PART 1 GENERAL

1.1 RELATED SECTIONS

.1 Section 04 05 10 - Masonry.

.2 Section 06 15 16 - Wood Decking.

.3 Section 07 27 13 - Modified Bituminous Sheet Air Barriers.

.4 Section 07 62 00 - Sheet Metal Flashing and Trim

.5 Section 07 92 00 – Joint Sealants.

.6 Section 09 29 00 - Gypsum Board Assemblies.

1.2 REFERENCES

.1 American Society for Testing Materials

.1 ASTM-C2236-89 (1993), Standard Test Methods for Thermal Performance of Building Assemblies.

.2 ASTM-D1621-94, Standard Test for Compressive Properties of rigid Cellular Plastics.

.3 ASTM D2842-97, Standard Test Methods for Water Absorption of rigid Cellular Plastics.

.4 ASTM D5113-97 Standard Test Method for Determining Adhesive Attack on Rigid Cellular Polystyrene Foam.

.2 Underwriters Laboratories of Canada (ULC)

.1 CAN/ULC-S102.2-M88, Standard Method of Test for Surface Burning Characteristics of Flooring, Floor Covering and Miscellaneous Materials and Assemblies.

.2 CAN/ULC-S701 Thermal Insulation

.3 CAN/ULC-S701-01 Thermal Insulation, Polystyrene.

.4 CAN/ULC-S702-97 Thermal Insulation, Mineral Fibre for Buildings.

.5 CGSB-51.33-M89/CGSB-51.26-M86.

PART 2 PRODUCTS

2.1 INSULATION

.1 Polyisocyanurate – Low Slope Roof Insulation: ISO 1 and tapered SSO 1 Polyisocyanurate: tapered and standard rigid board, meeting ASTM C1289.

.2 Extruded Polystyrene Insulation (EPS) conform to CAN/ULC-S701 Type 3, CCMC 12816R,, provide 50mm and 38mm thickness as indicated.

.3 Extruded Polystyrene – Expanded Type 4 Below Slab: conforms to CAN/ULC-S701-Type 4, CCMC 04888-L. 210 kPa Compressive strength. Provide 50mm thickness below concrete floor slab and as indicated on the drawings.

2.2 ACCESSORIES

.1 Adhesive for below grade insulation: conforming to CGSB 71-GP-24M, Type 2, Acceptable material: Monsey Bakor 230-21 or an approved alternative.

.2 Z-Furring Channel fabricated from hot-dipped galvanized steel complying with ASTM A653 with a minimum G40 coating meeting ASTM A924. Furring channel web depths to suit application and depth of rigid insulation as noted. Provide C-Channel bars at corners.

PART 3 EXECUTION

3.1 INSPECTION

.1 Ensure all surfaces to receive rigid insulation are clean, free of deleterious matter and are firm, straight, smooth and sufficiently level to allow the proper installation of the insulation.

.2 Verify that all flashings, provided under other sections, to divert moisture to exterior are properly placed.

3.2 WORKMANSHIP

.1 Install insulation after building substrate materials are dry and air/vapour barrier has been verified as properly installed.

.2 Install insulation to maintain continuity of thermal protection to building elements and spaces. Install insulation tight fitting to air/vapour barrier membrane.

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

.4 Keep insulation minimum 75mm from heat emitting devices such as recessed light fixtures, and minimum 50 mm from sidewalls of CAN4-S604 Type A chimneys and CAN1-B149.1 and CAN1-B149.2 Type B and L vents.

.5 Cut and trim insulation neatly to fit spaces. Butt joints tightly, offset vertical joints. Use only insulation boards free from chipped or broken edges. Use largest possible dimensions to reduce number of joints.

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

.7 Do not enclose insulation until it has been inspected and approved by Consultant.

.8 Protect insulation from exposure to sunlight and hydrocarbons. Do not use insulation which has been so exposed.

.9 Do not use insulation which has had its hard skin punctured.

3.3 PERIMETER GRADE BEAM AND SLAB

.1 Provide below grade insulation as indicated on the drawings. Thickness and locations as indicated on the drawings.

.2 Protect insulation form damage or displacement.

3.4 CONCRETE BLOCK WALLS

.1 Use adhesives recommended by the manufacturer. Do not use petroleum solvent based adhesives in contact with polystyrene insulation boards.

3.4 RIGID INSULATION SLOPED ROOFS

.1 Install in accordance with Section 07 52 00 – Modified Bituminous (SBS) Membrane Roofing.

End of Section

PART 1 GENERAL

1.1 DESCRIPTION

.1 This section specifies the requirements for the supply and installation of the elements required for air/vapour barrier membrane installation.

.2 Air/vapour barrier system: Self-adhesive SBS modified bitumen membrane.

1.1 RELATED SECTIONS

.1 Section 04 00 00 – Masonry.

.2 Section 07 21 13 – Board Insulation.

.3 Section 07 84 00 – Fire stopping.

.4 Section 09 29 00 – Gypsum Board.

1.1 REFERENCES

.1 ASTM D1970 - Self-Adhering Polymer Modified Bituminous Sheet Material.

.2 ASTM D5147 - 11a Standard Test Methods for Sampling and Testing Modified Bituminous Sheet Material.

.3 ASTM E96-10 - Standard Test Methods for Water Vapor Transmission of Materials

1.2 SUBMITTALS

.1 Submit two (2) copies of the most current technical data sheets. These documents must describe the physical properties of the material, and explanations about product installation, including installation techniques, restrictions, limitations and other manufacturer recommendations.

1.3 QUALITY ASSURANCE

.1 Air/vapour barrier work shall be performed only by skilled applicators, employed by an installation contractor operating all adequate and necessary equipment to execute such work in accordance with the manufacturer's recommendations and recognised standards.

1.4 MATERIALS STORAGE

.1 Handle rolls of materials with care and proper equipment.

.2 Rolls of materials shall be carefully stored and adequately protected in accordance with the manufacturer's recommendations.

PART 2 PRODUCTS

2.1 AIR/VAPOUR BARRIER MEMBRANE

.1 Description: Membrane composed of SBS modified bitumen and a Tri-Laminate Woven Polyethylene facer on the top surface; for use on walls, cavities and as a thru wall flashing. The self-adhesive bottom surface is protected by a silicone release sheet in "Winter Grade" for applications at $10°C \geq T \geq -10°C$.

.2 Components:

.1 Reinforcement: Tri-Laminate Woven Polyethylene.

.2 Elastomeric bitumen: Mix of selected bitumen and SBS polymer.

.3 Properties:

.1 Thickness: 1.0 mm

.2 Tensile strength (kN/m): 11.3 / 15.4KN/m

.3 Ultimate elongation (%): 40 – 25%

.4 Flexibility at cold temperature: -35°C

.5 Air permeability (L/sec. m²): < 0.0003

.6 Water vapour permeability (perm): < 0.016

.7 Static puncture (N): 400

.8 Tear resistance (N): 375 – 400

.9 Lap adhesion (N/m): 2 000

2.2 PRIMER FOR SELF-ADHESIVE MEMBRANES

.1 Description: Composed of SBS synthetic rubbers, adhesive enhancing resins and volatile solvents used to prime porous substrates and non-porous substrates such as wood, concrete or metal to enhance the adhesion of self-adhesive membranes at temperatures above -10°C.

PART 3 EXECUTION

3.1 EXAMINATION

.1 Surface examination and preparation must be completed in conformance with manufacturers' recommendations.

.2 Before commencing work, all surfaces must be smooth, dry, clean and free of ice and debris as per manufacturer's recommendations.

.3 No materials will be installed during rain or snowfall.

.4 Concrete must be cured a minimum of fourteen (14) days and an adhesion test is recommended before membrane application.

.5 Any gap larger than 3.2 mm (1/8 inch) needs solid backing. The gap should be filled in.

.6 At deflection joints, a 150 mm (6 in.) wide reinforcement strip of self-adhesive membrane centered on the joints should be installed.

.7 Work shall be performed on a continuous basis as surface and weather conditions allow.

3.2 PRIMER APPLICATION

.1 Surface where membrane is applied shall receive an SBS synthetic rubber primer coating at the rate of: (porous surfaces: 0.3 to 0.5 L/m^2, non-porous surfaces: 0.1 to 0.25 L/m^2). Primed surfaces must be covered the same day. If not covered the same day, primed surfaces must be re-primed.

3.3 AIR/VAPOUR BARRIER MEMBRANE INSTALLATION

.1 Select the proper product according to temperatures during application.

.2 All inside corners should be covered with a 150 mm (6 in.) wide strip of membrane centered on the corner. This membrane must be installed in direct contact with the primed substrate not leaving any voids under the membrane strip.

.3 Install the membrane onto the primed surface by peeling back the release film on the underside and gluing the membrane to the surface.

.4 All membrane overlaps must be at least 50 mm.

.5 Holes and tears in the membrane must be repaired with air / vapour barrier membrane material. The repair must exceed the affected surface area by a minimum of 100 mm. The membrane piece applied for the repair must be sealed around its edges with mastic.

.6 Use a roller recommended by the manufacturer to apply pressure over the entire surface of the membrane to ensure uniform adhesion to substrate.

.7 The contractor shall inspect membrane installation meticulously at the end of each day of work and also before installation of insulation. The upper edge of the membrane must be sealed with mastic at the end of the day's work when precipitation is anticipated or when the work is expected to be delayed or interrupted by more than one day.

.8 All small protrusions (pipes, etc.) through the waterproofing membrane, should be pre-stripped with a membrane and sealed with mastic.

.9 Insulation should be installed as soon as possible following inspection of the membrane by a professional.

3.4 INSTALLATION OF INSULATION

.1 Apply adhesive with spots 75 mm (3 in) in diameter, every 300 mm (12 in). Bottom panel should be supported or mechanically fixed. On the top row of insulation, apply a continuous bead of adhesive 25 mm (1 in) wide to the top leading edge of the panels to be glued. This bead will protect the adhesive spots during initial cure by limiting the flow of moisture behind the insulation in case of rain.

End of Section

PART 1 GENERAL

1.1 RELATED SECTIONS

.1 Section 01 33 00 - Submittal Procedure.

.2 Section 05 45 00 - Metal Support.

.3 Section 06 01 10 - Rough Carpentry.

.4 Section 07 21 13 - Board Insulation.

.5 Section 07 27 13 - Modified Bituminous Sheet Air Membrane.

.6 Section 07 62 00 - Sheet Metal Flashing and Trim

.7 Section 07 92 10 - Joint Sealer.

1.3 REFERENCES

.1 American National Standards Institute (ANSI).
- .1 ANSI B18.6.4-1999, Thread Forming and Thread Cutting Tapping Screws and Metallic Drive Screws (Inch Series).

.2 American Society for Testing and Materials International, (ASTM).
- .1 ASTM A 653/A653M-03, Specification for Steel Sheet, Zinc-Coated (Galvanized) or Zinc-Iron Alloy-Coated (Galvannealed) by the Hot-Dip Process.
- .2 ASTM D 5116-97, Guide For Small-Scale Environmental Chamber Determinations of Organic Emissions From Indoor Materials/Products.

.3 Canadian General Standards Board (CGSB).
- .1 CAN/CGSB- 41.24-95, Rigid Vinyl Siding, Soffits and Fascia.
- .2 CAN/CGSB-51.32-M77, Sheathing, Membrane, Breather Type.

.4 Canadian Standards Association (CSA International).
- .1 CSA B111-1974(R2003), Wire Nails, Spikes and Staples.

1.4 SUBMITTALS

.1 Product data: Submit manufacturer's printed product literature, specifications and data sheet in accordance with Section 01 33 00 - Submittal Procedures.

.2 Shop Drawings:
- .1 Submit shop drawings in accordance with Section 01 33 00 - Submittal Procedures.
- .2 Indicate dimensions, siding profiles, attachment methods, schedule of wall elevations, trim and closure pieces and related work.

.3 Samples:
- .1 Submit samples in accordance with Section 01 33 00 - Submittal Procedures including sealant and fasteners.
- .2 Submit duplicate 200 x 600mm samples of siding material, of colour and profile specified.

.4 Manufacturer's Instructions:
- .1 Submit manufacturer's installation instructions.

1.5 QUALITY ASSURANCE

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

1.6 WASTE MANAGEMENT AND DISPOSAL

.1 Do not dispose of unused caulking materials into the sewer systems, into lakes, streams, onto ground or in locations where it will pose health or environmental hazard.

PART 2 PRODUCTS

2.1 MATERIALS

.1 Rigid vinyl: extruded polyvinyl chloride to CAN/CGSB- 41.24Ma smooth surface satin sheen finish, horizontal bevel profile, 100 mm wide x maximum permissible length, colour to match existing.

.2 Accessories: internal corners, external corners, cap strip, drip cap, undersill trim, starter strip and window/door trim of extruded plastic, same material and colour as siding, with nailing strip pre-punched.

.3 Seal all joints using “Tuck Tape” sheathing wrap tape. Cover all joints with tape width min 60mm and centre tape over joint. Tape shall be applied on clean, dry surface.

.4 Fasteners: nails to CSA B111, screws to ANSI B18.6.4 galvanized purpose made.

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 steel Z-bars, channels and other formed framing members to support Rigid Vinyl Siding assemblies and related components.

.2 Install Rigid Vinyl siding as specified to Manufacturers’ written instructions.

.3 Install metal sill as indicated.

.4 Window/door opening flashings, starter strips, inside corners, edgings, drip and cap.

.5 Install siding sequentially from starter strip up, in accordance with manufacturer/fabricators written instructions.

.6 Install exterior corners, fillers and closure strips with carefully formed and profiled work.

.7 Maintain joints in exterior panels, true to line, tight fitting, hairline joints.

.8 Seal junctions with dissimilar materials with sealant. Tuck tape centred on joint.

.9 Attach components in manner not restricting thermal movement. Conceal fasteners where possible.

3.3 CLEANING

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

End of Section

PART 1 GENERAL

1.1 RELATED SECTIONS

.1 Section 06 15 00 – Wood Decking.

.2 Section 06 10 00 – Rough Carpentry.

.3 Section 07 21 13 – Board Insulation.

.4 Section 07 25 00 - Modified Bituminous Sheet Air Barriers.

.5 Section 07 62 00 – Sheet Metal Flashing and Trim.

.6 Section 07 72 26 – Sloped Cathedral Roof Vents.

1.2 REFERENCES

.1 The Alberta Roofing Contractors Association (ARCA).

.1 "Manual on Good Roofing Practice" is a consensus of the ARCA membership of what constitutes good roofing practice in Alberta. In the context of the specifications for roofing, flashing and general construction upon which the roofing and flashing must depend for proper performance (e.g. roof decks, walls, roof mounted equipment, etc.) the minimum requirements contained in the ARCA "Manual on Good Roofing Practice" shall be read as specification requirements except where otherwise upgraded in the Contract Documents.

.2 American Society for Testing and Materials (ASTM).

.3 International Organization for Standardization (ISO) 9001:2000 Quality Standard.

.4 Canadian Standards Association (CSA).

.1 CGSB 37 GP-56M, Membrane, Modified, Bituminous, Prefabricated and reinforced for roofing.

.2 CGSB 37-GP-64M. Mat Reinforcing, Fibrous Glass, for Membrane Waterproofing Systems and Built-up-roofing.

.3 CAN/CGSB-37.5-M89, Cutback Asphalt Cement.

.4 CAN/CGSB-37.28-M89, reinforced, Mineral Colloid Type, emulsified Asphalt for Roof Coatings and Waterproofing.

.5 CGSB 37-GP-9Ma, Primer, Asphalt, Unfilled, for Asphalt Roofing, Damproofing or Waterproofing.

.5 Canadian Standards Association (CSA)

.1 CSA A123.4-M1979, Bitumen for Use in Construction of Built-Up Roof Coverings and Damproofing and waterproofing Systems.

.2 CSA B111-1974, Wires, Nails, Spikes and Staples.

.6 Underwriters Laboratories Canada (ULC)

.1 CAN/ULC S701-01, Thermal Insulation, Polystyrene, Boards and Pipe Coverings.

.2 CAN/ULC S704-2001, Thermal Insulation, Polyurethane and Polyisocyanurate Boards.

.3 Can/ULC S770-2000, Determination of Long-Term Thermal Resistance of Closed-Cell Thermal Insulating Foams.

1.3 SUBMITTALS

.1 Submit documents in accordance with Section 01 33 00 – Submittals.

.2 Submit copies of the most current Manufacturer's technical data sheets. These documents must describe the materials physical properties, and explanation about product installation, including installation techniques, restrictions, limitations and other manufacturer recommendations.

.3 Submit membrane manufacturers' standard details that will be utilized for this project and indicate any changes required of the base-building design to accommodate full compliance with the manufacturer's warranty.

1.4 QUALITY ASSURANCE

.1 Conform to Manual On Good Roofing Practice and Accepted Roofing Systems as published by Alberta Roofing Contractors Association Ltd. (ARCA).

.2 Only materials listed in the ARCA Manual will be acceptable for use on this project.

.3 Applicator must maintain a full time experienced journeyman roofer, and at least one apprentice per crew on the Work at all times.

.4 The roofing contractor and his subcontractors must have "Approved Contractor: status by the roofing product manufacturer. Only skilled and certified trade persons, officially employed by a roofing contractor operating adequate and necessary equipment, must be authorized to perform all roofing work.

.5 Crew members using torches must be trained under a recognized training program and certified from the manufacturer of materials being installed. Only qualified, competent tradesmen, using adequate plant and equipment must execute the Work of this section.

.6 Confirm that surfaces to which membrane is to be applied are in a condition suitable for this application.

.7 Comply with all reference standards, codes and regulations.

1.5 PRODUCT DELIVERY AND STORAGE

.1 Deliver materials to the job site; handle and store original packages and containers with manufacturer's seals and labels intact. The manufacturer's name, brand, mass, specification number and lot number must be shown on all labels.

.2 Store materials in weatherproof shelters having raised platforms that will protect the materials from moisture. Store materials upright, on-end. Avoid prolonged exposure to ultraviolet light or heat sensitive exposure.

.3 Do not store materials on roof in concentrations that exceed design live load.

.4 Protect surrounding surfaces from damage from roofing work. Where hoisting is necessary, hang protective sheets to protect vertical surfaces during delivery of materials.

.5 In the event of damage to materials from elements, improper handling or storage, or other causes, such materials shall be rejected, immediately removed from the work site and replaced at no cost to the Owner.

1.6 FIRE PROTECTION

.1 Protect roof junctions at changes in vertical plane including parapets, curbs and up-stands with a fire-resistant tape or barrier to prevent combustible materials within assemblies from ignition arising from the use of torches. Install prior to installation of base sheets.

.2 Use a heat detector device to spot any smoldering or concealed fire at the end of each work day.

.3 Establish a minimum two hour fire watch after torch application.

.4 Do not apply torch directly to dry or unprotected wood surfaces.

.5 Maintain a clean site and have a minimum of one approved ABC fire extinguisher within 3 meters of each roofing torch.

.6 Do not place torches near combustible or flammable products.

1.7 COMPATIBILITY

.1 All roofing materials must be provided by the same manufacturer.

.2 Roofing materials must be compatible with the Modified Bituminous Sheet Air Barrier Membrane specified in Section 07 25 00.

1.8 ROOF INSPECTION

.1 Independent Inspection and testing of the roof may be carried out by the Roof Inspector designated by the Department.

.2 A manufacturer's representative shall provide a written roof inspection report to the Department upon completion of the roofing.

1.9 PRE-INSTALLATION MEETING

.1 The Contractor to schedule a pre-installation meeting prior to start of work of this Section. Include representation from the Contractor, Subcontractor, Departmental Representative, Consultant, Roofing Membrane manufacturer's representative and the Roofing Inspector.

.2 The pre-installation meeting will document the installation procedures, schedule of work and inspections and safety requirements and procedures.

.3 The roofing inspector will record the meeting minutes and distribute a copy of minutes to all in attendance.

1.10 WARRANTY

.1 The product manufacturer shall issue a written and signed warranty in the Department`s name, certifying product performance properties for a period of ten (10) years, starting from the date of acceptance. The document will wholly and completely cover the specified warranty period starting from Substantial Performance of the entire contract.

PART 2 PRODUCTS

2.1 MATERIALS

.1 Protection Board
- .1 Semi rigid mineral fortified asphaltic core 6.4mm thick confirming to ASTM E154 and D994.

.2 Asphalt:
- .1 Oxidized Asphalt: in conformance with CSA 1213.4-M and as follows: Type 3 oxidized asphalt for slopes between 2% and 25%.

.3 Adhesives:
- .1 Membrane Roofing Materials Adhesive: Cold adhesive-mastic composed of a bituminous binder, added to bonding agents and solvents compatible with specified roofing products.
- .2 Insulation Adhesive: Foamed polyurethane specifically formulated for installation of plastic insulation to roofing materials.

.4 Vapour Retarder:
- .1 2 ply - 15 pound asphalt impregnated asphalt felt.

.5 Carpentry: Refer to Section 06 10 00 – Rough Carpentry.

.6 Flashing: Refer to Section 07 62 00 – Metal flashing and Trim.

.7 Insulation:
- .1 Rigid extruded polystyrene insulation board for waterproofing assemblies meeting ASTM C-578 Type 3.
- .2 Insulation must offer minimum R-5.0 per 25mm in accordance with ASTM C-518.

.8 Roof Membrane Base Sheets:
- .1 Membrane for mopped application, for use with roof slopes less than 6%.
  - .1 Roofing membrane SBS modified bituminous membrane, with 95g/sq.m. non-woven polyester reinforcement and elastomeric bitumen, top face covered with thermofusible plastic film, underside sanded in accordance with CGSB 37-GP-56M, Type2, Class C, Grade 1.
  - .2 Components:
    - .1 Reinforcement: Glass Fleece
    - .2 Elastomeric Bitumen, Mix of selected bitumen and SBS polymer.

.9 Roof Membrane Cap Sheets:
- .1 Field area and cap sheets. Roofing membrane SBS modified bituminous membrane with 180 g/sq.m. non-woven polyester and elastomeric bitumen with flame retarding agent. Top face protected with granules, underside covered with a thermo-fusible plastic film, in accordance with CGSB 37-GP-56M Type 1, Class A, grade 2.
- .2 Components:
  - .1 Reinforcement: non-woven polyester.
  - .2 Protection: coloured granules – light grey.
- .3 Starter roll; roofing membrane cap sheet with double-selvage edge to manufacturers standard, to match cap sheets.

PART 3 EXECUTION

3.1 INSPECTION

.1 Ensure surfaces to receive membrane waterproofing are smooth, dry and free from conditions that will adversely affect execution, permanence, or quality of work.

.2 All work to be done in accordance with manufacturer's written instructions and details.

3.2 MIMIMUM CLIMATIC CONDITIONS

.1 Cease work when air temperature and wind chill fall to a point below the minimum ambient temperatures specified by the vapour retarder membrane or SBS roof membrane manufacturers written installation procedure specifications.

.2 Cease work during rain or snow conditions. Do not work on wet surfaces.

3.3 INSTALLATION OF PROTECTION BOARD

.1 Apply Protection Board directly to wood decking.

.2 Cut cleanly and accurately to roof to provide a smooth surface.

.3 Mechanically fasten with screws and stress plates for insulation. Adhere with hot bitumen, at minimum temperature of 220 degrees C. Adhere with Duotack or Coltack adhesive.

.4 Protection Board must be quickly covered after installation and not left exposed.

3.4 APPLICATION OF ROOF VAPOUR RETARDER

.1 Over the gypsum board install 2 plys of asphalt felt in asphalt, to act as vapour retarder.

.2 Lap and seal vapour retarder to Air/Vapour Barrier membrane at all transitions to vertical surfaces. Refer to drawings.

.3 Use SBS transition pieces to maintain continuity of vapour retarder at joints in building construction. Lap and seal vapour retarder to SBS transition pieces.

.4 Lap and seal vapour retarder to all components penetrating roof.

.5 Glaze top surface of vapour retarder if insulation is not placed same day, or if vapour retarder surface is used as a temporary roof membrane.

3.5 APPLICATION OF ASPHALT

.1 Do not heat asphalt above 230 degrees C as measured at outlet valve of kettle or tanker.

.2 Apply asphalt at a temperature range that will not damage (melt) polystyrene insulation.

.3 Do not allow asphalt to cool to a degree that will impair its adhesive quality.

3.6 INSTALLING BOARD INSULATION

.1 Mechanically fasten base and tapered board insulation in accordance with written instructions of Manufacturer after installation of vapour barrier sheet is complete. Install tapered Polyiso-cyanurate insulation over Air Vapour Barrier membrane. Install primary Polyisocyanurate insulation over tapered insulation.

.2 Stagger joints and moderately butt each sheet together.

.3 Minimize the number of joints. Butt insulation together with no gaps greater than 3 mm. Fill gaps greater than 3 mm with the same material.

.4 Insulation to cover entire roof area.

.5 Protect insulation from ultra violet radiation.

3.7 APPLICATION OF MEMBRANE AND MEMBRANE FLASHINGS

.1 Install 2 ply modified bituminous roof membrane flashings (strippings) to comply with Conventional Roofing Design requirements established by ARCA for proprietary roofing systems, and modified bituminous roofing manufacturer's recommendations. Apply roof membrane and membrane flashings fully adhered.

.2 Apply membrane base sheet to secondary insulation using hot asphalt. Torch apply stripping base sheet, membrane cap sheet and stripping cap sheet.

.3 Re-install all lap joints, bitumen overflows and runs.

.4 Flash in and seal roofing specialties in accordance with manufacturer's written instructions.

.5 Repair worn or damaged granular surface cap sheet with additional matching granular material.

3.8 INSTALLATION OF MEMBRANE FLASHING

.1 Apply membrane flashings as indicated and as recommended by the manufacturer.

3.9 INSTALLATION OF ROOF VENTS (on existing Inflation Building)

.1 Vents are to be supplied and installed on existing Inflation Building in locations shown on drawings. Openings to be between existing roof joists on each side along central girder. Install in accordance with Manufacturer's guidelines and CRCA standards.

.2 Refer to Sloped Cathedral Roof Vents Section 07 72 26 - Prefabricated, non-powered continuous roof ridge and vents for existing sloped built-up roofing, with integral flashings, similar to Ventilation Maximum VMax. Color to match existing metal fascia.

3.10 FIELD QUALITY CONTROL

.1 Inspection and testing of roofing application may be carried out by testing laboratory designated by the Departmental Representative.

.2 Costs of tests will be paid by the Department.

End of Section

PART 1 GENERAL

1.1 RELATED SECTIONS

.1 Section 06 01 10 – Rough Carpentry

.2 Section 07 21 13 – Board Insulation.

.3 Section 07 27 13 – Modified Bituminous Sheet Air Membrane.

.4 Section 07 52 16 – Modified Bituminous (SBS) Membrane Roofing.

.5 Section 07 72 26 – Sloped Cathedral Roof Vents.

1.2 REFERENCES

.1 ASTM A653/A653M-07, Standard Specification for Steel Sheet, Zinc-Coated (Galvanized) or Zinc-Iron Alloy-Coated (Galvannealed) by the Hot-Dip Process.

.2 ASTM B32-04, Standard Specification for Solder Metal.

.3 ASTM D523-89(1999), Standard Test Method for Specular Gloss.

.4 Canadian Roofing Contractors Association (CRCA) Manual.

.5 Canadian Standards Association (CSA International).

.1 CSA A123.3-05, Asphalt Saturated Organic Roofing Felt.

.2 CSA B111-1974(R2003), Wire Nails, Spikes and Staples.

1.3 SUBMITTALS

.1 Provide submittals in accordance with Section 01 33 00 - Submittal Procedures.

.1 Submit manufacturer's printed product literature for sheet metal flashing systems materials, specifications and datasheet and include product characteristics, performance criteria, physical size, finish and limitations.

.2 Submit duplicate 100 x 100 mm samples of each type of sheet metal material, finishes and colours.

1.4 DELIVERY, STORAGE AND HANDLING

.1 Deliver, store and handle materials in accordance with Section 01 61 00 - Common Product Requirements.

PART 2 PRODUCTS

2.1 PREFINISHED STEEL SHEET

.1 Prefinished steel with factory applied coating.

.1 Class F2S.

.2 Colour selected by Consultant from manufacturer’s standard range.

.3 Specular gloss: in accordance with CSSB1 Technical Bulletin No. 7, 5000 Series.

.4 Coating thickness: not less than 22 micrometres.

.5 Resistance to accelerated weathering for chalk rating of 8 colour face 5 units or less and erosion rate less than 20% to ASTM D822.

2.3 ACCESSORIES

.1 Isolation coating: alkali resistant bituminous paint.

.2 Plastic cement: to CAN/CGSB 37.5.

.3 Underlay for flashing: Modified Bituminous Sheet Air Barrier.

.4 Sealants: to Section 07 92 00.

.5 Cleats: of same material, and temper as sheet metal, minimum 50 mm wide. Thickness same as sheet metal being secured.

.6 Fasteners: of same material as sheet metal, to CSA B111, ring thread roofing nails of length and thickness suitable for metal flashing application.

.7 Washers: of same material as sheet metal, 1 mm thick with rubber packings.

.8 Solder: to ASTM B32, alloy composition 50% pig lead & 50% block tin.

.9 Flux: rosin, cut hydrochloric acid, or commercial preparation suitable for materials to be soldered.

.10 Touch-up paint: as recommended by prefinished material manufacturer.

2.4 FABRICATION

.1 Fabricate metal flashings, fascias and other sheet metal work in accordance with applicable CRCA 'FL' series details.

.2 Hem exposed edges on underside 12 mm. Mitre and seal corners with sealant.

.3 Form sections square, true and accurate to size, free from distortion and other defects detrimental to appearance or performance.

.4 Apply isolation coating to metal surfaces to be embedded in concrete or mortar.

2.5 METAL FLASHINGS AND FASCIAS

.1 Form flashings and fascias to profiles indicated of prefinished steel where exposed, minimum core thickness 0.76mm.

2.6 PERFORATED METAL SOFFITS

.1 Provide pre-finished perforated sheet metal soffits as indicated on drawings.

2.7 REGLETS AND CAP FLASHINGS

.1 Form recessed surface mounted reglets metal cap flashing of 0.70 mm thick sheet metal to be built in concrete masonry work for base flashings in accordance with CRCA FL series details.

2.8 EAVES TROUGHS AND DOWNPIPES

.1 Form eaves troughs and downpipes from 0.70 mm thick prefinished steel.

.2 Sizes and profiles as indicated.

.3 Provide goosenecks outlets, strainer baskets and necessary fastenings.

.4 Form splash pans from 0.70 mm thick galvanized steel.

2.9 SCUPPERS

.1 Form scupper from 0.70 mm thick prefinished steel.

.2 Sizes and profiles as indicated.

.3 Provide necessary fastenings.

PART 3 EXECUTION

3.1 MANUFACTURER'S INSTRUCTIONS

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

3.2 INSTALLATION

.1 Install sheet metal work in accordance with CRCA FL series details as detailed.

.2 Use concealed fastenings except where approved before installation.

.3 Provide underlay under sheet metal. Secure in place and lap joints 100 mm.

.4 Counterflash bituminous flashings at intersections of roof with vertical surfaces and curbs. Flash joints using S-lock forming tight fit over hook strips as detailed.

.5 Lock end joints and caulk with sealant.

.6 Install surface mounted reglets true and level, and caulk top of reglet with sealant.

.7 Insert metal flashing into reglets to form weather tight junction.

.8 Turn top edge of flashing into recessed reglet or mortar joint minimum of 25 mm. Lead wedge flashing securely into joint.

.9 Caulk flashing at reglet with sealant.

3.3 ROOF VENT

.1 On existing Inflation Building roof, provide 90mm. wide cut on each side of the ridge beam, install continuous ridge roof vent, with 8 exhausts, as shown on drawing.

.2 Cut existing roof and decking and provide openings as required. Prior to installation place a bead of sealant around penetration.

.3 Insulate between penetration and sleeve with rigid insulation to match existing. Prime surface to receive base sheet. Install in accordance with Manufacturer's guidelines and ARCA standards.

3.4 METAL SOFFIT

.1 Install continuous perforated prefinished metal soffit as indicated.

3.5 EAVES TROUGHS AND DOWNPIPES

.1 Install eaves troughs and secure to building at 750 mm on centre with eaves trough spikes through spacer ferrules. Slope eaves troughs to downpipes as indicated. Solder joints watertight.

.2 Install downpipes and provide goosenecks back to wall. Secure downpipes to wall with straps at 1800 mm on centre; minimum two straps per downpipe. Connect downpipes to drainage system and seal joint with plastic cement.

.3 Install splash pans as indicated.

3.5 SCUPPERS

.1 Install scuppers as indicated.

3.6 CLEANING

.1 Proceed in accordance with Section 01 74 11 – Cleaning.

.2 On completion and verification of performance of installation, remove surplus materials, excess materials, rubbish, tools and equipment.

.3 Leave work areas clean, free from grease, finger marks and stains.

End of Section

PART 1 GENERAL

1.1 SECTION INCLUDES

.1 Prefabricated, non-powered roof ridge and vents for existing sloped built-up roofing, with integral flashings.

1.2 RELATED SECTIONS

.1 Section 01 73 03 - Cutting and Patching.

.2 Section 07 52 00 - Modified Bituminous Membrane Roofing.

.3 Section 07 60 00 - Flashing and Sheet Metal.

.4 Section 07 92 00 - Joint Sealants.

.5 Section 23 37 20 – Louvres, Intakes and Vents.

1.3 REFERENCES

.1 ASTM A653 / A653M-09a - Standard Specification for Steel Sheet, Zinc-Coated (Galvanized) or Zinc-Iron Alloy-Coated (Galvannealed) by the Hot-Dip Process.

.2 ASTM D4586-07 - Standard Specification for Asphalt Roof Cement, Asbestos-Free.

.3 CSA A93-M82-CAN3 - Natural Airflow Ventilators for Buildings.

1.4 ADMINISTRATIVE REQUIREMENTS

.1 Coordinate with other work having a direct bearing on work of this section. Coordinate with the work of Section 07 52 00 Modified Bituminous Membrane Roofing, 07 62 00 Sheet Metal Flashing and Trim and maintain weather tight installation, 23 37 00 Louvres Intakes and Vents.

1.5 SUBMITTALS FOR REVIEW

.1 Provide data on unit construction, sizes, configuration, jointing methods and locations when applicable, and attachment method.

.2 Samples: Submit samples illustrating metal finish, colour to match existing fascias.

1.6 SUBMITTALS FOR INFORMATION

.1 Installation Data: Manufacturer's special installation requirements, including special installation criteria, interface with adjacent components.

.2 Manufacturer's Certificate: Certify that Products meet or exceed specified requirements This article includes statements that require quality applicable to the whole section. If it is desirable or required for a manufacturer of a product to be CSA certified, include such statement below.

.3 Products of This Section: Manufactured to Canadian Standards Association (CSA) certification requirements.

1.7 WARRANTY

.1 Provide lifetime manufacturer warranty for failure due to manufacturing defects. Coverage to provide for full replacement of unit.

.2 Provide five (5) year warranty for failure of painted finish, including fading, cracking and corrosion. Coverage to provide for full replacement of unit.

PART 2 – PRODUCTS

2.1 MANUFACTURERS

.1 Ventilation Maximum Ltd.
9229 Pierre Bonne
R.D.P., Montréal, QC
H1E 7J6
TOLL FREE: (800) 665-4874
TEL: (514) 648-8011
CELL: (514) 895-8216
FAX: (514) 648-9129
EMAIL: info@ventilation-maximum.com
WEB: www.ventilation-maximum.com

.2 Other acceptable manufacturers offering functionally and aesthetically equivalent products, substitutions to be submitted for approval.

2.2 MATERIALS

.1 Galvannealed zinc coating; 0.81 mm (20 gauge) core steel. Shop pre-coated with polyester powder-coating finish: (white colour) to match existing fascias.

2.3 SLOPED CATHEDRAL ROOF VENT SYSTEM COMPONENTS

.1 Roof Vent: Certified to CSA A93 Type B; natural airflow, 0.81 mm thick

.1 Quantity: Eight (8) as indicated on drawings
.2 Opening Size: 305 mm x 305 mm
.3 Acceptable Product: VMax-301

.2 Ridge Duct: Factory insulated preformed duct to suit ridge profile; 0.81 thick Acceptable Product: VMax Cathedral Roof Duct.

.3 Roof Ridge Adapter: Shop fabricated flashing to suit ridge duct profile, same material and finish as roof ducts and vents; 0.81 mm thick.

2.4 ACCESSORIES

.1 Duct End Caps: As supplied by manufacturer, quantity as required to complete system, same material and finish as roof ducts and vents.

.2 Flashing Fasteners: #10-11 screws, galvanized steel. material and finish as flashing metal of sufficient length to penetrate through roof sheathing.

.3 Vent-to-Flashing Fasteners: #10-12 hex socket screws with sealing washers; galvanized steel same material and finish as flashing metal

.4 Sealant: Polyurethane type, Colour clear or as selected to match flashing

.5 Plastic Cement: ASTM D4586, Type I

2.5 FABRICATION

.1 Fabricate components free of visual distortion or defects.

.2 Fit components for weather tight assembly.

PART 3 EXECUTION

3.1 EXAMINATION

.1 Section 01 70 00: Verify existing conditions before starting work.

.2 Verify dimensions, tolerances, and method of attachment with other work.

.3 Verify adjoining roofing materials are ready to receive work of this section.

.4 Verify that openings will not interfere with structural members.

3.2 INSTALLATION

.1 Install cathedral roof ventilation system to manufacturer's written instructions.

.2 Provide 90 mm wide continuous cut opening in roof sheathing both sides of roof ridge beam, install vents in between roof joist; leave 150mm at roof ridge ends.

.3 Coordinate with installation of roofing system and related flashings for weather tight installation.

.4 Install duct flashing flange in full bed of plastic cement, centred over opening.

.5 Install section of duct overlapping by 50 mm factory lap, seal lap joint with sealant and secure using screw fasteners.

.6 Secure flashing flange to roof sheathing using screws. Daub each fastener with plastic cement.

.7 Set ridge adapters on duct to locations indicated. Mark locations and cut out duct to suit vent size.

.8 Install ridge adapters and roof vents to duct in full bed of sealant and secure using screw fasteners.

.9 Seal perimeter of flange and all joints with sealant.

END OF SECTION

PART 1 GENERAL

1.1 SECTION INCLUDES

.1 Firestop and smoke seal all mechanical penetrations in wall assemblies.

.2 Firestopping and smoke seals within mechanical assemblies (i.e inside ducts, dampers) and electrical assemblies (i.e. inside cable trays) are specified in Division 21 and 22 respectively.

1.2 RELATED SECTIONS

.1 Section 04 00 00 – Masonry

.2 Section 07 21 00 – Gypsum Board

1.3 REFERENCES

.1 Underwriter's Laboratories of Canada (ULC)

.1 ULC-S115-2005, Fire Tests of Firestop Systems.

.2 ULC List of equipment and Materials

.3 Warnock Hersey (WH) Certification Listing.

1.4 SAMPLES

.1 Submit samples in accordance with Section 01 33 00 - Submittal Procedures.

.2 Submit duplicate 300 x 300 mm samples showing actual firestop material proposed for project.

1.5 SUBMITTALS FOR REVIEW

.1 Submit in accordance with Section 01 30 00.

.2 Submit manufacturer’s product data for materials and prefabricated devices, providing descriptions are sufficient for identification at site.

.3 Include manufacturer’s installation instructions and ULC or WH system number.

1.6 PRODUCT DATA

.1 Submit product data in accordance with Section 01 33 00 - Submittal Procedures.

.2 Submit manufacturer's product data for materials and prefabricated devices, providing descriptions are sufficient for identification at job site. Include manufacturer's printed instructions for installation.

1.7 QUALITY ASSURANCE

.1 Firestopping assemblies shall be tested and meet requirements of CANIULC S115, and once installed, provide a fire resistance rating not less than rating of wall and floor assembly within which they are installed.

.2 Firestopping of electrical and communications cables shall be easily re-enterable and re-sealable with negligible risk of damage to cables, and shall not require de-rating of electrical cables.

PART 2 PRODUCTS

2.1 MATERIALS

.1 Fire stopping and smoke seal systems: in accordance with ULC-S115.

.1 Asbestos-free materials and systems capable of maintaining an effective barrier against flame, smoke and gases in compliance with requirements of ULC-S115 and not to exceed opening sizes for which they are intended.

.2 Firestop system rating: 2 hours to match wall assembly requirements.

.2 Service penetration assemblies: certified by ULC in accordance with ULC-S115 and listed in ULC Guide No.40 U19.

.3 Service penetration firestop components: certified by ULC in accordance with ULC-S115 and listed in ULC Guide No.40 U19.13 and ULC Guide No.40 U19.15 under the Label Service of ULC.

.4 Fire-resistance rating of installed fire stopping assembly in accordance with NBC.

.5 Fire stopping and smoke seals at openings intended for ease of re-entry such as cables: elastomeric seal.

.6 Fire stopping and smoke seals at openings around penetrations for pipes, ductwork and other mechanical items requiring sound and vibration control: elastomeric seal.

.7 Primers: to manufacturer's recommendation for specific material, substrate, and end use.

.8 Damming and backup materials, supports and anchoring devices: to manufacturer's recommendations, and in accordance with tested assembly being installed as acceptable to authorities having jurisdiction.

.9 Sealants for vertical joints: non-sagging.

PART 3 EXECUTION

3.1 PREPARATION

.1 Examine sizes and conditions of voids to be filled to establish correct thicknesses and installation of materials. Ensure that substrates and surfaces are clean, dry and frost free.

.2 Prepare surfaces in contact with fire stopping materials and smoke seals to manufacturer's instructions.

.3 Maintain insulation around pipes and ducts penetrating fire separation.

.4 Mask where necessary to avoid spillage and over coating onto adjoining surfaces; remove stains on adjacent surfaces.

3.2 INSTALLATION

.1 Install fire stopping and smoke seal material and components in accordance with ULC certification and manufacturer's instructions.

.2 Seal holes or voids made by through penetrations, poke-through termination devices, and unpenetrated openings or joints to ensure continuity and integrity of fire separation are maintained.

.3 Provide temporary forming as required and remove forming only after materials have gained sufficient strength and after initial curing.

.4 Tool or trowel exposed surfaces to a neat finish.

.5 Remove excess compound promptly as work progresses and upon completion.

3.3 INSPECTION

.1 Notify Consultant when ready for inspection and prior to concealing or enclosing firestopping materials and service penetration assemblies.

3.4 SCHEDULE

.1 Firestop and smoke seal at:

.1 Penetrations through fire-resistance rated masonry, concrete, and gypsum board partitions and walls.

.2 Top of fire-resistance rated masonry and gypsum board partitions.

.3 Intersection of fire-resistance rated masonry and gypsum board partitions.

.4 Openings and sleeves installed for future use through fire separations.

.5 Around mechanical and electrical assemblies penetrating fire separations.

.6 Rigid ducts: greater than 129 cm^2: fire stopping to consist of bead of fire stopping material between retaining angle and fire separation and between retaining angle and duct, on each side of fire separation.

3.5 CLEAN UP

.1 Remove excess materials and debris and clean adjacent surfaces immediately after application.

.2 Remove temporary dams after initial set of fire stopping and smoke seal materials.

End of Section

PART 1 GENERAL

1.1 RELATED SECTIONS

.1 Section 04 05 10 – Masonry

.2 Section 06 15 00 – Wood Decking

.3 Section 07 21 00 – Board Insulation.

.4 Section 09 21 16 – Gypsum Board Assemblies

.5 Section 09 91 00 – Painting.

1.2 REFERENCES

.1 American Society for Testing and Materials International, (ASTM)
- .1 ASTM C 919-02, Standard Practice for Use of Sealants in Acoustical Applications.
- .2 ASTM C920-98 Elestomeric Joint Sealants.

.2 Canadian General Standards Board (CGSB)
- .1 CGSB 19-GP-5M-1984, Sealing Compound, One Component, Acrylic Base, Solvent Curing.
- .2 CAN/CGSB-19.13-M87, Sealing Compound, One-component, Elastomeric, Chemical Curing.
- .3 CGSB 19-GP-14M-1984, Sealing Compound, One Component, Butyl-Polyisobutylene.
- .4 CAN/CGSB-19.17-M90, One-Component Acrylic Emulsion Base Sealing Compound.

.3 Health Canada/Workplace Hazardous Materials Information System (WHMIS)
- .1 Material Safety Data Sheets (MSDS).

1.3 DELIVERY, STORAGE, AND HANDLING

.1 Deliver, handle, store and protect materials in accordance with Section 01 61 00 – Common Product Requirements.

.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 PROJECT 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 4.4 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.

PART 2 PRODUCTS

2.1 SEALANT MATERIALS

.1 Do not use caulking that emits strong odours, contains toxic chemicals or is not certified as mould resistant in air handling units.

.2 When low toxicity caulks are not possible, confine usage to areas which offgas to exterior, are contained behind air barriers, or are applied several months before occupancy to maximize offgas time.

.3 Where sealants are qualified with primers use only these primers.

2.2 SEALANT MATERIAL DESIGNATIONS

.1 Urethanes One Part.
- .1 Non-Sag to CAN/CGSB-19.13, Type 2, colour as selected

.2 Urethanes One Part.
- .1 Self-Leveling to CAN/CGSB-19.13, Type 1, colour as selected

.3 Silicones One Part.
- .1 To CAN/CGSB-19.13.

.4 Acrylic Latex One Part.
- .1 To CAN/CGSB-19.17.

.5 Polyethylene, Urethane, Neoprene or Vinyl Foam.

.6 Neoprene or Butyl Rubber. Round solid rod, Shore A hardness 70.

.7 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.

.8 Tuck Tape. Red sheathing wrap tape.

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