

Approved: 2007-03-31

Part 1 General

1.1 RELATED REQUIREMENTS

- .1 Section 03 45 00 PRECAST ARCHITECTURAL CONCRETE

1.2 REFERENCES

- .1 American Society for Testing and Materials International (ASTM)
 - .1 ASTM B117-03, Standard Practice for Operating Salt Spray (Fog) Apparatus.
 - .2 ASTM C67-05, Standard Test Methods for Sampling and Testing Brick and Structural Clay Tile.
 - .3 ASTM C144-04, Standard Specification for Aggregate for Masonry Mortar.
 - .4 ASTM D968-05, Standard Test Methods for Abrasion Resistance of Organic Coatings by the Falling Abrasive.
 - .5 ASTM D2247-02, (U.S. Federal Test 141A 6201), Standard Practice for Testing Water Resistance of Coatings in 100% Relative Humidity.
 - .6 ASTM E72-05, Standard Test Methods of Conducting Strength Tests of Panels for Building Construction.
 - .7 ASTM E96/E96M-05, Standard Test Methods for Water Vapor Transmission of Materials.
 - .8 ASTM E695-03, Standard Method for Measuring Relative Resistance of Wall, Floor, and Roof Construction to Impact Loading.
 - .9 ASTM G154-05, Standard Practice for Operating Fluorescent Light Apparatus for UV Exposure of Nonmetallic Materials.
- .2 Canadian General Standards Board (CGSB)
 - .1 CAN/CGSB-1.162-2004, Emulsion Coating for Stucco and Masonry.
 - .2 CAN/CGSB-19.24-M90, Multicomponent, Chemical-Curing Sealing Compound.
- .3 Canadian Standards Association (CSA International)
 - .1 CAN/CSA-A3000-03(R2005), Cementitious Materials Compendium (Consists of A3001, A3002, A3003, A3004 and A3005).
 - .1 CSA-A3001-03, Cementitious Materials for Use in Concrete.
- .4 Health Canada (HC)
 - .1 Workplace Hazardous Materials Information System (WHMIS).
 - .2 Material Safety Data Sheets (MSDS).
- .5 Underwriters' Laboratories of Canada (ULC)
 - .1 CAN-ULC-S101-04, Standard Methods of Fire Endurance Tests of Building Construction and Materials.
 - .2 CAN-ULC-S102-03, Standard Methods for Surface Burning Characteristics of Building Materials and Assemblies.

- .3 CAN-ULC-S134-92, Standard Method of Fire Test of Exterior Wall Assemblies.

1.3 DEFINITIONS

- .1 Aesthetic joint: joint for appearance or installation ease. Also known as reveals grooves and reglets used to provide starting and stopping points during application of finish coat.
- .2 Base coat adhesive: adhesive used in base coat. Polymer modified, polymer based or cementitious material, typically mixed with Portland cement.
- .3 Base coat: base coat consists of 2 components; base coat adhesive and reinforcing mesh.
- .4 Direct-Applied: direct-applied systems use EIFS-like coatings applied directly to rigid sheathing boards. Insulation is not used in these systems, thus, they are not EIFS.
- .5 Lamina: base coat reinforcing mesh and finish.
- .6 Reinforcing mesh: woven glass fibre reinforcement to base coat providing impact resistance.

1.4 SYSTEM DESCRIPTION

- .1 Performance requirements: ensure installed modified polymer (soft) coat wall system has following performance properties:
 - .1 Comply with CAN-ULC-S134.
 - .2 Finish abrasion resistance: falling sand method to ASTM D968, no deleterious effects.
 - .3 Finish salt spray resistance: to ASTM B117, after 300 hours exposure to 5 % salt spray solution - no effects.
 - .4 Finish moisture resistance: to ASTM D2247 (U.S. Federal test 141 A6201), after 14 days exposure - no deleterious effects.
 - .5 Accelerated weathering: to CAN/CGSB-1.162 ASTM G154, 2000 hours - no effect.

1.5 ACTION AND INFORMATIONAL SUBMITTALS

- .1 Provide submittals in accordance with Section 01 33 00 - Submittal Procedures.
- .2 Product Data:
 - .1 Submit product data.
 - .2 Submit WHMIS MSDS - Material Safety Data Sheets in accordance with Section 02 81 01 - Hazardous Materials. WHMIS acceptable to Labour Canada, and Health and Welfare Canada for exterior finish - direct applied materials. Indicate VOC content.
 - .3 Submit product data sheets for system materials. Include product characteristics, performance criteria, limitations and colours.
- .3 Shop Drawings: submit shop drawings and indicate wall layout, details, connections, expansion joints, finish system, installation sequence, including interface with fascias, walls, air barriers, vapour retarders and other components.
- .4 Samples:
 - .1 Submit samples.

- .1 Submit one 300 x 300 mm sample of each colour of finished soffit system prior to fabrication of mock-up.

1.6 QUALITY ASSURANCE

- .1 Quality Assurance:
 - .1 Installer: company or person specializing in application of exterior finish system (direct applied) approved by manufacturer with 5 documented experience.
 - .2 Installation of exterior finish system by applicators certified by manufacturers of system used.
 - .3 Submit certification to Consultant prior to commencement of work.
- .2 Mock-ups:
 - .1 Construct mock-up in accordance with Section 01 45 00 - Quality Control.
 - .2 Construct mock up of complete exterior finish system on typical exterior soffit 1430 mm long x 1200 mm wide incorporating:
 - .1 Joints to demonstrate aesthetic, control and expansion joint construction.
 - .2 Construction at changes in substrate.
 - .3 Construction at corner stop.
 - .4 Construction at fascias.
 - .5 Construction at both large and small penetrations.
 - .6 Construction at surface mounted objects and foam shapes.
 - .7 Colour, texture and finish.
 - .3 Construct mock-up where directed] indicated].
 - .4 Allow 24 hours for inspection of mock-up by Departmental Representative DCC Representative Consultant before proceeding with work.
 - .5 When accepted, mock-up will demonstrate minimum standard for work, and may not] remain as part of finished work.

1.7 DELIVERY, STORAGE AND HANDLING

- .1 Deliver, store and handle materials in accordance with Section 01 61 00 - Common Product Requirements.
- .2 Deliver and store materials in accordance with manufacturer's instructions.
- .3 Protect base finish materials from freezing.
- .4 Safety: Comply with requirements of Workplace Hazardous Materials Information System (WHMIS) regarding use, handling, storage, and disposal of insulation, adhesive and caulking materials.
- .5 Waste Management and Disposal:
 - .1 Separate waste materials for reuse] recycling] in accordance with Section 01 74 21 - Construction/Demolition Waste Management and Disposal.

1.8 AMBIENT CONDITIONS

- .1 Temperature, relative humidity, moisture content.

- .1 Apply exterior finish system components at temperatures, relative humidity, and substrate moisture content and substrate temperature in accordance with manufacturer's written instructions.
- .2 Maintain ambient temperature above 4 degrees C during base coat application and until cured minimum 24 hours.
- .3 Maintain ambient temperature above 4 degrees C during finish coat application and until cured minimum 24 hours.

1.9 WARRANTY

- .1 For work of this Section 07 24 10.03 - Exterior Finish - Direct Applied 12 months warranty period prescribed in subsection GC 32.1 of General Conditions "C" is extended to 60 months.
- .2 Contractor warrants that exterior finish system will not leak or delaminate in accordance with General Conditions (GC) CCDC GC 12.3, but for 60 months.

Part 2 Products

2.1 SURFACE PREPARATION

- .1 Conditioner: based acrylic, clear conditioner/sealer compatible with system materials, recommended by system manufacturer.
- .2 Leveller: polymer-modified, cement-based, reinforced levelling compound.

2.2 BASECOAT

- .1 Acrylic: non-cementitious, fibre reinforced base coat system, texture sandy, colour grey.

2.3 REINFORCING MESH

- .1 Balanced, woven glass fibre fabric made from twisted multi-end strands, treated, alkali resistant, compatible with chemical bonding system base coat and finish coat, weight standard - 509 g/m
- .2 Speciality mesh:
 - .1 Detail mesh: flexible, symmetrical, woven glass fibre fabric made from twisted multi-end strands, treated, alkali resistant, compatible with chemical bonding system base coat and finish coat, weight 153 g/m
 - .2 Corner mesh: pre-creased, non-woven glass fibre fabric made from twisted multi-end strands, treated, alkali resistant, compatible with chemical bonding system base coat and finish coat, weight 212 g/m

2.4 FINISH COAT

- .1 Modified polymer finish coat system: acrylic resins in dispersion, silica aggregate, integral mineral pigmentation and additives, colour selected by Consultant.

2.5 PRIMER

- .1 Acrylic based primer.

2.6 ACCESSORIES

- .1 Accessories: galvanized zinc alloy steel corner beads, casing beads, stop beads, and accessories, as recommended by exterior finish system manufacturer to suit system components.

2.7 EXPANSION JOINTS

- .1 Ensure expansion joints are back wrapped.
- .2 Joint Cleaner: non-corrosive and non-staining type, compatible with joint forming materials and sealant recommended by sealant manufacturer.
- .3 Sealant primer: as recommended by sealant manufacturer.
- .4 Joint filler: extruded polyethylene, closed cell, Shore A hardness 20, tensile strength 140 - 200 kPa, outsized 30 to 50%.
- .5 Sealant: in accordance with Section 07 92 00 - Joint Sealing]]asbestos-free sealant, compatible with systems materials, recommended by system manufacturer.

2.8 MATERIALS: SITE MIX

- .1 Cement: to CSA-A3001
- .2 Sand: dry bag..
 - .1 For grey cement: mortar sand to ASTM C144.
- .3 Water: potable.

2.9 MIXES

- .1 General:
 - .1 Mixer: high speed, clean and rust free.
 - .2 Mixing pail: clean and rust free.
 - .3 Mixes: additive free.
- .2 Conditioner: mix in accordance with manufacturer's written instructions.
- .3 Leveller: mixed to uniform consistency in accordance with manufacturer's written instructions.
- .4 Basecoat: mixed to uniform consistency in accordance with manufacturer's written instructions.
- .5 Finish coat: mixed to uniform consistency in accordance with manufacturer's written instructions.

Part 3 Execution

3.1 MANUFACTURER'S INSTRUCTIONS

- .1 Compliance: comply with manufacturer's written recommendations or specifications, including product technical bulletins, handling, storage and installation instructions, and datasheets.

3.2 EXAMINATION

- .1 Inspect and verify condition of existing substrate surfaces for contamination, surface absorption, chalkiness, cracks, damage, deterioration, moisture content, moisture damage, and tolerances.
 - .1 Substrate tolerance not greater than 6 2500 design deflection no greater than 1/240 in accordance with manufacturer's written instructions.
- .2 Report deviations from specified requirements or other conditions that might adversely affect exterior finish system installation in writing to Consultant.
- .3 Proceed with Work only after receipt of written approval from Consultant.

3.3 PREPARATION

- .1 Protection:
 - .1 Protect adjacent surfaces from damage resulting from Work of this section.
 - .2 Protect finished Work from water penetration at end of each day or on completion of each section of Work.
 - .3 Protect installation from moisture for 48 hours minimum after completion of each portion of Work.
- .2 Surface preparation:
 - .1 Ensure environmental and site conditions are suitable for installation of system.
 - .2 Prepare new surfaces in accordance with manufacturer's written instructions.
 - .3 Conditioner: acrylic, clear conditioner/sealer compatible with system materials, substrate and as recommended by system manufacturer.
 - .1 Apply to clean, dry substrate surfaces ensuring complete even coverage in accordance with manufacturer' written instructions.
 - .2 Allow time to fully cure.

3.4 INSTALLATION

- .1 Install system in accordance with CAN-ULC-S134.
- .2 Accessories:
 - .1 Install required accessories as detailed and as required by exterior finish system manufacturer, and in accordance with CAN-ULC-S134.
- .3 Joints:
 - .1 Reveals and Aesthetic Grooves.
 - .1 Cut reveals and aesthetic grooves with appropriate tool in locations indicated in accordance with details.
 - .2 Expansion joints:
 - .1 Install expansion joints in locations indicated and to manufacturers written instructions.
- .4 Mesh and Base Coat Application:

- .1 Apply diagonal strips of detail mesh at corners, lights, grilles and penetrations through system.
 - .1 Embed strips in wet base coat and trowel from centre to mesh edge to avoid wrinkles.
- .2 Apply detail mesh at reveals.
 - .1 Embed mesh in wet base coat and trowel from base of reveal to mesh edges.
- .3 Apply corner mesh at inside and outside corners.
 - .1 Embed mesh in wet base coat and trowel from corner of mesh edges.
- .4 High impact mesh application: apply base coat over substrate to uniform thickness.
- .5 Standard mesh application:
 - .1 Apply base coat over substrate, including areas with high impact mesh to uniform thickness of approximately.
 - .2 Work horizontally or vertically, and immediately embed mesh into wet base coat by troweling from centre to mesh edge.
 - .1 Mechanically fasten mesh].
 - .3 Feather seams and edges.
 - .4 Avoid wrinkles in mesh.
 - .5 Fully embed mesh so that no mesh colour shows through basecoat when dry.
- .5 Finish Coat Application
 - .1 Apply finish coat in accordance with manufacturer's written installation instructions.
 - .2 Prime dry base coat and allow to dry thoroughly before applying finish coat.
 - .3 Apply finish coat directly over base coat, or primed basecoat, only after base coat or primer has thoroughly dried.
 - .4 Apply finish by spray or trowel as recommended by manufacturer.
 - .5 Apply finish in continuous application, and work towards wet edge.
 - .6 Do not install separate batches of finish coat side by side.
 - .7 Do not apply finish into or over sealant joints.
 - .1 Apply finish to outside of wall only.
 - .8 Do not apply finish over irregular or unprepared surfaces.
 - .9 Apply textured or aggregate finishes to wall areas as indicated and in accordance with manufacturer's written instructions.

3.5 CLEAN UP

- .1 Upon completion of installation remove excess materials, droppings and debris, tools and equipment barriers.
- .2 Clean surface and adjacent work area of foreign materials resulting from installation procedures.

END OF SECTION