply with owner requirements because the crack repair will likely be visible.
          3. Finish removal shall be by grinding, scraping, or chemical stripping product approved by the design professional.
          4. Use chemical stripping products in accordance with product manufacturer's written instructions.
          5. Dispose of waste and rinse water from chemical stripping of finish in accordance with local regulations.
  1. MIXING
     1. Mix in accordance with manufacturer's printed instructions.
     2. Mix cementitious products with clean, potable water.
  2. INSTALLATION
     1. Install in accordance with manufacturer's instructions, approved submittals and in proper relationship with adjacent construction.
     2. EIFS Over Existing Wall Cladding Using Metal Lath Attachment:
        1. Waterproof Air Barrier Installation:
           1. Clean wall surface in accordance with Sto Specification RC100, Guideline Specifications for Cleaning Wall Surfaces.
           2. Do not proceed until all loose or unsound paint, coating, or substrate materials have been removed.
           3. Install corrosion resistant flashing at locations indicated on the project drawings.
           4. Install system transition details and termination details in accordance with project requirements and product specifications.
           5. Apply Sto Gold Coat to prepared surface, minimum 10 wet mils (0.254 mm), and as necessary to achieve a void free and pinhole free application.
           6. Repair localized voids and pinholes with brush or roller to provide continuous coating application.
           7. Allow Sto Gold Coat to dry completely. A minimum 4 hours, depending on ambient conditions.
        2. Lath Installation:
           1. Install galvanized expanded metal lath complying with ASTM C 847.
           2. Attach lath to substrate using fasteners that are recommended by the fastener manufacturer for substrate being covered.
           3. Use ULP 302 plate washers spaced maximum 16 inches (406 mm), on-center, horizontally and maximum 8 inches (203 mm) on-center, vertically, with a minimum edge distance of 2 inches (51 mm) from edge of lath.
           4. Butt seams of lath drainage mat. Do not lap lath. Wire-tie lath seams where edges are not securely attached.
        3. EIFS Installation:
           1. Mix adhesive per product instructions for material being used and apply to insulation board using a notched trowel such that the ribbons of adhesive will be oriented vertically in-place.
           2. Install remainder of EIFS per Sto published installation instructions and specifications for system being used.
     3. Repair of Exterior Insulation and Finish (EIFS) Wall Assemblies:
        1. Flashing Replacement:
           1. Repair flashing and/or correct conditions in locations indicated on the project drawings and as specified.
           2. Remove enough EIFS area to permit proper installation of flashing as detailed in Sto Corp. guideline details for water-resistive barrier and EIFS construction.
           3. Inspect condition of water-resistive barrier membrane and transition materials.
           4. Repair or replace damaged water resistive barrier system components.
           5. Install replacement components in a sequence and manner to provide shingle-laps and provide a continuous path for moisture drainage to the exterior of the wall via the flashing.
           6. Install new flashing components such that the completed repair will comply with Sto Corp. guideline details for EIFS construction.
           7. Mix and apply EIFS materials in accordance with printed instructions for the products being used.
        2. EIFS Damage Repair:
           1. Perform repairs per StoTherm EIFS Reference Guide: Repair and Maintenance.

Repair impact damage to EIFS including damaged substrate, insulation, base coat reinforcing mesh and finish in locations indicated on project drawings.

Repair cracks in EIFS finish and lamina where indicated on project drawings.

* + - * 1. Reattach EIFS which has delaminated from substrate, if not specified to be removed and replaced, as indicated on the project drawings.
        2. Establish stud locations in frame construction and install fasteners into framing members at intervals specified by design professional as required to meet project wind load requirements. Maximum fastener spacing shall be 12 inch (305 mm) on-center. Pre-drilling may be beneficial for 18-gage steel framing and heavier.
        3. Install fasteners through existing lamina using plastic washer plates making sure not to penetrate or fracture the lamina with the fastener plate as fastener is driven into place. The fastener plate shall be slightly dimpled when finally set into place.

Install fasteners so as to provide a snug fit, and a uniformly secure attachment of the EIFS.

Pre-spot fasteners with base coat and allow to dry.

* + - * 1. Base Coat: Reinforced base coat is required to cover and conceal the fastener locations. The total area for application of new lamina should extend to the next architectural break to limit visibility of the repair.)

Apply and embed reinforcing mesh in wet base coat. Overlap seams 2-1/2 inches (64 mm) and double wrap inside and outside corners.

Apply base coat with mesh reinforcement at sufficient thickness to cover the washer plates and provide a flat surface to receive finish.

If necessary, apply a skim coat of base coat over the mesh-reinforced base coat to provide a flat surface.

Allow base coat to fully dry before application of primer or finish.

\*\* NOTE TO SPECIFIER \*\* Primer is an optional component for most EIFS finishes, consult the product literature for the finish being used to determine if primer is required.

Apply StoPrime to dried base coat.

Apply Sto finish to dried base coat or primed base coat.

* + - 1. Sealant Joint Repair: Remove damaged and worn sealant at joints in EIFS in accordance with StoTherm EIFS Reference Guide: Repair and Maintenance:
         1. Protect surrounding EIFS from damage during removal of existing sealant.
         2. Replace sealant with approved low-modulus material recommended by the sealant manufacturer for use with EIFS.
         3. Install sealant per sealant manufacturer's published installation instructions for use with EIFS materials. Use sealant primer recommended by the sealant manufacturer on base coat surface if specified by the sealant manufacturer.
      2. Surface Repair and Recoating:
         1. Surface Leveling for Finish Texture Change:

Apply unreinforced skim coat to existing finish surfaces to level surface in preparation for new finish application.

\*\* NOTE TO SPECIFIER \*\* Delete skim coat option not required.

Skim Coat: Sto RFP. Apply Sto RFP to existing finish and pull tight to fill low areas in finish and provide flat surface to receive new textured finish. Allow to fully dry before applying finish.

Skim Coat: Sto BTS Xtra. Apply Sto BTS Xtra over textured cementitious finish and pull tight to fill low areas in finish and provide flat surface to receive new textured finish. Allow to fully dry before applying finish.

* + - * 1. Skim Coat with additional mesh to provide impact resistance:

Apply glass-fiber mesh reinforced base coat in accordance with the applicable Sto Insulated Wall Cladding Specification for the products and system being used.

* + - * 1. Skim Coat Surface-Applied Waterproofing: Apply glass fiber mesh reinforced waterproof base coat to areas specified on the project drawings.

\*\* NOTE TO SPECIFIER \*\* Delete waterproof base coat option not required.

Waterproof Base Coat: Sto Flexyl.

Mix with Portland cement in accordance with Sto written instructions.

Apply to prepared base coat or finish to a nominal 1/16 inch (1.6 mm) thickness.

Fully embed Sto Mesh into base coat.

Allow to dry completely before finish application.

Waterproof Base Coat: Sto Watertight Coat.

Mix components A and B in accordance with Sto written instructions.

Apply to prepared base coat or finish to a nominal 1/16 inch (1.6 mm) thickness.

Fully embed Sto Mesh into base coat.

Allow to dry completely before finish application.

* + - 1. Finish: Apply Sto finish per Sto written instructions for specified product.
      2. Coating:
         1. Prepare surface to receive Sto coating per Sto reStore cleaning specification.
         2. Apply Sto coating per Sto written instructions for the specified product.
    1. Repair of Portland Cement (Stucco) Wall Assemblies:
       1. Repair of Cracks 1/16 Inch (1.6 mm) Wide and Smaller:
          1. Cracks not wider than 1/32-inch (0.8 mm); hairline cracks.

Clean existing surface in accordance with Sto reStore Cleaning Specification RC100.

Coat wall surface with Sto Elastomeric Coating; StoColor Lastic or StoColor Silco Lastic, per written product instructions.

* + - * 1. Cracks Not Wider than 1/16 inch (1.6 mm):

Remove finish along crack as specified.

Clean crack using oil-free compressed air.

Seal crack with Sto Flexible Crack Filler and tool surface flush with brown coat.

Apply new finish to match surrounding texture and color.

* + - 1. Repair of Cracks 1/16 Inch (1.6 mm) Wide to Maximum 1/8 inch (3.2 mm) Wide:
         1. Remove finish along crack as specified.
         2. Clean crack using oil-free compressed air.
         3. Fill crack with Sto Flexible Crack Filler and tool surface flush.
         4. Apply Sto skim coat material along both sides of crack and tool flat.

Embed 2 inch wide (51 mm) strip Sto Detail Mesh generally centered on crack and tool into fresh Sto skim coat material using taping knife.

Tool smooth to thickness required to fully embed mesh, approximately 1/16 inch (1.6 mm) thick. Allow skim coat to dry completely before applying finish.

* + - * 1. Apply new finish to match surrounding texture and color.
      1. Flashing Replacement:
         1. Repair flashing and/or correct conditions in locations indicated on the project drawings and as described in this specification.
         2. Remove stucco in accordance with this specification.
         3. Remove enough area to permit proper installation of flashing as detailed in Sto Corp. guideline details for stucco construction.
         4. Inspect condition of water-resistive barrier membrane and transition materials.
         5. Repair or replace damaged water resistive barrier system components.
         6. Install replacement components in a sequence and manner to provide shingle-laps and provide a continuous path for moisture drainage to the exterior of the wall via the flashing.
         7. Install new flashing components such that finished repair will comply with Sto Corp. guideline details for stucco construction.
         8. Mix and apply stucco scratch and brown coats per ASTM C 926 to match existing stucco thickness. Cover with polyethylene sheeting or otherwise moist-cure for minimum 48-hours.
         9. Where finish is specified directly to new stucco, prime the new stucco brown coat surfaces with StoPrime Hot prior to finish application.
         10. Where further surface leveling, or surface applied waterproofing is specified, apply leveler or waterproof base coat after completion of the 48-hour cure period.
      2. Surface Defect Repair:
         1. Localized Finish Repair

Remove affected finish per this specification.

Clean exposed brown coat surface to remove dust, dirt, and other bond-inhibiting materials.

Apply StoPrime Hot in accordance with written product instructions.

Apply finish to match surrounding stucco texture and color.

* + - * 1. Localized Brown Coat Repair Within Field of Wall:

Remove stucco per this specification. 2 inches (51 mm) in all directions beyond area of concern where lath replacement is required.

Remove and Replace Damaged or Corroded Lath.

Remove damaged lath 1 inch (25 mm) in all directions beyond area of concern.

Repair water-resistive barrier system as necessary to correct any damage that is either existing or caused by stucco and lath removal actions.

Cut replacement lath to provide 1/2-inch (12.5 mm) overlap on all sides.

Wire tie new lath to existing lath at maximum spacing of 8 inches (203 mm).

Provide minimum 4 wire ties for small lath replacements.

Mix and apply stucco scratch and brown coats per ASTM C 926 to match existing stucco thickness. Cover with polyethylene sheeting or otherwise moist-cure for minimum 48-hours.

Where finish is specified directly to new stucco, prime the new stucco brown coat surfaces with StoPrime Hot prior to finish application.

Where further surface leveling, or surface applied waterproofing is specified, apply leveler or waterproof base coat after completion of the 48-hour cure period.

* + - * 1. Remedial Accessory Installation:

Remove stucco per this specification, a sufficient distance from accessory to permit removal of accessory and wire-tie connection of new accessory.

Removal and Replacement of Damaged Accessories:

Cut damaged section of existing accessory and remove from wall.

Repair water-resistive barrier system if damage is present or occurs as a result of the accessory removal.

Wire tie new accessory to existing lath at maximum spacing of 8 inches (203 mm).

Provide minimum 4 wire ties for small lengths of replacement.

Align new sections of corner and casing beads carefully to match adjacent accessories.

Set both ends of accessory replacement pieces in wet sealant. Mix and apply stucco scratch and brown coats per ASTM C 926 to match existing stucco thickness. Cover with polyethylene sheeting or otherwise moist-cure for minimum 48 hours.

Where finish is specified directly to new stucco, prime the new stucco brown coat surfaces with StoPrime Hot prior to finish application.

Where further surface leveling, or surface applied waterproofing is specified, apply leveler or waterproof base coat after completion of the 48-hour cure period.

* + - * 1. New Accessory Installation:

Remove stucco per this specification in locations where required accessories are not present.

Install new corner beads, casing beads, weep screeds or other accessories per ASTM C 1063.

Set ends of accessories in wet sealant.

Mix and apply stucco scratch and brown coats per ASTM C 926 to match existing stucco thickness. Cover with polyethylene sheeting or otherwise moist-cure for minimum 48 hours.

Where finish is specified directly to new stucco, prime the new stucco brown coat surfaces with StoPrime Hot prior to finish application.

Where further surface leveling, or surface applied waterproofing is specified, apply leveler or waterproof base coat after completion of 48 hour cure period.

* + - 1. Stucco Delamination from Concrete Substrates:
         1. Define repair area based on sounding and remove stucco to sound substrate.
         2. Extend repairs laterally to adjacent well-bonded material.
         3. Scarify or chip concrete substrates to provide a surface profile sufficient for bonding of new stucco application.
         4. ICRI surface profile minimum SP-3.
         5. Clean prepared surface to remove all dust, dirt, laitance, oils and other potentially bond inhibiting materials.
         6. Check ability of surface to receive directly bonded stucco by checking for absorption of water into the concrete. If water does not readily absorb into concrete, provide additional surface preparation or mechanical anchorage for stucco.
         7. Install stucco in accordance with product instructions.

\*\* NOTE TO SPECIFIER \*\* A surface-applied bonding agent may be used, however, use of a bonding agent is not a substitute for mechanical surface preparation of cast-in-place or pre-cast concrete surfaces to receive directly bonded stucco. In all cases, with or without a bonding agent, verify adhesion of the stucco with adequate field testing after at least 28 day age of repair. Conduct field adhesion verification tests throughout the course of the project with agreed upon frequency established by the design professional and owner or owner's representative.

* + - 1. Surface Skim Coat:
         1. Surface Leveling:

Apply unreinforced polymer modified cementitious leveling coat to correct for profile variations of 1/8 inch (3 mm) to 1/4-inch (6 mm).

\*\* NOTE TO SPECIFIER \*\* Delete leveling coat option not required.

Leveling Coat: Sto Leveler: Mix and apply in accordance with Sto written instructions.

Leveling Coat: Sto BTS Xtra: Mix and apply in accordance with Sto written instructions.

Apply unreinforced skim coat to existing finish surfaces to level surface in preparation for new finish application. (choose one)

\*\* NOTE TO SPECIFIER \*\* Delete skim coating option not required.

Skim Coating: Sto Flexible Skim Coat. Apply Sto Flexible Skim Coat to existing elastomeric finish and pull tight to fill low areas in finish and provide flat surface to receive new textured finish. Allow to fully dry before applying finish.

Skim Coating: Sto BTS Xtra. Apply Sto BTS Xtra over textured cementitious finish and pull tight to fill low areas in finish and provide flat surface to receive new textured finish. Allow to fully dry before applying finish.

* + - * 1. Skim Coat for Crack Remediation:

Apply glass-fiber mesh reinforced base coat to remediate frequent fine cracks less than 1/16 inch (1.6 mm) wide and provide additional crack prevention.

\*\* NOTE TO SPECIFIER \*\* Delete skim coating option not required.

Skim Coating: Sto Flexible Skim Coat. Apply Sto Flexible Skim Coat over stucco surfaces with existing elastomeric finishes by trowel to a nominal thickness of 1/16 inch (1.6 mm). Use trowel to fully embed Sto Mesh in the freshly applied Sto Flexible skim coat. Overlap runs of mesh minimum 2-1/2 inches (62.5 mm). Allow to fully dry before applying finish.

Skim Coating: Sto BTS Xtra. Apply Sto BTS Xtra over prepared cementitious base coat and cementitious finish surfaces by trowel to a nominal thickness of 1/16 inch (1.6 mm). Use trowel to fully embed Sto Mesh in the freshly applied Sto BTS Xtra skim coat. Overlap runs of mesh minimum 2-1/2 inches (62.5 mm). Allow to fully dry before applying finish.

* + - * 1. Skim Coat Surface-Applied Waterproofing:

Apply glass fiber mesh reinforced waterproof base coat to areas specified on the project drawings.

\*\* NOTE TO SPECIFIER \*\* Delete skim coating option not required.

Skim Coating: Sto Flexyl. Mix with Portland cement per Sto written instructions. Apply to prepared base coat or finish to a nominal 1/16 inch (1.6 mm) thickness. Fully embed Sto Mesh into Sto Flexyl. Allow to dry completely before finish application.

Skim Coating: Sto Watertight Coat. Mix components A and B per Sto written instructions. Apply to prepared base coat or finish to a nominal 1/16 inch (1.6 mm) thickness. Fully embed Sto Mesh into Sto Watertight Coat. Allow to dry completely before finish application.

* + - 1. Finish: Apply Sto finish per Sto written instructions for the specified product.
      2. Coating:
         1. Prepare surface to receive Sto coating per Sto reStore Cleaning specification RC100.
         2. Apply Sto coating per Sto written instructions for the specified product.
  1. CLEANING SURFACE IN PREPARATION FOR RESURFACING AND/OR RECOATING
     1. The techniques described in this section may be used on painted or coated concrete, stucco or EIFS surfaces. All techniques are not necessarily appropriate for all substrates.
     2. Test method and material in an inconspicuous area to verify techniques and materials to be used.
     3. Use the least aggressive means that produces effective results.
     4. Use methods in compliance with applicable local regulations.
     5. Protect adjacent construction, property and landscaping from overspray where cleaning solutions are used.
     6. Follow applicable regulations for personal protective equipment when performing cleaning.
     7. Application of Cleaning Solutions:
        1. Commercial Cleaning Products:
           1. Select the appropriate cleaning solution and apply in accordance with the cleaning solution manufacturers recommendations.
           2. Rinse thoroughly with clean water to remove all residue and surface contaminants.
        2. Generic Mild Detergent Wash:
           1. Apply mild detergent solution to the wall area to be cleaned.
           2. Rinse thoroughly with clean water to remove all residue and surface contaminants.
        3. Generic Algae and Mildew Removal:
           1. Apply algae and mildew removal solution and allow to soak for minimum 15 minutes. Reapplication may be necessary for severe growth.
           2. Use hand-scrubbing technique to remove streaking or other localized growth.
           3. Rinse thoroughly using clean water to remove all residue and surface contaminants.
     8. Hand-Scrubbing:
        1. Use hand scrubbing technique for localized stubborn stains that are resistant to low pressure washing techniques or otherwise require special treatment.
        2. Use soft to medium bristled brush.
        3. Avoid overly aggressive scrubbing which could damage the existing coatings.
        4. Do not use stiff-bristled or wire brushes.
     9. Pressure Washing (as means of cleaning existing coating):
        1. Use cool or warm water. Do not use steam or high temperature methods when existing coatings are to remain in-place.
        2. Use minimum 30 degree fan tip.
        3. Determine distance from wall and pressure required to provide satisfactory results without damage to existing coatings or substrates based on test area.
           1. Use pressure in the range of 2500 to 3000 psi (17237 to 20684 kPa) for coatings applied to solid substrates (concrete, masonry, and stucco), unless undesirable effects are produced. If damage to existing coating occurs, adjust pressure, distance of tip from wall, or fan tip angle to achieve satisfactory results.
           2. Do not use high pressure on EIFS claddings. Limit pressure to 500 psi (3447 kPa), maximum, when EIFS is the substrate.
           3. Determine if architectural features are foam shapes to protect against accidental damage in cases where they are attached to solid substrates such as stucco, masonry or concrete. Limit pressure to 500 psi (3447 kPa), maximum, for foam trim features.
     10. Pressure Washing (as a means of removing existing coating layers):
         1. Determine pressure, fan tip angle and tip distance from wall as required to remove loose coatings or excess coating applications on solid substrates.
         2. Verify that the technique does not produce damage to the substrate and adjust as necessary.
         3. Dispose of rinse-water and waste per appropriate local regulations.
         4. A chemical paint stripper may be an option to improve efficiency in combination with pressure washing when existing coatings are to be removed. Consult with the paint stripper manufacturer for proper use and disposal of rinse-water and waste.
  2. FIELD QUALITY CONTROL
     1. Field Inspection: Coordinate field inspection in accordance with appropriate sections in Division 01.

\*\* NOTE TO SPECIFIER \*\* Include if manufacturer provides field quality control with onsite personnel for instruction or supervision of product installation, application, erection or construction. Delete if not required.

* + 1. Manufacturer's Services: Coordinate manufacturer's services in accordance with appropriate sections in Division 01.
  1. CLEANING AND PROTECTION
     1. Clean products in accordance with the manufacturer's recommendations.
     2. Touch-up, repair or replace damaged products before Substantial Completion.

END OF SECTION