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PART 1 GENERAL

1.1 RELATED SECTIONS

1. Section 01 40 00: Quality Requirements
2. Section 03 30 00: Cast-in-Place Concrete
3. Section 04 20 00: Unit Masonry
4. Section 05 40 00: Cold-Formed Metal Framing
5. Section 06 10 00: Rough Carpentry
6. Section 07 20 00: Thermal Protection
7. Section 07 25 00: Weather Barriers (Vapour / Air Barriers)
8. Section 07 60 00: Flashing and Sheet Metal
9. Section 07 90 00: Joint Protection
10. Section 08 00 00: Openings
11. Section 09 28 00: Backing Boards and Underlayments
12. Section 09 90 00: Painting and Coating

1.2 DESCRIPTION

The adex-SOFFIT system is a direct-applied assembly composed of a 100% acrylic-based lamina installed over a suitable substrate for exterior soffit applications. The system includes the following components:

- Glass fibre reinforcing meshes;
- Glass fibre mesh;
- PVC NOVATRIM mouldings;
- 100% acrylic finish coat (and primer).

1.3 REFERENCE STANDARDS

1. ASTM International

1. ASTM B117: Standard Practice for Operating Salt Spray (Fog) Apparatus.
2. ASTM C666: Standard Test Method for Resistance of Concrete to Rapid Freezing and Thawing;
3. ASTM D522: Standard Test Methods for Mandrel Bend Test of Attached Organic Coatings;
4. ASTM D523: Standard Test Method for Specular Gloss;
5. ASTM D570: Standard Test Method for Water Absorption of Plastics;
6. ASTM D822: Standard Practice for Filtered Open-Flame Carbon-Arc Exposures of Paint and Related

- Coatings;
7. ASTM D1784: Standard Specification for Rigid Poly(Vinyl Chloride) (PVC) Compounds and Chlorinated Poly(Vinyl Chloride) (CPVC) Compounds;
 8. ASTM D2370: Standard Test Method for Tensile Properties of Organic Coatings;
 9. ASTM D4541: Standard Test Method for Pull-Off Strength of Coatings Using Portable Adhesion Testers;
 10. ASTM D5034: Standard Test Method for Breaking Strength and Elongation of Textile Fabrics (Grab Test);
 11. ASTM D5420: Standard Test Method for Impact Resistance of Flat, Rigid Plastic Specimen by Means of a Striker Impacted by a Falling Weight (Gardner Impact);
 12. ASTM E96: Standard Test Methods for Water Vapor Transmission of Materials;
 13. ASTM E283: Standard Test Method for Determining Rate of Air Leakage Through Exterior Windows, Curtain Walls, and Doors Under Specified Pressure Differences Across the Specimen;
 14. ASTM E330: Standard Test Method for Structural Performance of Exterior Windows, Doors, Skylights and Curtain Walls by Uniform Static Air Pressure Difference;
 15. ASTM E331: Standard Test Method for Water Penetration of Exterior Windows, Skylights, Doors, and Curtain Walls by Uniform Static Air Pressure Difference;
 16. ASTM E1131: Standard Test Method for Compositional Analysis by Thermogravimetry;
 17. ASTM E1252: Standard Practice for General Techniques for Obtaining Infrared Spectra for Qualitative Analysis;
 18. ASTM E2098: Standard Test Method for Determining Tensile Breaking Strength of Glass Fiber Reinforcing Mesh for Use in Class PB Exterior Insulation and Finish Systems (EIFS), after Exposure to a Sodium Hydroxide Solution;
 19. ASTM G 155: Standard Practice for Operating-Xenon Arc Light Apparatus, for Exposure of Non-metallic Materials.

2. CSA International
 1. CAN/CSA A3000: Cementitious materials compendium (Consists of A3001, A3002, A3003, A3004 and A3005).
3. National Research Council of Canada (NRC)
 1. Canadian Construction Materials Centre (CCMC): Technical Guide for EIFS.
4. Underwriters' Laboratories of Canada (ULC)
 1. CAN/ULC S101: Fire Endurance Tests of Building Construction and Materials;
 2. CAN/ULC S102: Surface Burning Characteristics of Building Materials and Assemblies;
 3. CAN/ULC S114: Method for Determination of Non-Combustibility;
 4. CAN/ULC S134: Fire Test of Exterior Wall Assemblies

1.4 DESIGN REQUIREMENTS

1. All work undertaken must comply with current codes, norms, construction best practices, as well as the manufacturer's installation instructions;
2. The substrate system shall be engineered to withstand all applicable loads, including live, dead, seismic, positive and negative, etc.
3. Substrate fasteners must be treated to prevent corrosion
4. The furring system must allow for venting and for drainage towards the exterior
5. The substrate shall be one of the following:
 - a) Cement boards (Permabase from Unifix or NextGen from CGC);
 - b) Glass-mat faced gypsum boards.
6. Expansion joints that allow for building movement shall be installed in the following locations:
 - a) At floor levels of all buildings;
 - b) At floor levels where a deflection track is present;
 - c) At control joints in the substrate;
 - d) At expansion joints in the building;
 - e) Where dissimilar materials or substrates meet;
 - f) At inside corners and major openings;
 - g) Anywhere specified on the plans;
 - h) At a maximum distance of 5 m (16 ft), to counter thermal expansion;
 - i) Where deflection higher than L/360 is expected.
7. Where expansion joints are to be installed, substrate shall be interrupted, providing a minimum space of 12mm (1/2") to allow for NOVATRIM installation;

1.5 QUALITY ASSURANCE

1. System manufacturer shall be ADEX Systems Inc.
2. The applicator shall have a sufficient amount of experience and enough qualified labour at his disposal to install the specified system.
3. The applicator shall follow all professional's directions when installing system components.

1.6 DELIVERY, STORAGE AND HANDLING

1. All materials supplied by ADEX Systems Inc. shall be delivered in their sealed, original packaging with legible labels intact.
2. All materials supplied by ADEX Systems Inc. shall be stored in a cool, dry location at temperatures above 5 °C (41 °F) and protected from weather and other damage.
3. Store materials away from direct sunlight and protect from temperatures in excess of 32 °C (90 °F).
4. Materials suspected of having been frozen or damaged must not be used.

1.7 JOB CONDITIONS

1. Ambient and substrate temperatures shall be minimum 5 °C (41 °F) during installation.
2. When installing in climatic temperatures below 5 °C (41 °F), tarping, heating and ventilation shall be provided to maintain proper installation temperatures.
3. Ambient temperature shall be maintained above 5 °C (41 °F) for a minimum of 24 hours after installation to ensure that drying is complete.
4. Installation of ADEX materials shall be coordinated with other construction trades.

1.8 ALTERNATIVES

Systems considered equivalent to the adex-SOFFIT exterior system shall be approved by the architect, in writing, at least ten (10) working days prior to the project bid date.

1.9 WARRANTY

Upon request, the manufacturer shall provide a 5-year limited warranty, stating that materials conform to specifications and are free of manufacturing defects.

PART 2 PRODUCTS

2.1 MANUFACTURER

All components of the system shall be obtained from ADEX Systems Inc. or its authorised distributors. No substitution or addition of other materials is permitted without written consent from the manufacturer.

2.2 PRODUCTS

1. PVC Mouldings;
 - a) Shall meet ASTM D-1784 standards for exterior use.
 - b) Shall be NOVATRIM by ADEX.
2. Acrylic Base Coat:
 - a) Shall be a 100% acrylic-based, asbestos-free product, made by ADEX Systems Inc., such as ADEX BASECOAT
 - b) Shall be compliant to CAN/ULC S-114 standards.
3. Glass Fibre Mesh:
 - a) Shall be sold by ADEX Systems or by one of its authorised distributors;
 - b) Shall meet ASTM D-5034 standards;;
 - c) Shall have different weights according to specific needs:
 1. UNITAPE: self-adhesive 75 mm (3") wide
 2. ADEX STANDARD MESH: 96 cm (38") wide
4. Primer:

Shall be an acrylic and silica mix that can be applied by roller, such as PRIMEX, manufactured by ADEX Systems Inc.
5. Finish Coat:
 - a) Shall be factory-mixed, 100% acrylic-based, ready-to-use, containing integral colour and texture;
 - b) The texture shall be [see ADEX catalogue].

2.3 OTHER MATERIALS

1. Cement:

Shall be lump-free, GU Type cement meeting CSA A3001 standards.
2. Water:

Shall be clean, potable and free of sediment.

2.4 TESTS

1. Tests performed by an independent laboratory on the specified materials can be requested.
2. Properties shall meet or exceed the following values when tested by methods listed:

TEST METHOD

DURABILITY UNDER CLIMATIC CONDITIONS:
CCMC TG APPENDICE A2 (60 CYCLES)

No cracking, leaking or bubbling of base coat.
No delamination or cracking of finish coat.

ACCELERATED WEATHER RESISTANCE:
ASTM G155 (EXPOSED 2000 HOURS)

No deleterious effect.

SALT SPRAY RESISTANCE:
ASTM-B117 (EXPOSED 300 HOURS)

No deleterious effect.

MILDEW AND FUNGUS RESISTANCE:
CCMC 6.8

No mildew or fungal growth.

WATER PERMEABILITY:
CCMC 6.6

≥ 2 hours.

WATER ABSORPTION:
CCMC 6.7

≤ 20 %.

WATER VAPOUR TRANSMISSION:ASTM E96-95:

≥ 170 ng/Pa.s.m².

■ Test Method
■ Result

PART 3 EXECUTION

3.1 INSPECTION

1. Inspect the substrate to verify that it is structurally sound and solid, ensuring there are not any irregular voids or projections.
2. Fasteners heads shall be flush with the surface of the substrate; they must not damage the fibreglass mesh facing.

3. Ensure that the substrate boards are well attached and that they are in continuous contact with the furring support;
4. Inspect all metal flashing to ensure that it is properly installed; making certain that moisture will be deflected to the exterior of the system.
5. The architect and general contractor shall be advised of any discrepancies. Work shall not proceed until unsatisfactory conditions are corrected.

3.2 PREPARATION

1. Protect all adjacent areas and surfaces from damage during the installation of this system.
2. Protect installed materials at the end of each workday to prevent moisture from infiltrating the system.

3.3 MIXING

ADEX BASECOAT:

- a) In a clean container, mix ADEX BASECOAT and GU Type cement at a ratio (by weight) of one-to-one;
- b) Allow mixture to set up for 5 minutes and mix again to break the initial set;
- c) All other additives (such as rapid binder, anti-freeze, accelerator or others) are strictly prohibited.

3.4 INSTALLATION

1. Attach NOVATRIMS where required, using stainless steel tacks every 200 mm (8"). Ensure that joints in NOVATRIMS are properly aligned to reduce their visibility;
2. Joint Treatment:
 - a) Apply self-adhesive UNITAPE over all cement board joints;
 - b) Cover all UNITAPE, screws and NOVATRIM edges with ADEX BASECOAT, making sure that all NOVATRIM flange holes are properly filled;
 - c) Install an additional 300 mm (12") long piece of Starter mesh (at a 45° angle) at the corners of all wall openings;
 - d) Allow 24 hours minimum for drying.
3. Base Coat and Reinforcing Glass Fibre Mesh:
 - a) Apply the ADEX BASECOAT mixture over the entire surface of the cement boards to a uniform thickness of 1.6 mm (1/16"). Immediately embed STANDARD mesh into the wet ADEX BASECOAT. The base coat shall be smoothed until the mesh is fully

- embedded;
- b) The STANDARD mesh shall be lapped a minimum of 63 mm (2 1/2") on all sides;
- c) The STANDARD mesh shall cover all NOVATRIM flanges;
- d) A second coat of ADEX BASECOAT may be required if, after drying, there are imperfections or the mesh is not completely embedded;
- e) A period of 24 hours shall elapse before installing the finish coat.

6. Finish Coat:
 - a) With a roller, apply an even coat of PRIMEX primer (same colour as the finish coat) prior to installing the finish coat.
 - b) Primer shall be touch dry before starting to apply the finish coat;

6. Finish Coat:
 - a) Trowel-apply a tight coat of ADEX Finish, texture [see ADEX catalogue] to a thickness not greater than the largest aggregate. Apply the finish coat in a continuous fashion, maintaining a wet edge. Levelling and texturing shall take place in one operation to give the finish coat a uniform appearance;
 - b) Avoid applications in direct sunlight;
 - c) Avoid applying finish coat at locations where caulking will be installed;
 - d) Ensure all PVC moulding connections are properly sealed.

3.5 CLEAN-UP

1. Remove waste and left over materials (used in this section) from the job site.
2. Clean all adjacent materials and surfaces, and repair any defects caused to this application or any other work.

3.6 PROTECTION

1. Ensure that the general contractor protects all work against moisture infiltration and other damages by installing the necessary flashing and caulking in a timely manner.
2. Provide protection against dirt, moisture, high humidity, and freezing temperatures until materials are fully dry.

Information in this document contains the current recommendations for the installation of the adex-SOFFIT system. It is only provided as a guide and is subject to modifications at any time without notice. ADEX Systems Inc. reserves the right to make any modification according to technological progress. Specialised designers, architects, engineers or other professionals that choose to make any use of this information bear the complete responsibility, whatever it be, direct or indirect, that could follow from such use. ADEX Systems Inc. does not bear any responsibility that could give way to damages, defaults, defects, deficiencies, prejudices, loss or decrease of profit, be they direct or indirect, resulting from such use of this information by specialised designers, architects, engineers or other professionals. Please refer to www.adex.ca for the latest version of this document.

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