DATE: 2014.02.26 FILE NAME: 2013154V0.dwg\A12

PROJECT No: SHEET TITLE:

ADDRESS: 6 FERMOR AVENUE

Exterior Insulation and Finish System (EIFS)

Part 1: GENERAL

Materials and installation of Class PB EIF System with air barrier membrane (air barrier and secondary weather-resistive barrier)

Exterior - Select Finish CAOT off white with light reflectance of 20 or greater. Submit sample as required.

Manufacturer's Instructions: Compliance: Comply with manufacturer's written data, including product technical bulletins, product catalogue installation instructions, product carton installation instructions and technical data sheets.

1.1 SUBMITTALS

A. Manufacturer's specifications, details, installation instructions and product data.

B. Applicator's certificate of instruction.

C. Samples for approval as directed by the Contract Administrator.

D. Manufacturer's standard warranty.

E. Manufacturer's certificate of compliance with EIMA standards.

F. EPS board manufacturer's certificate of compliance with the current edition of EIMA Guideline Specifications for Expanded Polystyrene (EPS) Insulation Board

G. Sealant Manufacturer's certificate of compliance with EIMA Standard 300.01.

H. Prepare and submit project_specific details (when required by contract documents) and mock up for Contract Administrator's approval.

1.2 QUALITY ASSURANCE

A. Manufacturer requirements

i. Member in good standing of the EIFS Industry Members Association (EIMA).

ii. System manufacturer for a minimum of fifteen (15) years.

B. Contractor requirements

i. Engaged in application of Class PB EIFS for a minimum of three (3) years.

ii. Knowledgeable in the proper use and handling of Sto materials.

iii. Employ skilled mechanics who are experienced and knowledgeable in Class PB EIFS application, and familiar with the requirements of the specified work.

iv. Successful completion of minimum of three (3) projects of similar size and complexity to the specified project.

v. Provide the proper equipment, manpower and supervision on the job site to install the system in compliance with Sto's published specifications and details and the project plans and specifications.

C. Insulation board manufacturer requirements

i. Recognized by Sto as capable of producing insulation board to meet system requirements, and hold a valid licensing agreement with Sto.

ii. Listed by an approved agency.

iii. Label insulation board with information required by Sto, the approved listing agency and the applicable building code.

1.3 DELIVERY, STORAGE AND HANDLING

A. Deliver all EIFS materials in their original sealed containers bearing manufacturer's name and identification of product.

B. Protect coatings (pail products) from freezing and temperatures in excess of 90 degrees F (32 degrees C). Store away from direct sunlight.

C. Protect Portland cement based materials (bag products) from moisture and humidity. Store under cover off the ground in a dry location

1.4 PROJECT/SITE CONDITIONS

A. Maintain ambient and surface temperatures above 40 degrees F (4 degrees C) during application and drying period, minimum 24 hours after application of EIFS.

B. Provide supplementary heat for installation in temperatures less than 40 degrees F (4 degrees C).

C. Provide protection of surrounding areas and adjacent surfaces from application of materials

1.5 COORDINATION/SCHEDULING

A. Coordinate installation of windows, doors and other penetrations through the system so air barrier membrane is connected with them to form a continuous air barrier membrane (air barrier and secondary weather-resistive barrier).

B. Coordinate installation of foundation waterproofing and roofing membrane to provide a continuous air seal and waterproof membrane where wall system adjoins them.

C. Install sill flashings, copings and sealant immediately after installation of the system and when EIFS coatings are dry

1.6 WARRANTY

A. Provide manufacturer's standard labor and material warranty.

Part 2: PRODUCTS

2.1 MANUFACTURERS

A. Sto Corp.

B. Provide EIFS components, air barrier membrane and accessories from single source EIFS manufacturer or approved supplier.

2.2 AIR BARRIER MEMBRANE

A. Sto Flexyl–trowel applied acrylic based fiber reinforced air barrier and waterproof membrane (for use over Exterior gypsum sheathing, Dens-Glass Gold sheathing, Exterior cementitious sheathing, concrete, masonry or plaster surfaces).

2.3 ADHESIVE

A. Sto BTS Plus–One component, polymer modified, cement based high build adhesive (for use over Exterior gypsum sheathing, Dens Glass Gold sheathing, Exterior cementitious sheathing, concrete, masonry or plaster surfaces. Not recommended over wood surfaces).

2.4 INSULATION BOARD

A. Nominal 1.0 lb/cu.ft. (16 kg/m3) Expanded Polystyrene (EPS) Insulation Board in compliance with ASTM C 578 Type I requirements and EIMA Guideline Specification for Expanded Polystyrene (EPS) Insulation Board. (Note: minimum required thickness is 1-1/2 inches [38 mm]).

B. Nominal 2.0 lb/cu.ft. (32 kg/m3) Expanded Polystyrene (EPS) Insulation Board, or nominal 2.0 lb/cu.ft. (32.0 kg/m3) Rigid, Extruded Polystyrene (XEPS) Insulation Board, in compliance with ASTM C 578 87a, Type IV requirements.

(Note: EPS and XEPS insulation board noted in item "B" are used in below grade system applications [see specification Addendum]).

2.5 BASE COAT

A. Sto BTS Plus–One component polymer modified cement-based high build base coat with less than 33 percent Portland cement content by weight.

2.6 REINFORCING MESHES

A. Standard Mesh

i. Sto Mesh nominal 4.8 oz./sq.yd. (163 g/m2), symmetrical, interlaced open weave glass fiber fabric made with minimum 25 percent by weight alkaline resistant coating for compatibility with Sto materials (achieves Standard Impact Classification).

B. High Impact Mesh

i. Sto Intermediate Mesh nominal 11.2 oz./sq.yd. (380 g/m2), high impact, interwoven, open weave glass fiber fabric with alkaline resistant coating for compatibility with Sto materials (achieves High Impact Classification).

C. Ultra High Impact Mesh

i. Sto Armor Mat nominal 15 oz./sq.yd. (509 g/m2), ultra high impact, double strand, interwoven, open weave glass fiber fabric with alkaline resistant coating for compatibility with Sto materials (for use in all ground floor applications and facades exposed to abnormal stress or impact. Achieves Ultra High Impact Classification when applied beneath Sto Mesh).

D. Specialty Meshes

i. Sto Detail Mesh nominal 4.5 oz/sq yd (153 g/m2), flexible, symmetrical, interlaced glass fiber fabric, with alkaline resistant coating for compatibility with Sto materials (used for standard EIFS backwrapping, aesthetic detailing, and reinforcement of sheathing joints with air barrier membrane).

ii. Sto Corner Mat nominal 6.25 oz./sq. yd. (212 g/m2), pre creased, heavy duty open weave woven glass fiber fabric with alkaline resistant coating for compatibility with Sto materials (used for maximum impact protection at inside and outside corners).

2.7 PRIMER

A. StoSilco Prime–Silicone enhanced primer (for use with Sto silicone enhanced finishes).

2.8 FINISH COAT

A. StoSilco Lit–Silicone enhanced textured wall coating.

2.9 JOB MIXED INGREDIENTS

A. Water: Clean and potable.

B. Portland cement: Type I.

2.10 ACCESSORIES

A. Starter Track– Rigid PVC (polyvinyl chloride) plastic track as furnished by PlasticComponents, Inc., 9051 NW 97th Terrace, Miami, Florida 33178 (800 327-7077)

2.11 MIXING

A. Sto Plex W: add water as directed on labeling.

B. Sto Leveler: mix ratio with water: 6_7 quarts (5.7_6.6 L) of clean water per 60 pound (27.3 kg) bag of Sto Leveler. Pour water into a clean mixing pail. Add Sto Leveler, mix to a uniform consistency and allow to set for approximately 5 minutes. Adjust mix if necessary with additional Sto Leveler or water and remix to a uniform trowel consistency. Avoid retempering. Keep mix ratio consistent.

C. Sto Flexyl: mix ratio by volume is one part Sto Flexyl to one part Portland Cement. Pour Sto Flexyl into a clean mixing pail. Add cement, mix to a uniform consistency and allow to set for approximately five minutes. Adjust mix if necessary with additional liquid or cement and remix to a uniform trowel consistency. Avoid retempering. Keep mix ratio consistent.

D. Sto BTS_Plus: mix ratio with water: 7_9 quarts (6.6_8.5 L) of water per 60 pound (27.3 kg) bag of Sto BTS_Plus. Pour water into a clean mixing pail. Add Sto BTS_Plus, mix to a uniform consistency and allow to set for approximately 5 minutes. Adjust mix if necessary with additional Sto BTS_Plus or water and remix to a uniform trowel consistency. Avoid retempering. Keep mix ratio consistent.

E. StoSilco Prime: mix to a uniform consistency.

F. StoSilco Lit: mix to a uniform consistency. A small amount of water may be added to adjust workability. Limit addition of water to amount needed to achieve the finish texture.

G. Mix materials with a clean, rust_free high speed mixer in a clean mixing pail.

H. Mix only as much material as can readily be used.

I. Do not use anti_freeze compounds or other additives.

Part 3: EXECUTION

3.1 ACCEPTABLE INSTALLERS

A. Prequalify under Quality Assurance requirements of this specification (section 1.07.B).

3.2 EXAMINATION

A. Inspect surfaces for:

i. Contamination __ algae, chalkiness, dirt, dust, efflorescence, form oil, fungus, grease, laitance, mildew or other foreign substances.

ii. Surface absorption and chalkiness.

iii. Cracks __ measure crack width and record location of cracks.

iv. Damage and deterioration.

v. Moisture content and moisture damage __ use a moisture meter to determine if the surface is dry enough to receive the Air Barrier Membrane and EIFS materials and record any areas of moisture damage.

vi. Compliance with specification tolerances __ record areas that are out of tolerance (greater than 1/4 inch in 8_0 feet [6mmin 2438 mm] deviation in plane).

B. Inspect sheathing application for compliance with applicable requirement:

i. Exterior gypsum sheathing __ GA_253

ii. Exterior Grade and Exposure I wood based sheathing __ APA J20G

iii. Glass mat faced gypsum sheathing __ Georgia Pacific Publication A468

iv. Cementitious sheathing __ Consult manufacturer's published recommendations

C. Report deviations from the requirements of project specifications or other conditions that might adversely affect the Air Barrier Membrane or EIFS installation to the Contractor.

3.3 SURFACE PREPARATION

A. Remove surface contaminants (refer to ASTM D 4258 and D 4261).

B. Apply conditioner by sprayer or roller to chalking or excessively absorptive surfaces.

C. Replace weather damaged sheathing and repair damaged or cracked surfaces.

D. Level surfaces to comply with required tolerances.

3.4 INSTALLATION

A. Install Air Barrier Membrane and Class PB EIFS in compliance with manufacturer's published written instructions.

3.5 PROTECTION

A. Provide protection of installed materials from water infiltration into or behind the system

B. Provide protection of installed materials from dust, dirt, precipitation, freezing and continuous high humidity until they are fully dry.

Instructions for Installation of the StoTherm Signature Exterior Insulation and Finish System (EIFS) with Air Barrier Membrane

A. Starter Track

1. Strike a level line at the base of the wall that will coincide with the top of the attachment flange of the track.
2. Attach the starter track into the structure a minimum of 12 inches (300 mm) on center with the proper fastener: Tapcon screws for concrete and masonry with minimum3/4 inch (19 mm) penetration, Type S-12 corrosion resistant screws for steel framing with minimum 3/8 inch (9 mm) penetration, and galvanized or zinc coated nails for wood framing with minimum 3/4 inch (19 mm) penetration.
3. Butt sections of starter track together. Miter cut outside corners and abut.

B. Air Barrier Membrane

1. Reinforce seam between back flange of starter track and substrate, joints in sheathing, and cracks up to 1/16 inch (1.6 mm) wide in concrete, masonry or plaster surfaces with minimum 4 inch (100 mm) wide detail mesh. Embed mesh in trowel applied air barrier membrane on the prepared surfaces.
2. Apply air barrier membrane by trowel to the entire prepared substrate. Apply to a thickness of 1/16 inch (1.6 mm) and smooth to a uniform thickness. A minimum uniform dry coating thickness of 1/20 inch (1.3 mm) must be achieved.
3. Terminate air barrier membrane application where substrate changes, at expansion and control joints in construction, and at penetrations through the wall.

C. Backwrapping

1. Apply a strip of detail mesh to the dry air barrier membrane at all system terminations (windows, doors, expansion joints, etc.) with adhesive. The mesh must be wide enough to adhere approximately 4 inches (100 mm) of mesh onto the wall, be able to wrap around the insulation board edge and cover a minimum of 2 1/2 inches (64 mm) on the outside surface of the insulation board. After adhering mesh strips to the air barrier membrane, they will dangle until the backwrap procedure is completed (section G.1).

D. Adhesive Application and Installation of Insulation Board

1. Begin application only after air barrier membrane has dried.
2. Apply adhesive to the back of the insulation board with the proper size stainless steel notched trowel. Apply uniform vertical ribbons of adhesive (parallel with the SHORT dimension of the board). Note: Apply Sto BTS_Plus with a 1/2 x 1/2 inch (13x13 mm) U_notched trowel for smooth surfaces (sheathing) and with a 5/8 x 5/8 inch (16x16 mm) square_notched trowel for irregular surfaces (concrete or masonry).
3. Immediately place insulation boards in a running bond pattern on the walls with the long dimension horizontal. Start by inserting the lower edge of the boards inside the starter track at the base of the wall until they contact the bottom of the track. Apply firm pressure over the entire surface of the boards to insure uniform contact of adhesive. Bridge sheathing joints by a minimum of 8 inches (200 mm).
4. Butt all board joints tightly together to eliminate any thermal breaks in the EIFS. Care must be taken to prevent any adhesive from getting between the joints of the boards.
5. Cut insulation board in an L_shaped pattern to fit around openings. Do not align board joints with corners of openings.
6. Remove individual boards periodically while the adhesive is still wet to check for satisfactory contact with the substrate and the back of the insulation board. An equal amount of adhesive must be on the substrate and the board when they are removed, as an indication of adequate adhesion. Note: Do not use nails, screws, or any other type of nonthermal mechanical fastener.

E. Slivering and Rasping of Insulation Board Surface

1. Fill any open joints in the insulation board layer with slivers of insulation or approved spray foam.
2. After insulation boards are firmly adhered to the substrate, rasp the surface to achieve a smooth, even surface and to remove any ultraviolet ray damage.

(Note: EPS insulation board exposed to sunlight will develop a powdery residue on the surface. This film must be entirely removed by rasping the surface).

F. Reveals/Aesthetic Grooves

1. Cut reveals/aesthetic grooves with a hot_knife, router or groove_tool in locations indicated on project plans.
2. Offset reveals minimum 3 inches (75 mm) from insulation board joints.
3. Do not locate reveals at high stress areas such as corners of windows, doors, etc.
4. A minimum of 3/4 inch (19 mm) thickness of insulation board must remain at the bottom of the groove after cutting.

G. Completion of Backwrapping

1. Complete the backwrapping procedure by applying base coat to exposed edges of insulation board and approximately 4 inches (100 mm) onto the face of the insulation board. Pull mesh tight around the board and embed it in the base coat with a stainless steel trowel. Use a corner trowel for clean, straight lines. Smooth any wrinkles or gaps in the mesh.

H. Base Coat and Reinforcing Mesh Application

1. Apply minimum 9x12 inch (225x300 mm) diagonal strips (using Sto detail mesh) at corners of windows, doors, and all penetrations through the system. Embed the strips in wet base coat and trowel from the center to the edges of the mesh to avoid wrinkles.
2. Apply detail mesh at reveals. Embed the mesh in the wet base coat and trowel from the base of the reveal to the edges of the mesh.
3. High Impact mesh application (recommended to a minimum height of 6"-0" [1.8 m] above grade at all areas accessible to pedestrian traffic [such as ground floors] as indicated in contract drawings): apply base coat over the insulation board with spray equipment or a stainless steel trowel to a uniform thickness of approximately 1/8 inch (3 mm). Work horizontally or vertically in strips of 40 inches (1016 mm), and immediately embed the mesh into the wet base coat by troweling from the center to the edge of the mesh. Butt the mesh at seams. Allow the base coat to dry.
4. Standard mesh application: Apply base coat over the insulation board, including areas with high impact mesh, with spray equipment or a stainless steel trowel to a uniform thickness of approximately 1/8 inch (3 mm). Work horizontally or vertically in strips of 40 inches (1016mm), and immediately embed the mesh into the wet base coat by troweling from the center to the edge of the mesh. Overlap mesh not less than 2 inches (64 mm) at mesh seams and at overlaps of detail mesh. Feather seams and edges. Double wrap all inside and outside corners with minimum 2 1/2 inches (64 mm) overlap in each direction. (Alternate corner treatment: Embed corner mat in base coat, allow to dry, then overlap up to corner with standard reinforcing mesh embedded in base coat.) Avoid wrinkles in the mesh. The mesh must be fully embedded so that no mesh color shows through the base coat when it is dry. Re-skim with additional base coat if mesh color is visible.
5. The minimum required reinforced base coat thickness is 1/16 inch (1.6 mm) when it is dry. Allow base coat to thoroughly dry before applying primer.

I. Primer application

1. Apply primer evenly with brush, roller or proper spray equipment over the clean, dry base coat and allow to dry thoroughly before applying finish.

J. Finish Coat Application

1. Apply finish directly over the primed base coat ONLY AFTER THE PRIMER HAS THOROUGHLY DRIED. Apply finish by spraying or troweling with a stainless steel trowel, depending on the finish specified. Follow these general rules for application of finish:

i. Avoid application in direct sunlight.

ii. Apply finish in a continuous application, and work to a wet edge.

iii. Weather conditions affect application and drying time. Hot or dry conditions limit working time and accelerate drying. Adjustments in the scheduling of work may be required to achieve desired results; cool or damp conditions extend working time and retard drying and may require added measures of protection against wind, dust, dirt, rain and freezing. Adjust work schedule and provide protection.

iv. Float "R" (rilled texture) finishes with a plastic trowel to achieve their rilled texture.

v. Do not install separate batches of finish side_by_side.

vi. Do not apply finish into or over sealant joints. Apply finish to outside face of wall only.

vii. Do not apply finish over irregular or unprepared surfaces, or surfaces not in compliance with the requirements of the project specifications.

For below grade application, sloped sills and parapets, use the following procedure:

Sloped Sill and Parapet Application:

1. Apply air barrier membrane and standard mesh over the dry reinforced base coat with spray equipment or a stainless steel trowel in accordance with section H.4 of these instructions on the sloped surface and immediately above and below it (minimum 6 inches [152mm]).
2. Allow to dry and prime with the appropriate primer.
3. Apply finish coat in accordance with section J.1 a-g of these instructions.

(Note: Sloped sills and parapets must maintain a minimum 1:2 [27 degrees] slope and a maximum width of 12" [300 mm]. Sto Mesh embedded in Sto Flexyl in addition to the mesh embedded in the standard base coat is required beneath finish coating. Increase slope for northern climates to prevent accumulation of ice/snow and water on surface. Periodic inspections and increased maintenance of coating are required. Refer to Sto details 1.04 and 1.61).

NOTES:

No.	REVISION/DESCRIPTION	BY	DATE

SEAL

PROVINCE OF MANITOBA R. K. FOK REGISTERED ARCHITECT

DRAWN	CHECKED	DESIGNED	APPROVED
MMK			
DATE 2014.07.11	USER APPROVAL		

Winnipeg

THE CITY OF WINNIPEG
PLANNING, PROPERTY AND DEVELOPMENT DEPARTMENT
MUNICIPAL ACCOMMODATIONS DIVISION
3–65 GARRY STREET, R3C 4K4

PROJECT

ST. VITAL LIBRARY
NEW ELEVATOR INSTALLATION

6 FERMOR AVENUE

SHEET TITLE

EIFS WALL SYSTEM SPECIFICATIONS

SCALE	PROJECT No:	SHEET No:
AS SHOWN		A11

DRAWING SHEET SIZE: A1 (841mm x 594mm) PLOT 1:1