Part 1 General

1.1 SCOPE

.1 This section describes the requirements for rigid insulation to be applied to concrete slabs, against perimeter foundation walls, and as isolation joints where indicated on the drawings.

1.2 REFERENCES

.1 National Building Code of Canada (NBC).

.2 Manitoba Building Code (MBC).

.3 ASTM International

.1 ASTM C591-16, Standard Specification for Unfaced Preformed Rigid Cellular Polyisocyanurate Thermal Insulation.

.2 ASTM C1126-15, Standard Specification for Faced or Unfaced Rigid Cellular Phenolic Thermal Insulation.

.3 ASTM C1289-16a, Standard Specification for Faced Rigid Cellular Polyisocyanurate Thermal Insulation Board.

.4 ASTM E96/E96M-16, Standard Test Methods for Water Vapour Transmission of Materials.

.4 Canadian General Standards Board (CGSB)

.1 CGSB 71-GP-24M-AMEND-77(R1983), Adhesive, Flexible, for Bonding Cellular polystyrene Insulation.

.5 CSA Group

.1 CSA B149 PACKAGE-10, Consists of B149.1, Natural Gas and Propane Installation Code and B149.2, Propane Storage and Handling Code.

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

.1 Material Safety Data Sheets (MSDS).

.7 Underwriters Laboratories of Canada (ULC)

.1 CAN/ULC-S701-11, Standard for Thermal Insulation, Polystyrene, Boards and Pipe Coverings.

.2 CAN/ULC-S702-14, Standard for Mineral Fibre Insulation for Buildings.

.3 CAN/ULC-S704-11, Standard for Thermal Insulation Polyurethane and Polyisocyanurate, Boards, Faced.

1.3 ACTION AND INFORMATIONAL SUBMITTALS

.1 Product Data:

.1 Submit manufacturer's instructions, printed product literature and data sheets for board insulation and include product characteristics, performance criteria, physical size, finish and limitations in accordance with E3 – Shop Drawings.

.2 Submit 2 copies of WHMIS MSDS in accordance with E3 – Shop Drawings. Indicate VOC's insulation products and adhesives.

.2 Manufacturer's Instructions:

.1 Submit manufacturer's installation instructions.

1.4 WASTE MANAGEMENT AND DISPOSAL

.1 Separate waste materials for reuse and recycling in accordance with D14 – Environmental Protection Plan.

.2 Remove from site and dispose of packaging materials at appropriate recycling facilities.

.3 Collect and separate for disposal paper, plastic, polystyrene, corrugated cardboard packaging material in appropriate on-site containers for recycling in accordance with Waste Management Plan.

Part 2 Products

2.1 INSULATION

.1 Rigid Cellular: Styrofoam SM by Dow Chemical Canada Inc., or approved equal in accordance to B7, expanded closed cell polystyrene to CAN/CGSB-51.20 Type 4.

2.2 ADHESIVE

.1 Adhesive (for polystyrene): to CGSB 71-GP-24M, compatible with specified insulation.

Part 3 Execution

3.1 EXAMINATION

.1 Verification of Conditions: verify that conditions of substrate previously installed under other Sections or Contracts are acceptable for board insulation application in accordance with manufacturer's written instructions. Substrates must be firm, straight, smooth, dry, free of snow, ice or frost, and clean of dust and debris.

.1 Visually inspect substrate prior to installation.

.2 Inform Contract Administrator of unacceptable conditions immediately upon discovery.

.3 Proceed with installation only after unacceptable conditions have been remedied and after receipt of written approval to proceed from Contract Administrator.

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.

.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 75 mm from heat emitting devices such as recessed light fixtures, and minimum 50 mm from sidewalls of CAN/ULC-S604 type A chimneys CSA B149.1 and CSA B149.2 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 Contract Administrator.

3.3 RIGID INSULATION INSTALLATION

.1 Apply adhesive to substrate in accordance with manufacturer's recommendations.

3.4 PERIMETER FOUNDATION INSULATION

.1 Exterior application: extend boards to top of footing as indicated on drawings. Install on exterior face of perimeter foundation wall with adhesive.

.2 Base of foundation application: extend boards horizontally as indicated on drawings from perimeter foundation wall. Lay boards on level compacted fill.

3.5 CLEANING

.1 Progress Cleaning: Leave Work area clean at end of each day.

.2 Final Cleaning: upon completion remove surplus materials, rubbish, tools and equipment.

END OF SECTION

Part 1 General

1.1 SCOPE

.1 This section describes the requirements for blanket insulation applied to inside walls and attic space.

1.2 RELATED SECTIONS

.1 Section 07 26 00 – Vapour Retarders.

1.3 REFERENCES

.1 National Building Code of Canada (NBC).

.2 Manitoba Building Code (MBC).

.3 ASTM International

.1 ASTM C553-13, Standard Specification for Mineral Fibre Blanket Thermal Insulation for Commercial and Industrial Applications.

.2 ASTM C665-12, Standard Specification for Mineral-Fiber Blanket Thermal Insulation for Light Frame Construction and Manufactured Housing.

.3 ASTM C1320-10(2016), Standard Practice for Installation of Mineral Fiber Batt and Blanket Thermal Insulation for Light Frame Construction.

.4 CSA Group

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

.5 Underwriters Laboratories of Canada (ULC)

.1 CAN/ULC-S702-14, Standard for Mineral Fibre Insulation for Buildings.

1.4 ACTION AND INFORMATIONAL SUBMITTALS

.1 Product Data:

.1 Submit manufacturer's instructions, printed product literature and data sheets for blanket insulation and include product characteristics, performance criteria, physical size, finish and limitations.

.2 Certificates:

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

.3 Test Reports:

.1 Submit certified test reports showing compliance with specified performance characteristics and physical properties.

1.5 WASTE MANAGEMENT AND DISPOSAL

.1 Separate waste materials for reuse and recycling in accordance with D14 – Environmental Protection Plan.

.2 Remove from site and dispose of packaging materials at appropriate recycling facilities.

.3 Collect and separate for disposal paper plastic polystyrene corrugated cardboard packaging material in appropriate on-site container for recycling in accordance with Waste Management Plan.

Part 2 Products

2.1 INSULATION

.1 Batt and blanket mineral fibre: to ASTM C665 CAN/ULC-S702.

.1 Type: Owens Corning Pink Fibre glass or approved equal in accordance with B7 – Substitutes.

.2 Thickness at walls: 140mm providing total insulation value of R24, or to fill cavities as indicated on drawings.

.3 Thickness at attic space: provide total insulation value of R50.

2.2 ACCESSORIES

.1 Type: 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 EXAMINATION

.1 Verification of Conditions: verify that conditions of substrate previously installed under other Sections or Contracts are acceptable for blanket insulation application in accordance with manufacturer's written instructions.

.1 Visually inspect substrate prior to installation.

.2 Inform Contract Administrator of unacceptable conditions immediately upon discovery.

.3 Proceed with installation only after unacceptable conditions have been remedied and after receipt of written approval to proceed from Contract Administrator.

3.3 INSULATION INSTALLATION

.1 Install insulation to maintain continuity of thermal protection to building elements and spaces and to ASTM C1320.

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

.3 Do not compress insulation to fit into spaces.

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

.5 Do not enclose insulation until it has been inspected and approved by Contract Administrator.

3.4 CLEANING

.1 Progress Cleaning:

.1 Leave Work area clean at end of each day.

.2 Final Cleaning: upon completion remove surplus materials, rubbish, tools and equipment.

END OF SECTION

Part 1 General

1.1 RELATED SECTIONS

.1 Section 07 21 16 – Blanket Insulation.

1.2 REFERENCES

.1 Canadian General Standards Board (CGSB)

.1 CAN/CGSB-51.34-M86, Vapour Barrier, Polyethylene Sheet, for Use in Building Construction.

1.3 ACTION AND INFORMATIONAL SUBMITTALS

.1 Submit in accordance with E3 – Shop Drawings and E5 – Operation and Maintenance Manuals.

.2 Product Data:

.1 Submit manufacturer's instructions, printed product literature and data sheets for vapour retarders and include product characteristics, performance criteria, physical size, finish and limitations.

.2 Submit 2 copies of WHMIS MSDS.

.3 Certificates:

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

1.4 QUALITY ASSURANCE

.1 Mock-Ups:

.1 Construct mock-up of sheet vapour barrier installation including one lap joint, one inside corner and at one electrical box. Mock-up may be part of finished work.

.2 Mock-up will be used to judge quality of work, substrate preparation, and material application.

.3 Locate where directed.

.4 Allow 24 hours for inspection of mock-up by Contract Administrator.

.5 When accepted, mock-up will demonstrate minimum standard of quality required for this work. Approved mock-up may remain as part of finished work.

1.5 DELIVERY, STORAGE AND HANDLING

.1 Waste Management and Disposal:

.1 Separate waste materials for reuse and recycling in accordance with D14 – Environmental Protection Plan.

Part 2 Products

2.1 SHEET VAPOUR BARRIER

.1 Polyethylene film: to CAN/CGSB-51.34, 0.15 mm thick as manufactured by W.R. Meadows or approved equal in accordance with B7 – Substitutes, for under concrete slab-on-grade applications.

.2 Polyethylene film: 6 mil for installation in wall and ceiling assemblies installed on warm side of insulation.

2.2 ACCESSORIES

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

.2 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 EXAMINATION

.1 Verification of Conditions: verify that conditions of substrate previously installed under other Sections or Contracts are acceptable for vapour retarder installation in accordance with manufacturer's written instructions.

.1 Visually inspect substrate prior to installation.

.2 Inform Contract Administrator of unacceptable conditions immediately upon discovery.

.3 Proceed with installation only after unacceptable conditions have been remedied and after receipt of written approval to proceed from Contract Administrator.

3.2 INSTALLATION

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

.2 Install sheet vapour retarder on warm side of exterior wall assemblies prior to installation of gypsum board 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.

3.3 EXTERIOR SURFACE OPENINGS

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

3.4 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.

3.5 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.

3.6 ELECTRICAL BOXES

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

.1 Install moulded box vapour barrier with film sheet providing minimum 300 mm perimeter lap flange.

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

3.7 CLEANING

.1 Progress Cleaning:

.1 Leave Work area clean at end of each day.

.2 Final Cleaning: upon completion remove surplus materials, rubbish, tools and equipment.

END OF SECTION

Part 1 General

1.1 RELATED SECTIONS

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

.2 Section 07 92 00 – Joint Sealing.

1.2 REFERENCE STANDARDS

.1 Aluminum Association (AA)

.1 DAF-45-R03, Designation System for Aluminum Finishes - 9th Edition.

.2 ASM-35-October 2000, Specifications for Aluminum Sheet Metal Work in Building Construction, Section 5.

.2 ASTM International

.1 ASTM A167-99(2009), Standard Specification for Stainless and Heat-Resisting Chromium-Nickel Steel Plate, Sheet, and Strip.

.2 ASTM A240/A240M-16a, Standard Specification for Chromium and Chromium-Nickel Stainless Steel Plate, Sheet, and Strip for Pressure Vessels and for General Applications.

.3 ASTM A653/A653M-15e1, Standard Specification for Steel Sheet, Zinc-Coated (Galvanized) or Zinc-Iron Alloy-Coated (Galvannealed) by the Hot-Dip Process.

.4 ASTM A792/A792M-10(2015), Standard Specification for Steel Sheet, 55% Aluminum-Zinc Alloy-Coated by the Hot Dip Process.

.5 ASTM B32-08(2014), Standard Specification for Solder Metal.

.6 ASTM B370-12, Standard Specification for Copper Sheet and Strip for Building Construction.

.7 ASTM D523-14, Standard Test Method for Specular Gloss.

.8 ASTM D822/D822M-13, Standard Practice for Filtered Open-Flame Carbon-Arc Exposures of Paint and Related Coatings.

.3 Canadian General Standards Board (CGSB)

.1 CAN/CGSB-37.5-M89, Cutback Asphalt Plastic Cement.

.2 CAN/CGSB-37.29-M89, Rubber-Asphalt Sealing Compound.

.3 CAN/CGSB-51.32- M77, Sheathing, Membrane, Breather Type.

.4 CAN/CGSB-93.1-M85, Sheet Aluminum Alloy, Prefinished, Residential.

.4 CSA International

.1 CSA A123.3-05(2015), Asphalt Saturated Organic Roofing Felt.

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

.1 Material Safety Data Sheets (MSDS).

.6 National Building Code of Canada 2015(NBC).

.1 CCMC- Registry of Product Evaluations.

.7 Transport Canada (TC)

.1 Transportation of Dangerous Goods Act (TDGA), 1992.

1.3 ACTION AND INFORMATIONAL SUBMITTALS

.1 Product Data:

.1 Submit manufacturer's instructions, printed product literature and data sheets for sheet metal roofing and include product characteristics, performance criteria, physical size, finish and limitations.

.2 Proof of manufacturer's CCMC listing and listing number.

.3 Submit 2copies of WHMIS.

.2 Shop Drawings:

.1 Submit drawings in accordance with E3 – Shop Drawings.

.2 Indicate arrangement of pre-finished Roof Sheet, including joints, types and locations of supports, fasteners, flashings, gutters, mitres, and all metal components related to the roof installation. Include for underlayment as part of the roof system.

.3 Samples:

.1 Submit 300 x 300 duplicate mm samples of each sheet metal material for review by the Contract Administrator, prior to fabrication.

1.4 QUALITY ASSURANCE

.1 Mock-ups:

.1 Fabricate 3000 x 3000 mm mock up.

.2 Mock-up will be used:

.1 To judge workmanship, substrate preparation, operation of equipment and material application.

.3 Locate where directed.

.4 Allow 24hours for inspection of mock-up by Contract Administrator before proceeding with sheet metal flashing work.

.5 When accepted, mock-up will demonstrate minimum standard of quality required for this Work.

.6 Approved mock-up may remain as part of finished Work.

1.5 DELIVERY, STORAGE AND HANDLING

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

.2 Delivery and Acceptance Requirements: deliver materials to site in original factory packaging, labelled with manufacturer's name and address.

.3 Storage and Handling Requirements:

.1 Store materials off ground and in accordance with manufacturer's recommendations in clean, dry, well-ventilated area.

.2 Store and protect sheet metal roofing from nicks, scratches, and blemishes.

.3 Replace defective or damaged materials with new.

Part 2 Products

2.1 ROOF SYSTEM COMPONENTS

.1 Roof system: CL-439 profile by Vicwest or approved equal in accordance with B7:

.1 Underlayment: Membrane shall be Ice and Water Shield by W.R. Grace or an approved equal.

.2 Prefinished Roof Sheet, exposed to exterior:

.1 Profile: Corrugated profile with 34 mm high raised ribs at 333 mm spacing and intermediate shallow ribs for stiffness.

.2 Panel width 1000 mm with overlapping side seams.

.3 Material: Z275 galvanized (zinc coated) and prefinished sheet steel conforming to ASTM A653M structural quality Grade 230 having a nominal core thickness 0.76 mm, 24 ga.

2.2 PANEL FINISHES

.1 Coating: Prepainted with WeatherX ™ Silicone Modified Polyester coating by Valspar on exposed face.

2.3 COLOUR

.1 Colour to be selected from the manufacturer’s standard colour range.

2.4 ACCESSORIES

.1 Flashing: Formed from same materials as the roof sheet. Custom fabricated to suit architectural details, as required.

.2 Closures: Foam and metal closures to suit profiles selected, to manufacturer’s recommendations.

.3 Sealants: In accordance with manufacturer’s recommendation and Section 07 92 00.

.4 Ventilated ridge cap: prefinished, brake formed, purpose made flashing to provide continuous air vent, incorporating drip edge, snow baffle, and mesh material to allow unrestricted venting of attic space while preventing insect, rain and snow from entering. Colour and finish to match roofing.

.5 Snow fence: Continuous double 25mm diameter bar snow fence supported on zinc die cast metal brackets. Rails formed of swaged galvalume tubes connected with concealed joiners and pinned. Brackets secured with stainless steel screws through neoprene washers through the roofing material into solid wood blocking.

2.5 FABRICATION

.1 Fabricate roof components to comply with dimensions, profiles, gauges and details as shown on the shop drawings, including fascia and soffit panels and all companion flashing. .

.2 Fabricate all components of the system in the factory, ready for field installation.

.3 Provide roof sheet and all accessories in longest practicable length to minimize field lapping of joints.

Part 3 Execution

3.1 EXAMINATION

.1 Verification of Conditions: verify that conditions of substrate previously installed under other Sections or Contracts are acceptable for sheet metal roofing installation in accordance with manufacturer's written instructions.

.1 Visually inspect substrate.

.2 Inform Contract Administrator of unacceptable conditions immediately upon discovery.

.3 Proceed with installation only after unacceptable conditions have been remedied and after receipt of written approval to proceed from Contract Administrator.

3.2 INSTALLATION

.1 Roof Materials:

.1 Underlayment: Install underlayment fully adhered to solid substrate according to manufacturer's recommendations. Ensure all joints are properly lapped and sealed. Tie in with barriers on adjacent surfaces to ensure water and air tight construction. Provide a continuous seal around all openings in the metal roof system.

.2 Roof Panel Installation:

.1 Where indicated on approved shop drawings, secure the end-lap of metal roofing sheets in accordance with the manufacturer’s specifications and details to provide a weather-tight seal. Exposed fasteners to match colour of the roof sheet.

.2 Provide notched and formed closures, sealed against weather penetration, at changes in pitch, and at ridges and eaves, where required.

.3 Install all companion flashing, gutters, ventilators as shown on the shop drawings. Use concealed fasteners when possible. Exposed fasteners to match colour of roof sheet.

.4 Install snow fence with approved fasteners and sealants into solid wood blocking through roof sheets.

3.3 CLEANING

.1 Progress Cleaning: Leave Work area clean at end of each day.

.2 Final Cleaning: upon completion remove surplus materials, rubbish, tools and equipment.

.3 Waste Management: Separate waste materials for reuse, recycling in accordance with D15 – Environmental Protection Plan.

.1 Remove recycling containers and bins from site and dispose of materials at appropriate facility.

3.4 PROTECTION

.1 Protect installed products and components from damage during construction.

.2 Repair damage to adjacent materials caused by sheet metal roofing installation.

END OF SECTION

Part 1 General

1.1 SCOPE

.1 The scope of this section generally includes, but is not limited to:

- .1 Pre-finished metal siding and trim.
- .2 Metal flashing at roofing perimeter and wall penetrations, openings.

1.2 RELATED SECTIONS

.1 Section 07 92 00 – Joint Sealing.

1.3 REFERENCES

.1 National Building Code of Canada (NBC).

.2 Manitoba Building Code (MBC).

.3 The Aluminum Association Inc. (AAI)

- .1 AAI-Aluminum Sheet Metal Work in Building Construction-2002.
- .2 AAI DAF45-03, Designation System for Aluminum Finishes.

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

- .1 ASTM A167-99(2004), Specification for Stainless and Heat-Resisting Chromium-Nickel Steel Plate, Sheet, and Strip.
- .2 ASTM A240/A240M-07e1, Standard Specification for Chromium and Chromium-Nickel Stainless Steel Plate, Sheet, and Strip for Pressure Vessels and for General Applications.
- .3 ASTM A606-04, Standard Specification for Steel, Sheet and Strip, High-Strength, Low-Alloy, Hot-Rolled and Cold-Rolled, with Improved Atmospheric Corrosion Resistance.
- .4 ASTM A653/A653M-07, Standard Specification for Steel Sheet, Zinc-Coated (Galvanized) or Zinc-Iron Alloy-Coated (Galvannealed) by the Hot-Dip Process.
- .5 ASTM A792/A792M-06a, Standard Specification for Steel Sheet, 55% Aluminum-Zinc Alloy-Coated by the Hot-Dip Process.
- .6 ASTM B32-04, Standard Specification for Solder Metal.
- .7 ASTM B370-03, Standard Specification for Copper Sheet and Strip for Building Construction.
- .8 ASTM D523-89(1999), Standard Test Method for Specular Gloss.
- .9 ASTM D822-01(2006), Standard Practice for Filtered Open-Flame Carbon-Arc Exposures of Paint and Related Coatings.

.5 Canadian Roofing Contractors Association (CRCA)

- .1 Roofing Specifications Manual 1997.

.6 Canadian General Standards Board (CGSB)

- .1 CAN/CGSB-51.32-M77, Sheathing, Membrane, Breather Type.

.2 CAN/CGSB-93.1-M85, Sheet Aluminum Alloy, Prefinished, Residential.

.7 Canadian Standards Association (CSA International)

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

.2 AAMA/WDMA/CSA 101/I.S.2/A440-2008, Standard/Specification for Windows, Doors, and Unit Skylights.

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

1.4 ACTION AND INFORMATIONAL SUBMITTALS

.1 Product Data:

.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 two copies WHMIS MSDS - Material Safety Data Sheets.

.2 Shop Drawings:

.1 Shop drawings: submit drawings in accordance with E3 – Shop Drawings.

.3 Samples:

.1 Submit duplicate 50 x 50 mm samples of each type of sheet metal material, finishes and colours.

1.5 QUALITY ASSURANCE

.1 Pre-Installation Meetings: convene pre-installation meeting one week prior to beginning work of this Section, with Contract Administrator to:

.1 Verify project requirements.

.2 Review installation and substrate conditions.

.3 Co-ordination with other building subtrades.

.4 Review manufacturer's installation instructions and warranty requirements.

1.6 DELIVERY, STORAGE AND HANDLING

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

.2 Waste Management and Disposal:

.1 Separate waste materials for recycling in accordance with D14 – Environmental Protection Plan.

.2 Remove from site and dispose of all packaging materials at appropriate recycling facilities.

.3 Collect and separate for disposal paper plastic polystyrene corrugated cardboard packaging material in appropriate on-site bins for recycling in accordance with Waste Management Plan.

.4 Place materials defined as hazardous or toxic in designated containers.

.5 Ensure emptied containers are sealed and stored safely for disposal away from children.

.6 Divert unused metal materials from landfill to metal recycling facility as approved by Contract Administrator.

.7 Unused paint and sealant material must be disposed of at an official hazardous material collections site as approved by Contract Administrator.

.8 Unused paint and sealant material must not be disposed of into sewer system, into streams, lakes, onto ground or in other location where it will pose health or environmental hazard.

.9 Fold up metal banding, flatten and place in designated area for recycling.

Part 2 Products

2.1 PRE-FINISHED METAL SIDING

.1 Zinc coated steel sheet: commercial quality to ASTM A653/A653M, grade 50, with Z275 designation zinc coating.

.2 Exterior side prefinished with a siliconized polyester coating system, oven baked, dry film thickness 0.7 to 0.9 mils.

.3 Interior side protected by wash coat of primer.

.4 Product: VicWest or approved equal in accordance with B7.

.5 Profile: 24 gauge CL 6025-SR, 36 mm deep, 900 mm wide.

.6 Factory applied sealant in interlocking side lap joints to provide weathertight installation.

2.2 SHEET METAL MATERIALS

.1 Zinc coated steel sheet: commercial quality to ASTM A653/A653M, with Z275 designation zinc coating.

.2 Aluminum-zinc alloy coated steel sheet: to ASTM A792/A792M, commercial quality.

2.3 PREFINISHED STEEL SHEET

.1 Prefinished steel with factory applied polyvinylidene fluoride.

.1 Class F1S.

.2 Colour selected by Contract Administrator from manufacturer's standard range.

.3 Specular gloss: 30 units +/- in accordance with ASTM D523.

.4 Coating thickness: not less than 22 micrometres.

.5 Resistance to accelerated weathering for chalk rating of 8, colour fade 5units or less and erosion rate less than 20 % to ASTM D822 as follows:

.1 Outdoor exposure period 2500 hours.

.2 Humidity resistance exposure period 5000 hours.

2.4 PREFINISHED ALUMINUM SHEET

.1 Finish: factory applied coating to CAN/CGSB-93.1 supplemented and amended as follows:

.1 Type 1.

.2 Class F1S.

.3 Colour selected by Contract Administrator from manufacturer's standard range.

.2 Thickness specified for prefinished aluminum sheet applies to base metal.

2.5 ACCESSORIES

.1 Isolation coating: alkali resistant bituminous paint.

.2 Plastic cement: to CAN/CGSB 37.5.

.3 Underlay for metal flashing: No. 15 perforated asphalt felt to CSA A123.3.

.4 Sealants: Multi-component conforming to CGSB Specification CAN/CGSB-19.24, or single component conforming to CGSB Specification CAN/CGSB-19.13.:

.1 Acceptable products:

.1 Dymeric by Tremco (Canada) Limited.

.2 Proglaze by Tremco (Canada) Ltd.

.3 1200 Sealant by CGE Canada Ltd.

.4 795 Sealant by Dow Corning Canada.

.5 Or Approved equal in accordance with B7.

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

2.6 FABRICATION

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

.2 Fabricate aluminum flashings and other sheet aluminum work in accordance with AAI-Aluminum Sheet Metal Work in Building Construction.

.3 Form pieces in 2400 mm maximum lengths. Make allowance for expansion at joints.

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

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

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

2.7 METAL FLASHINGS

.1 Form flashings, copings and fascias to profiles indicated of 0.6 mm thick prefinished aluminum or prefinished galvanized steel.

2.8 REGLETS AND CAP FLASHINGS

.1 Form metal cap flashing of 0.6 mm thick sheet metal as detailed and in accordance with CRCA FL series details. Provide slotted fixing holes and steel/plastic washer fasteners. Cover face and ends with plastic tape.

2.9 EAVES TROUGHS AND DOWNPIPES

.1 Form eaves troughs and downpipes from 22 gauge prefinished sheet metal.

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

.3 Secure to building with metal straps.

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 Provide and install pre-finished metal siding materials, flashings at openings, and trim shapes as indicated in approved shop drawings.

.2 Avoid end laps in vertical sections.

.3 Install sheet metal work in accordance with CRCA FL series details.

.4 Use concealed fastenings except where approved before installation.

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

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

.7 Lock end joints and caulk with sealant.

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

.9 Insert metal flashing under cap flashing to form weather tight junction.

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

.11 Caulk flashing at cap flashing with sealant.

.12 Install pans, where shown around items projecting through roof membrane.

3.3 EAVES TROUGHS AND DOWNPIPES

.1 Install eaves troughs and secure to building at 750 mm on centre with eaves trough spikes through spacer ferrules.

.2 Slope eaves troughs to downpipes as indicated.

.3 Seal joints watertight.

.4 Install downpipes and provide goosenecks back to wall.

.1 Secure downpipes to wall with straps at 1800 mm on centre; minimum two straps per downpipe.

.5 Install splash pads at each downpipe.

3.4 CLEANING

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

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

END OF SECTION

Part 1 General

1.1 REFERENCES

.1 National Building Code of Canada (NBC).

.2 Manitoba Building Code (MBC).

.3 Underwriter's Laboratories of Canada (ULC)

.1 ULC-S115-2011, Fire Tests of Fire stop Systems.

1.2 DEFINITIONS

.1 Fire Stop Material: device intended to close off opening or penetration during fire or materials that fill openings in wall or floor assembly where penetration is by cables, cable trays, conduits, ducts and pipes and poke-through termination devices, including electrical outlet boxes along with their means of support through wall or floor openings.

.2 Single Component Fire Stop System: fire stop material that has Listed Systems Design and is used individually without use of high temperature insulation or other materials to create fire stop system.

.3 Multiple Component Fire Stop System: exact group of fire stop materials that are identified within Listed Systems Design to create on site fire stop system.

.4 Tightly Fitted; (ref: NBC Part 3.1.9.1.1 and 9.10.9.6.1): penetrating items that are cast in place in buildings of noncombustible construction or have "0" annular space in buildings of combustible construction.

.1 Words "tightly fitted" should ensure that integrity of fire separation is such that it prevents passage of smoke and hot gases to unexposed side of fire separation.

1.3 ACTION AND INFORMATIONAL SUBMITTALS

.1 Product Data:

.1 Submit manufacturer's printed product literature, specifications and datasheet and include product characteristics, performance criteria, physical size, finish and limitations. Include manufacturer’s printed instructions for installation.

.2 Submit two copies of WHMIS MSDS - Material Safety Data Sheets.

.2 Shop Drawings:

.1 Submit shop drawings in accordance with E3 – Shop Drawings

.2 Submit shop drawings to show location, proposed material, reinforcement, anchorage, fastenings and method of installation.

.3 Construction details should accurately reflect actual job conditions.

.3 Quality assurance submittals:

.1 Test reports: in accordance with CAN-ULC-S101 for fire endurance and CAN-ULC-S102 for surface burning characteristics.

.1 Submit certified test reports from approved independent testing laboratories, indicating compliance of applied fire stopping with

specifications for specified performance characteristics and physical properties.

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

.3 Manufacturer's Instructions: submit manufacturer's installation instructions and special handling criteria, installation sequence and cleaning procedures.

.4 Manufacturer's Field Reports: submit to manufacturer's written reports within 3 days of review, verifying compliance of Work.

1.4 QUALITY ASSURANCE

.1 Qualifications:

.1 Installer: company specializing in fire stopping installations, approved by manufacturer, with 5 years of experience.

.2 Pre-Installation Meetings: convene pre-installation meeting one week prior to beginning work of this Section, with Contract Administrator to:

.1 Verify project requirements.

.2 Review installation and substrate conditions.

.3 Co-ordination with other building subtrades.

.4 Review manufacturer's installation instructions and warranty requirements.

.3 Site Meetings: as part of Manufacturer's Services, schedule site visits to review Work at stages listed.

.1 After delivery and storage of products, and when preparatory Work is complete, but before installation begins.

.2 Twice during progress of Work at 25% and 60% complete.

.3 Upon completion of Work, after cleaning is carried out.

1.5 DELIVERY, STORAGE AND HANDLING

.1 Packing, shipping, handling and unloading:

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

.2 Deliver materials to the site in undamaged condition and in original unopened containers, marked to indicate manufacturer, ULC markings.

.2 Storage and Protection:

.1 Store materials indoors, in dry location and in accordance with manufacturer's recommendations in clean, dry, well-ventilated area.

.2 Replace defective or damaged materials with new.

.3 Waste Management and Disposal:

.1 Separate and recycle waste materials in accordance with D15 – Environmental Protection Plan.

.2 Collect and separate plastic, paper packaging and corrugated cardboard in accordance with waste management plan.

Part 2 Products

2.1 MATERIALS

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

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

.2 Fire stop system rating: to suite partitions on drawings.

.2 Service penetration assemblies: systems tested to CAN-ULC-S115.

.3 Service penetration fire stop components: certified by test laboratory to CAN-ULC-S115.

.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 Water (if applicable): potable, clean and free from injurious amounts of deleterious substances.

.9 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.

.10 Sealants for vertical joints: non-sagging.

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 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 without interruption to vapour barrier.

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

3.3 INSTALLATION

.1 Install fire stopping and smoke seal material and components in accordance with ULC certification and manufacturer's certified tested system listing.

.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 neat finish.

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

3.4 SEQUENCES OF OPERATION

.1 Proceed with installation only when submittals have been reviewed by Contract Administrator.

.2 Mechanical pipe insulation: certified fire stop system component. Ensure pipe insulation installation precedes fire stopping.

3.5 FIELD QUALITY CONTROL

.1 Inspections: notify Contract Administrator when ready for inspection and prior to concealing or enclosing fire stopping materials and service penetration assemblies.

.2 Manufacturer's Field Services:

.1 Obtain written report from manufacturer verifying compliance of Work, in handling, installing, applying, protecting and cleaning of product and submit Manufacturer's Field Reports.

.2 Provide manufacturer's field services consisting of product use recommendations and periodic site visits for inspection of product installation in accordance with manufacturer's instructions.

3.6 CLEANING

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

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

3.7 SCHEDULE

.1 Fire stop 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 Control and sway joints in fire-resistance rated masonry and gypsum board partitions and walls.

.5 Penetrations through fire-resistance rated floor slabs, ceilings and roofs.

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

.7 Around mechanical and electrical assemblies penetrating fire separations.

.8 Rigid ducts: 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.

END OF SECTION

Part 1 General

1.1 SECTION INCLUDES

.1 Materials, preparation and application for caulking and sealants.

1.2 RELATED SECTIONS

.1 Section 07 26 00 – Vapour Retarders

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

.3 Section 08 11 00 – Metal Doors and Frames.

.4 Section 08 50 00 – Windows

.5 Section 08 80 50 – Glazing

.6 Section 13 27 00 – Prefabricated Kiosk Building

1.3 REFERENCES

.1 ASTM International

.1 ASTM C919-08, Standard Practice for Use of Sealants in Acoustical Applications.

.2 Canadian General Standards Board (CGSB)

.1 CGSB 19-GP-5M-1984, Sealing Compound, One Component, Acrylic Base, Solvent Curing (Issue of 1976 reaffirmed, incorporating Amendment No. 1).

.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 Polymer Base, Solvent Curing (Reaffirmation of April 1976).

.4 CAN/CGSB-19.17-M90, One-Component Acrylic Emulsion Base Sealing Compound.

.5 CAN/CGSB-19.24-M90, Multi-component, Chemical Curing Sealing Compound.

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

.1 Material Safety Data Sheets (MSDS).

1.4 ACTION AND INFORMATIONAL SUBMITTALS

.1 Product Data:

.1 Submit manufacturer's instructions, printed product literature and data sheets for joint sealants and include product characteristics, performance criteria, physical size, finish and limitations.

.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 2 copies of WHMIS MSDS.

.2 Samples:

.1 Submit 2 samples of each type of material and colour.

.2 Cured samples of exposed sealants for each colour where required to match adjacent material.

.3 Manufacturer's Instructions:

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

1.5 QUALITY ASSURANCE

.1 Carry out the supply and installation of sealants and caulking work by recognized specialist applicators having at least five years of experience and having skilled workmen thoroughly trained and competent in all phases of caulking work.

1.6 DELIVERY, STORAGE AND HANDLING

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

.2 Delivery and Acceptance Requirements: deliver materials to site in original factory packaging, labelled with manufacturer's name and address.

.3 Storage and Handling Requirements:

.1 Store materials off ground, indoors, in dry location and in accordance with manufacturer's recommendations in clean, dry, well-ventilated area.

.2 Replace defective or damaged materials with new.

1.7 WASTE MANAGEMENT AND DISPOSAL

.1 Separate waste materials for reuse and recycling in accordance with D15 – Environmental Protection Plan.

.2 Remove from site and dispose of packaging materials at appropriate recycling facilities.

.3 Collect and separate for disposal paper, plastic, polystyrene and corrugated cardboard packaging material in appropriate on-site bins for recycling in accordance with Waste Management Plan.

.4 Place materials defined as hazardous or toxic in designated containers.

.5 Handle and dispose of hazardous materials in accordance with the CEPA, TDGA, Regional and Municipal regulations.

.6 Unused sealant material must not be disposed of into sewer system, into streams, lakes, onto ground or in other location where it will pose health or environmental hazard.

.7 Divert unused joint sealing material from landfill to an approved, official hazardous material collections site.

.8 Empty plastic joint sealer containers are not recyclable. Do not dispose of empty containers with plastic materials destined for recycling.

.9 Fold up metal banding, flatten, and place in designated area for recycling.

1.8 SITE CONDITIONS

.1 Ambient Conditions:

.1 Proceed with installation of joint sealants only when:

.1 Ambient and substrate temperature conditions are within limits permitted by joint sealant manufacturer or are above 4.4 degrees C.

.2 Joint substrates are dry.

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

.2 Joint-Width Conditions:

.1 Proceed with installation of joint sealants only where joint widths are more than those allowed by joint sealant manufacturer for applications indicated.

.3 Joint-Substrate Conditions:

.1 Proceed with installation of joint sealants only after contaminants capable of interfering with adhesion are removed from joint substrates.

1.9 ENVIRONMENTAL REQUIREMENTS

.1 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 Health Canada.

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

1.10 WARRANTY

.1 Provide written warranty covering the work of this section for a period of two years from the date of substantial completion.

.2 Defective work shall include but not be restricted to leakage, cracking, crumbling, melting, running, loss of adhesion, loss of cohesion, staining of adjoining or adjacent surfaces or work.

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 off gas to exterior, are contained behind air barriers, or are applied several months before occupancy to maximize off gas time.

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

2.2 SEALANT MATERIAL DESIGNATIONS

.1 Sealants – Type A

.1 Multi-component sealants to meet CGSB Specification CAN/CGSB-19.24, (2-part urethane) or single component sealant to meet CGSB Specification CAN/CGSB-19.13, (silicone) to be used for:

.1 Exterior joints around perimeters of metal door frames including thresholds and sills.

.2 Exterior joints around perimeters of louvre frames and duct penetrations.

.3 Exterior perimeter of conduit, wire and pipe penetrations.

.4 Exterior control joints.

.5 Roof flashings.

.2 Use one of the following sealants:

.1 Dymeric by Tremco (Canada) Limited.

.2 1200 Sealant by CGE Canada Ltd.

.3 795 Sealant by Dow Corning Canada.

.2 Sealants – Type B

.1 Acrylic solvent release, one part sealant, to meet CGSB Specification 19-GP-5M, to be used for all other locations where caulking beads remain exposed:

.1 Interior perimeters of door and window frames, louvre openings, service penetrations and ducts.

.2 Interior movement joints in exterior masonry walls.

.3 Use one of the following sealants:

.1 Mono by Tremco (Canada) Limited.

.2 Acryflex by Sternson Ltd.

.3 Parr-Crylic by Parr Sealants of Canada Ltd.

.4 PR12-100 Vinyl Acrylic by PRC Canada Ltd.

.4 Silicone Sealant – Type C

.1 Apply clear, mildew resistant silicone sealant at perimeter of backsplashes, at millwork mounted against walls, at washroom vanities, and around plumbing fixtures at floor and wall surfaces.

.2 Use one of the following sealants:

.1 Tremsil 200 by Tremco (Canada) Ltd.

.2 DAP 3.0.

.5 Primers:

.1 To be of a type recommended by sealant manufacturer for the appropriate sealant and corresponding substrate.

.6 Preformed Compressible and Non-Compressible back-up materials:

.1 Polyethylene, Urethane, Neoprene or Vinyl Foam:

.1 Extruded open closed cell foam backer rod.

.2 Size: oversize 30 to 50%.

.2 Neoprene or Butyl Rubber:

.1 Round solid rod, Shore a hardness 70.

.3 High Density Foam:

.1 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/m3 density, or neoprene foam backer, size as recommended by manufacturer.

.4 Bond Breaker Tape:

.1 Polyethylene bond breaker tape which will not bond to sealant.

2.3 COLOURS

.1 Colours of sealant shall match the predominant material to which sealant is applied.

2.4 JOINT CLEANER

.1 Non-corrosive and non-staining type, compatible with joint forming materials and sealant in accordance with sealant manufacturer's written recommendations.

.2 Primer: in accordance with sealant manufacturer's written recommendations.

Part 3 Execution

3.1 EXAMINATION

.1 Verification of Conditions: verify that conditions of substrate previously installed under other Sections or Contracts are acceptable for joint sealants installation in accordance with manufacturer's written instructions.

.1 Visually inspect substrates.

.2 Inform Contract Administrator of unacceptable conditions immediately upon discovery.

.3 Proceed with installation only after unacceptable conditions have been remedied and after receipt of written approval to proceed from Contract Administrator.

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.

3.7 CLEANING

.1 Progress Cleaning:

.1 Leave Work area clean at end of each day.

.2 Clean adjacent surfaces immediately.

.3 Remove excess and droppings, using recommended cleaners as work progresses.

.4 Remove masking tape after initial set of sealant.

.2 Final Cleaning: upon completion remove surplus materials, rubbish, tools and equipment.

3.8 PROTECTION

.1 Protect installed products and components from damage during construction.

.2 Repair damage to adjacent materials caused by joint sealants installation.

END OF SECTION