Part 1 General

1.1 REFERENCES

.1 American Society for Testing and Materials International (ASTM).

.1 ASTM C208, Specification for Cellulosic Fibre Insulating Board.

.2 ASTM C591, Standard Specification for Unfaced Preformed Rigid Cellular Polyisocyanurate Thermal Insulation.

.3 ASTM C612, Standard Specification for Mineral Fibre Block and Board Thermal Insulation.

.4 ASTM C726, Standard Specification for Mineral Fibre Roof Insulation Board.

.5 ASTM C728, Standard Specification for Perlite Thermal Insulation Board.

.6 ASTM C1126, Standard Specification for Faced or Unfaced Rigid Cellular Phenolic Thermal Insulation.

.7 ASTM C1289-, Standard Specification for Faced Rigid Cellular Polyisocyanurate Thermal Insulation Board.

.8 ASTM E96/E96M, Standard Test Methods for Water Vapour Transmission of Materials.

.2 Canadian Gas Association (CGA).

.1 CAN/CGA-B149.1, Natural Gas and Propane Installation Code Handbook.

.2 CAN/CGA-B149.2, Propane Storage and Handling Code.

.3 Canadian General Standards Board (CGSB)

.1 CGSB 71-GP-24M, Adhesive, Flexible, for Bonding Cellular polystyrene Insulation.

.4 Underwriters Laboratories of Canada (ULC).

.1 CAN/ULC-S604, Standard for Type A Chimneys.

.2 CAN/ULC-S701, Standard for Thermal Insulation, Polystyrene, Boards and Pipe Coverings.

.3 CAN/ULC-S102, Surface Burning Characteristics.

.4 CAN/ULC-S702, Standard for Thermal Insulation, Mineral Fibre, for Buildings.

.5 CAN/ULC-S704, Standard for Thermal Insulation Polyurethane and Polyisocyanurate, Boards, Faced.

.5 Health Canada/Workplace Hazardous Materials Information System (WHMIS).

.1 Material Safety Data Sheets (MSDS).

1.2 SUBMITTALS

.1 Product Data:

.1 Submit manufacturer's printed product literature, specifications and data sheet.

.2 Manufacturer's Instructions:

.1 Submit manufacturer's installation instructions.

1.3 QUALITY ASSURANCE

.1 Certificates: product certificates signed by manufacturer certifying materials comply with specified performance characteristics and criteria and physical requirements.

Part 2 Products

2.1 INSULATION

.1 Board insulation: mineral (rock slag) wool board to CAN/ULC-S702, thickness as indicated on Drawings, butt edges. Acceptable material: Roxul RHT-80 or approved equivalent in accordance with B6.

2.2 ACCESSORIES

.1 Fasteners: concrete anchors with flat discs or washers, for attachment of insulation to concrete surfaces

Part 3 Execution

3.1 MANUFACTURER'S INSTRUCTIONS

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

3.2 INSTALLATION

.1 Install insulation after building substrate materials are dry.

.2 Install insulation to maintain continuity of thermal protection to building elements and spaces. Fit insulation tight around electrical, plumbing and heating pipes and ducts, around exterior doors and windows and other penetrations and protrusions. Cut and trim insulation neatly to fit spaces.

.3 Install insulation boards in parallel rows. Butt joints tightly, offset vertical joints. Interlock boards at corners. Use longest pieces possible to reduce number of joints. Cut and trim insulation neatly to fit spaces. Use only insulation boards free from chipped or broken edges. Use largest possible dimensions to reduce number of joints.

.4 Install insulation boards on outer surface of inner wythe of wall cavity with plastic insulation clips over masonry ties to hold insulation tight to backup wall. Install boards horizontally between masonry ties, with horizontal joints centred on ties.

.5 Install insulation over foundation waterproofing with concrete anchors complete with nailing discs or washers. Provide a minimum of five (5) anchors per 600 x 1200 mm of insulation board. Provide additional anchors spaced at 300 mm on centre around perimeter of openings, corners and abutments. Ensure concrete anchors are securely seated. Replace

loose fasteners or provide additional fastener adjacent to loose fasteners. Install insulation to maintain continuity of thermal protection to building elements and spaces.

.6 Fit insulation tight around electrical boxes, plumbing and heating pipes and ducts, around exterior doors and windows and other protrusions.

.7 Offset both vertical and horizontal joints in multiple layer applications.

3.3 EXAMINATION

.1 Examine substrates and immediately inform Contract Administrator in writing of defects.

.2 Prior to commencement of work ensure:

.1 Substrates are firm, straight, smooth, dry, free of snow, ice or frost, and clean of dust and debris.

3.4 CLEANING

.1 Upon completion of installation, remove surplus materials, rubbish, tools and equipment barriers.

END OF SECTION

Part 1 General

1.1 REFERENCES

.1 American Society for Testing and Materials International (ASTM).

.1 ASTM C553, Specification for Mineral Fibre Blanket Thermal Insulation for Commercial and Industrial Applications.

.2 ASTM C665, Specification for Mineral-Fiber Blanket Thermal Insulation for Light Frame Construction and Manufactured Housing.

.3 ASTM C1320, Standard Practice for Installation of Mineral Fiber Batt and Blanket Thermal Insulation for Light Frame Construction.

.2 Canadian Gas Association (CGA).

.1 CAN/CGA-B149.1, Natural Gas and Propane Installation Code Handbook.

.2 CAN/CGA-B149.2, Propane Storage and Handling Code.

.3 Canadian Standards Association (CSA International)

.1 CSA B111, Wire Nails, Spikes and Staples.

.4 Underwriters Laboratories of Canada (ULC).

.1 CAN/ULC-S604, Type A Chimneys.

.2 CAN/ULC-S702, Standard for Mineral Fibre Insulation.

1.2 SUBMITTALS

.1 Product Data:

.1 Submit manufacturer's printed product literature, specifications and data sheets.

.2 Manufacturer's Instructions:

.1 Submit manufacturer's installation instructions.

1.3 QUALITY ASSURANCE

.1 Certificates: product certificates signed by manufacturer certifying materials comply with specified performance characteristics and criteria and physical requirements.

Part 2 Products

2.1 INSULATION

.1 Batt and blanket mineral fibre insulation: to CAN/ULC-S702, Type 1 – no membrane. Thickness indicated on Drawings.

2.2 ACCESSORIES

.1 Staples: 12 mm minimum leg.

.2 Tape: as recommended by manufacturer.

Part 3 Execution

3.1 MANUFACTURER'S INSTRUCTIONS

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

3.2 INSULATION INSTALLATION

.1 Install insulation to maintain continuity of thermal protection to building elements and spaces.

.2 Install insulation with factory applied vapour barrier facing warm side of building spaces. Lap ends and side flanges of membrane over framing members. Retain in position with staples installed as recommended by manufacturer. Tape seal butt ends and lapped side flanges. Do not tear or cut vapour barrier.

.3 Fit insulation closely around electrical boxes, pipes, ducts, frames and other objects in or passing through insulation.

.4 Do not compress insulation to fit into spaces.

.5 Keep insulation minimum 75 mm from heat emitting devices such as recessed light fixtures.

3.3 CLEANING

.1 Upon completion of installation, remove surplus materials, rubbish, tools and equipment barriers.

END OF SECTION

Part 1 General

1.1 REFERENCES

.1 Canadian General Standards Board (CGSB).

.1 CAN/CGSB-1.162, Stucco and Masonry Coating, Emulsion Type.

.2 CAN/CGSB-19.24, Multicomponent, Chemical-Curing Sealing Compound.

.2 Canadian Standards Association (CSA)

.1 CAN/CSA-A5, Portland Cement.

.3 Underwriter's 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-S134, Fire Test of Exterior Wall Assemblies.

.4 United States Federal Government Standard.

.1 U.S. Federal Test 141A 6201.

1.2 PRODUCT DATA

.1 Submit product data sheets for system materials. Include product characteristics, performance criteria, limitations and colours.

1.3 SHOP DRAWINGS

.1 Submit shop drawings to indicate wall layout, details, connections, expansion joints, finish system, installation sequence, including interface with fascias, walls, air barriers, vapour retarders, existing stucco finishes, and other components.

1.4 SAMPLES

.1 Submit one 300 x 300 mm sample of finish coat in selected colour and texture on plywood backing for Contract Administrator's review and approval.

1.5 QUALIFICATIONS

.1 Submit qualifications of applicators for the Contract Administrator's approval prior to commencement of work.

1.6 DELIVERY, STORAGE AND HANDLING

.1 Deliver, store and handle materials in accordance with manufacturer's instructions.

.2 Protect base finish materials from freezing.

1.7 PROJECT/SITE ENVIRONMENTAL REQUIREMENTS

.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 10 C during base coat application and until cured minimum 24 hours.

.3 Maintain ambient temperature above 10 C during finish coat application and until cured minimum 24 hours.

1.8 WARRANTY

.1 For work of this Section the warranty period is extended to 24 months.

.2 Contractor hereby warrants that exterior finish system will not leak or delaminate for the warranty period.

Part 2 Products

2.1 MATERIALS

.1 Water: clean, potable and free from deleterious matter, acids or alkalis.

.2 Sand: clean, coarse, sharp, well screened conforming to CSA A82.57.

.3 Cement: normal Portland Type 10 to CAN/CSA-A5.

.4 Metal lath: diamond mesh, 1.65 kg/m², galvanized.

.5 Tie wire: zinc coated annealed steel wire, minimum 16 gauge diameter.

.6 Cornerite: expanded 26 gauge sheet steel, 64 mm legs, galvanized finish.

.7 Stucco stops: square, 24 gauge galvanized sheet steel or pure zinc, perforated or expanded flanges.

.8 Concrete anchors: for attachment of metal lath to concrete and masonry surfaces. Hot dipped galvanized concrete/masonry anchors. Washers 1 mm thick x 25 mm diameter steel, galvanized. Gripcon Concrete Masonry Fastening System or equal in accordance with B6.

.9 Building paper: No.15 asphalt saturated felt to CSA A123.3.

.10 Colouring pigment: dry powder pigment for job mix in finish coat. Acceptable material Imasco Custom Colours. Colour generally matching brickwork, as selected by Contract Administrator.

2.2 MIXING

.1 Detergent, soap, or other additives in mixes not permitted.

.2 Proportion parts by volume. Measurement of ingredients including water shall be accurate and successive batches shall be proportioned alike.

.3 Adjust cement and lime content by volume based on strength, workability and finishing requirements.

.4 Scratch coat: 1 part cement; 3/4 to 1½ parts lime; 2½ to 4 parts sand (volume of sand per sum of cementitious material).

.5 Parging coat: 1 part cement; 3/4 to 1½ parts lime; 3 to 5 parts sand (volume of sand per sum of cementitious material. Add colouring agent to finish coat in strict conformance with manufacturer's instructions to produce coloured stucco to match approved sample. Accurately and consistently measure ingredients to provide consistent coloured mortar for all batches.Conditioner: mix in accordance with manufacturer's written instructions.

Part 3 Execution

3.1 EXAMINATION

.1 Inspect and verify condition of existing substrate surfaces for contamination, surface absorption, chalkiness, cracks, damage, deterioration, moisture content, moisture damage, and tolerances.

.2 Report conditions that might adversely affect exterior finish system installation in writing to the Contract Administrator.

.3 Proceed with Work only after receipt of written approval from the Contract Administrator.

3.2 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.

3.3 INSTALLATION

.1 Install sheathing paper behind metal lath. Place sheets horizontally, overlapping upper sheet over lower to shed water.

.2 Install metal lath with long dimension of sheets at right angles to supports. Offset end laps in adjacent rows.

.3 Secure at 150 mm on centre along vertical lines running 400 mm apart.

.4 Lap sheets 12 mm at sides and 25 mm at ends. Side laps shall be secured at 400 mm on centre.

.5 At external corners, wrap metal lath around corner minimum of 400 mm. Reinforce with cornerite.

.6 At internal corners, fold wire through corner minimum 400 mm. Reinforce with cornerite.

.7 Erect accessories straight, plumb or level, rigid and at proper plane. Use full length pieces wherever possible. Make joints tight, accurately aligned and rigidly secured. Mitre and fit corners accurately, free from rough edges.

.8 Provide casing beads wherever parging terminates and abuts other surfaces and where specifically called for on Drawings.

.9 Scratch coat:

.1 Apply full scratch coat in sufficient thickness with sufficient pressure to form positive bond. Cross scratch and allow to set.

.2 Damp cure for not less than 48 hours. Permit to dry.

.10 Parging coat:

.1 Apply parging coat on scratch coat no sooner than 48 hours after installation of scratch coat.

.2 Apply over dampened scratch coat with sufficient pressure to form positive bond.

.3 Bring out to grounds, straighten to true surface, and provide medium brush dash finish.

.4 Damp cure for not less than 48 hours.

.11 Thickness of finish or top coats specified minimum thickness. Increase thickness as required to suit specified textured finishes.

.1 Scratch coat: 12 mm

.2 Finish coat: 6 mm or as required to match existing

.3 Total : 18 mm or as required to match existing

END OF SECTION

Part 1 General

1.1 REFERENCES

.1 Canadian General Standards Board (CGSB).

.1 CAN/CGSB-51.33, Vapour Barrier Sheet, Excluding Polyethylene, for Use in Building Construction.

.2 CAN/CGSB-51.34, Vapour Barrier, Polyethylene Sheet, for Use in Building Construction.

1.2 SUBMITTALS

.1 Product Data:

.1 Submit manufacturer's printed product literature, specifications and datasheet and include:

.1 Product characteristics.

.2 Performance criteria.

.3 Limitations.

.2 Quality assurance submittals:

.1 Certificates: submit certificates signed by manufacturer certifying that materials comply with specified performance characteristics and physical properties.

.2 Instructions: submit manufacturer's installation instructions and comply with written recommendations or specifications, including product technical bulletins, handling, storage and installation instructions, and datasheet.

Part 2 Products

2.1 SHEET VAPOUR BARRIER

.1 Polyethylene film: to CAN/CGSB-51.34, 0.15 mm thick.

2.2 ACCESSORIES

.1 Joint sealing tape: air resistant pressure sensitive adhesive tape, type recommended by vapour barrier manufacturer, 50 mm wide for lap joints and perimeter seals, 25 mm wide elsewhere.

.2 Sealant: acoustical sealant compatible with vapour retarder materials, recommended by vapour retarder manufacturer.

.3 Staples: minimum 6 mm leg.

.4 Moulded box vapour barrier: factory-moulded polyethylene box for use with recessed electric switch and outlet device boxes.

Part 3 Execution

3.1 INSTALLATION

.1 Ensure services are installed and inspected prior to installation of retarder.

.2 Install sheet vapour retarder on warm side of exterior wall, ceiling, and floor assemblies to form continuous retarder.

.3 Use sheets of largest practical size to minimize joints.

.4 Inspect for continuity. Repair punctures and tears with sealing tape before work is concealed.

3.2 EXTERIOR SURFACE OPENINGS

.1 Cut sheet vapour retarder to form openings and ensure material is lapped and sealed to frame.

3.3 PERIMETER SEALS

.1 Seal perimeter of sheet vapour barrier as follows:

.1 Apply continuous bead of sealant to substrate at perimeter of sheets.
.2 Lap sheet over sealant and press into sealant bead.
.3 Install staples through lapped sheets at sealant bead into wood substrate.
.4 Ensure that no gaps exist in sealant bead. Smooth out folds and ripples occurring in sheet over sealant.

3.4 LAP JOINT SEALS

.1 Seal lap joints of sheet vapour barrier as follows:

.1 Attach first sheet to substrate.
.2 Apply continuous bead of sealant over solid backing at joint.
.3 Lap adjoining sheet minimum 150 mm and press into sealant bead.
.4 Install staples through lapped sheets at sealant bead into wood substrate.
.5 Ensure that no gaps exist in sealant bead. Smooth out folds and ripples occurring in sheet over sealant.

3.5 ELECTRICAL BOXES

.1 Seal electrical switch and outlet device boxes that penetrate vapour barrier as follows:

.1 Install moulded box vapour barrier.
.2 Apply sealant to seal edges of flange to main vapour barrier and seal wiring penetrations through box cover.

3.6 CLEANING

.1 Upon completion and verification of performance of installation, remove surplus materials, excess materials, rubbish, tools and equipment.

END OF SECTION

Part 1 General

1.1 REFERENCES

.1 American Society for Testing and Materials International, (ASTM).

.1 ASTM C919, Standard Practice for Use of Sealants in Acoustical Applications.

.2 Canadian General Standards Board (CGSB).

.1 CGSB 19-GP-5M, Sealing Compound, One Component, Acrylic Base, Solvent Curing (incorporating Amendment No. 1).

.2 CAN/CGSB-19.13, Sealing Compound, One-component, Elastomeric, Chemical Curing.

.3 CGSB 19-GP-14M, Sealing Compound, One Component, Butyl-Polyisobutylene Polymer Base, Solvent Curing.

.4 CAN/CGSB-19.17, One-Component Acrylic Emulsion Base Sealing Compound.

.5 CAN/CGSB-19.24, Multi-component, Chemical Curing Sealing Compound.

.3 General Services Administration (GSA) - Federal Specifications (FS).

.1 FS-SS-S-200, Sealants, Joint, Two-Component, Jet-Blast-Resistant, Cold Applied, for Portland Cement Concrete Pavement.

1.2 SUBMITTALS

.1 Submit product data.

.2 Manufacturer's product to describe.

.1 Caulking compound.

.2 Primers.

.3 Sealing compound, each type, including compatibility when different sealants are in contact with each other.

.3 Submit manufacturer's instructions.

.1 Instructions to include installation instructions for each product used.

1.3 DELIVERY, STORAGE, AND HANDLING

.1 Deliver, handle, store and protect materials in accordance with the manufacturer’s written instructions.

.2 Deliver and store materials in original wrappings and containers with manufacturer's seals and labels, intact. Protect from freezing, moisture, water and contact with ground or floor.

1.4 ENVIRONMENTAL CONDITIONS

.1 Environmental Limitations:

.1 Do not proceed with installation of joint sealants under following conditions:

.1 When ambient and substrate temperature conditions are outside limits permitted by joint sealant manufacturer or are below 5 degrees C.

.2 When joint substrates are wet.

.2 Joint-Width Conditions:

.1 Do not proceed with installation of joint sealants where joint widths are less than those allowed by joint sealant manufacturer for applications indicated.

.3 Joint-Substrate Conditions:

.1 Do not proceed with installation of joint sealants until contaminants capable of interfering with adhesion are removed from joint substrates.

.4 Comply with requirements of Workplace Hazardous Materials Information System (WHMIS) regarding use, handling, storage, and disposal of hazardous materials; and regarding labelling and provision of Material Safety Data Sheets (MSDS) acceptable to Labour Canada.

.5 Conform to manufacturer's recommended temperatures, relative humidity, and substrate moisture content for application and curing of sealants including special conditions governing use.

Part 2 Products

2.1 SEALANT MATERIALS

.1 Type 1 – Silicones One Part: to CAN/CGSB-19.13. Acceptable material: Dow Corning 795, GE Silpruf, Tremco Spectrum 2.

.2 Type 2 – Silicones One Part: to CAN/CGSB-19.22-M89 (Mildew resistant). Acceptable material: Dow Corning 786.

.3 Type 3 – Acrylic Latex One Part: to CGSB 19-GP-5M. Acceptable material: Tremco 100 Latex Caulk, GE Acrylasil Latex Caulk.

.4 Type 4 – Butyl: to CGSB 19-GP-14M. Acceptable material: Tremco Butyl Sealanthere

2.2 ACCESSORIES

.1 Preformed Compressible and Non-Compressible back-up materials.

.1 High-Density Foam. Extruded closed cell polyvinyl chloride (PVC), extruded polyethylene, closed cell, Shore A hardness 20, tensile strength 140 to 200 kPa, extruded polyolefin foam, 32 kg/m density, or neoprene foam backer, size as recommended by manufacturer.

.2 Bond Breaker Tape. Polyethylene bond breaker tape that will not bond to sealant.

.2 Joint cleaner: non-corrosive and non-staining type, compatible with joint forming materials and sealant recommended by sealant manufacturer.

.3 Primer: as recommended by manufacturer.

2.3 SEALANT SELECTION

.1 Perimeters of exterior openings where frames meet exterior facade of building: Sealant Type 1.

.2 Miscellaneous flashing joints and metal cladding: Sealant Type 1.

.3 Perimeter of washroom fixtures (e.g., sinks, urinals, water closets, vanities, etc.): Sealant Type 2.

.4 Interior paintable joints: Sealant Type 3.

.5 Bedding aluminum doorsills: Sealant Type 4.

2.4 JOINT CLEANER

.1 Non-corrosive and non-staining type, compatible with joint forming materials and sealant recommended by sealant manufacturer.

.2 Primer: as recommended by manufacturer.

Part 3 Execution

3.1 PROTECTION

.1 Protect installed Work of other trades from staining or contamination.

3.2 SURFACE PREPARATION

.1 Examine joint sizes and conditions to establish correct depth to width relationship for installation of backup materials and sealants.

.2 Clean bonding joint surfaces of harmful matter substances including dust, rust, oil grease, and other matter which may impair Work.

.3 Do not apply sealants to joint surfaces treated with sealer, curing compound, water repellent, or other coatings unless tests have been performed to ensure compatibility of materials. Remove coatings as required.

.4 Ensure joint surfaces are dry and frost free.

.5 Prepare surfaces in accordance with manufacturer's directions.

3.3 PRIMING

.1 Where necessary to prevent staining, mask adjacent surfaces prior to priming and caulking.

.2 Prime sides of joints in accordance with sealant manufacturer's instructions immediately prior to caulking.

3.4 BACKUP MATERIAL

.1 Apply bond breaker tape where required to manufacturer's instructions.

.2 Install joint filler to achieve correct joint depth and shape, with approximately 30% compression.

3.5 MIXING

.1 Mix materials in strict accordance with sealant manufacturer's instructions.

3.6 APPLICATION

.1 Sealant.

.1 Apply sealant in accordance with manufacturer's written instructions.
.2 Mask edges of joint where irregular surface or sensitive joint border exists to provide neat joint.
.3 Apply sealant in continuous beads.
.4 Apply sealant using gun with proper size nozzle.
.5 Use sufficient pressure to fill voids and joints solid.
.6 Form surface of sealant with full bead, smooth, free from ridges, wrinkles, sags, air pockets, embedded impurities.
.7 Tool exposed surfaces before skinning begins to give slightly concave shape.
.8 Remove excess compound promptly as work progresses and upon completion.

.2 Curing.

.1 Cure sealants in accordance with sealant manufacturer's instructions.
.2 Do not cover up sealants until proper curing has taken place.

.3 Cleanup.

.1 Clean adjacent surfaces immediately and leave Work neat and clean.
.2 Remove excess and droppings, using recommended cleaners as work progresses.
.3 Remove masking tape after initial set of sealant.

END OF SECTION