Part 1 General

1.1 REFERENCES

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

.1 ASTM C665-06, Standard Specification for Mineral-Fiber Blanket Thermal Insulation for Light Frame Construction and Manufactured Housing.

.2 ASTM C1320-05, Standard Practice for Installation of Mineral Fiber Batt and Blanket Thermal Insulation for Light Frame Construction.

.3 ASTM E84-06a, Standard Test Method for Surface Burning Characteristics of Building Materials.

.2 Underwriters Laboratories of Canada (ULC)

.1 CAN/ULC-S102-03, Method of Test for Surface Burning Characteristics of Building Materials and Assemblies.

.2 CAN/ULC-S701-05, Standard for Thermal Insulation, Polystyrene, Boards and Pipe Coverings.

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

.3 NFPA 255 - Test of Surface Burning Characteristics of Building Materials.

.4 UL 723 - Tests for Surface Burning Characteristics of Building Materials.

.5 Scientific Certification Systems (SCS)

.1 Specification SCS-RRC-01, Certification Specifications for Recycled and Recovered Content.

.6 Greenguard Environmental Institute (GEI)

.1 Greenguard Certification Standards for Low Emitting Products for the Indoor Environment.

1.2 SUBMITTALS

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

.2 Submit product data and manufacturer's installation recommendations for each product specified.

.3 When requested, provide information concerning installer experience which is similar in scope and scale to requirements of the Project, including location of work and persons to be contracted as references.

1.3 ENVIRONMENTAL REQUIREMENTS

.1 Do not install insulation adhesives when temperature or weather conditions are detrimental to successful installation.

1.4 COORDINATION

.1 Coordinate the work with Section 07 26 00 for installation of vapour retarder and Section 07 27 00 for air seal materials.

1.5 DELIVERY, STORAGE AND HANDLING

.1 Deliver materials in manufacturer's original, unopened, undamaged containers with identification labels intact.

.2 Protect from exposure to harmful environmental conditions at temperature and humidity conditions recommended by manufacturer.

Part 2 Products

2.1 RIGID INSULATION

.1 Extruded Polystyrene Insulation (XPS): to CAN/ULC-S701, Type IV, shiplapped edge, CFC free and HCFC free, compressive strength 30 psi, thickness as indicated; Acceptable Manufacturers: Dow Styrofoam, Owens Corning Celfort.

2.2 BATT INSULATION

.1 Fibreglass Batt: CAN/ULC-S702 Type 1 and ASTM C 665 Type 1, unfaced, Greenguard IAQ certified, SCS certified minimum 25% recycled content, thickness required to fill stud depth indicated on roof parapets.

2.3 SOUND ATTENUATION AND BATT INSULATION

.1 Acoustic Fiberglas Batt: CAN/ULC-S702 Type 1 and ASTM C665 Type 1, unfaced, EcoLogo certified with minimum 35% recycled content, thickness required to fill stud depth indicated; Acceptable Products: Johns Manville Sound-SHIELD, Owens Corning QuietZone.

.2 Mineral Wool Fire Batt Insulation: CAN/ULC-S702 Type 1 and ASTM C665 Type 1, ULC listed and tested to CAN/ULC-S102, thickness required indicated; Acceptable Products: Fibrex SAFB, Roxul AFB.

2.4 ATTACHMENT DEVICES AND ACCESSORIES

.1 Impaling Pins and Clips: Corrosion-resistant spindle anchor and self-locking washer type consisting of perforated metal plates with spindle welded to center and self-locking washers.

.2 Foam-in-Place Insulation: low-expansion, single component polyurethane insulation. Compatible with specified rigid insulation.

.3 Adhesive: Type recommended by insulation manufacturer for application.

Part 3 Execution

3.1 EXAMINATION

.1 Section 01 71 00 – Examination and Preparation: Verify existing conditions before starting work.

.2 Verify that substrate, adjacent materials, and insulation boards are dry and ready to receive insulation and adhesive.

.3 Verify substrate surface is flat, free of honeycomb, fins, irregularities, materials or substances that may impede adhesive bond.

3.2 PREPARATION

.1 Clean substrates of substances harmful to insulation or vapour retarders, including removing projections capable of puncturing vapour retarders or interfering with insulation attachment.

.2 Clean all surfaces free of dirt, grime, grease, oil or other substances which would be detrimental to proper bond of adhesives.

3.3 INSTALLATION - GENERAL

.1 Install insulation after building substrate materials are dry.

.2 Comply with insulation manufacturer's written instructions and recommendation applicable to products and application indicated.

.3 Install insulation in largest possible size to cover areas indicated on Drawings, closely butted together at sides, ends, and against walls, and structural members.

.4 Extend insulation to the full thickness shown over entire area to be insulated. Neatly cut and fit insulation tightly around obstructions, projections such as pipes, conduits, hangers and other elements, and fill voids with insulation. Remove debris in conflict with insulation installation.

.5 Trim insulation neatly to fit spaces. Insulate miscellaneous gaps and voids.

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

.7 Keep insulation minimum 3 inches from heat emitting devices such as recessed light fixtures.

.8 Do not install any insulation that becomes damaged during the course of installation or is no longer in a physical condition to function for the use intended and replace with new material.

.9 Exercise care to avoid damage and soiling of faces on insulation units which will remain exposed to view. Abut joints accurately with adjoining surfaces set flush.

.10 Attach insulation in a manner to ensure stability and eliminate sagging.

.11 Apply a single layer of insulation to the required thickness, unless a double layer is required, to make up the total thickness shown. Concealed layers of material must not have a vapour retarder facing.

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

.13 Do not enclose insulation until it has been inspected by Departmental Representative.

3.4 INSTALLATION OF BATT INSULATION

.1 Install insulation in accordance with ASTM C 1320.

.2 Install batts in cavities formed by framing members as follows:

.3 Use batt widths and lengths that fill the cavities formed by framing members. If more than one length is required to fill cavity, provide lengths that will produce a snug fit between ends.

.4 Place batts in cavities formed by framing members to produce a friction fit between edges of insulation and adjoining framing members.

3.5 PROTECTION OF FINISHED WORK

.1 Do not permit work to be damaged prior to covering insulation.

END OF SECTION

Part 1 General

1.1 REFERENCES

.1 ASTM E 1643-98 - Standard Practice for Installation of Water Vapor Retarders Used in Contact with Earth or Granular Fill Under Concrete Slabs.

1.2 DEFINITION

.1 Vapour Retarder: A material or assembly of materials that resists water vapour diffusion through it.

1.3 SUBMITTALS

.1 Section 01 33 00 - Submittal Procedures.

.2 Product Data: Provide data indicating material characteristics, performance criteria, limitations.

Part 2 Products

2.1 SHEET MATERIALS

.1 Air/Vapour Barrier (Peel and Stick Membrane): Self-adhering air and vapour retarder, waterproofing and transition membrane, SBS-modified membrane, minimum 1.0 mm (40 mil) thickness. Top face of membrane to be compatible with subsequent coverings. Provide primer and lap sealant where recommended by manufacturer

.1 Air permeability to ASTM E283: 0.02 L/sec·m² (0.004 cfm/ft²)

.2 Water vapour permeability to ASTM E96: 2.0 ng/Pa·s·m² (0.035 perm)

2.2 ACCESSORIES

.1 Seam tape: pressure sensitive type recommended by manufacturer.

.2 Pipe Boot: Construct pipe boots from vapour retarder material and pressure sensitive tape per manufacturer's instructions; alternatively, provide manufacturers’ pre-moulded pipe boot.

.3 Sealant: Butyl, specified in Section 07 92 00 - Joint Sealants.

Part 3 Execution

3.1 EXTERIOR WALL VAPOUR RETARDER

.1 Install vapour retarder in exterior walls without gaps or voids. Lap joints minimum 6 inch and seal with butyl sealant.

.2 Place vapour retarder so that it is on the warm side of the insulation.

.3 Adhere vapour retarder to steel framing using butyl sealant.

.4 Extend vapour retarder tight to full perimeter of adjacent window and door frames and other items interrupting the plane of membrane.

.1 Seal in place with butyl sealant.

.2 Coordinate vapour retarder and air seal sections.

3.2 SELF-ADHESIVE MEMBRANE INSTALLATION

.1 Install in accordance with manufacturer's instructions.

.2 Verify compatibility of membrane top face with coverings, including metal flashings and stucco finishes.

.3 Prime surfaces to receive membranes where required by manufacturer.

.4 Extend and seal membranes through openings and wall and roof interfaces to provide continuity of vapour and air barrier envelope.

.5 Install membranes to waterproof locations as indicated.

END OF SECTION

Part 1 General

1.1 REFERENCES

.1 ASTM E 1186 - Standard Practices for Air Leakage Site Detection in Building Envelope and Air Retarder Systems.

.2 SWRI (Sealant, Waterproofing and Restoration Institute) - Sealant and Caulking Guide Specification.

1.2 PERFORMANCE REQUIREMENTS

.1 Provide continuity of air seal materials and assemblies in conjunction with other materials and assemblies.

1.3 SUBMITTALS

.1 Submit to Section 01 33 00 - Submittal Procedures.

.2 Product Data: Provide data on material characteristics, performance criteria, limitations.

1.4 QUALITY ASSURANCE

.1 Perform Work to SWRI - Sealant and Caulking Guide Specification requirements for materials and installation.

.2 Applicator: Company specializing in performing the work of this section with minimum five years documented experience.

1.5 COORDINATION

.1 Coordinate the work of this section with all sections referencing this section.

Part 2 Products

2.1 SHEET MATERIALS

.1 Peel and Stick Membrane:

.1 Self-adhering air and vapour retarder.

.2 Waterproofing and transition membrane.

.3 SBS-modified membrane, minimum 1.0 mm (40 mil) thickness.

.4 Top face of membrane compatible with subsequent coverings.

.5 Provide primer and lap sealant where recommended by manufacturer.

.6 Air permeability to ASTM E283: 0.02 L/sec·m² (0.004 cfm/ft²).

.7 Water vapour permeability to ASTM E96: 2.0 ng/Pa·s·m² (0.035 perm)

2.2 ACCESSORIES

.1 Seam tape: Air barrier manufacturer's proprietary or recommended tape, high tack adhesive, UV resistant.

.2 Sealant: Butyl type; to Section 07 92 00 - Joint Sealants.

Part 3 Execution

3.1 EXAMINATION

.1 Verify that surfaces and conditions are ready to accept the Work of this section.

3.2 PREPARATION

.1 Remove loose or foreign matter which might impair adhesion of materials.

.2 Clean and prime substrate surfaces to receive adhesive and sealants to manufacturer’s instructions.

3.3 INSTALLATION

.1 Install materials to manufacturer's written instructions.

.2 Sheet Seal Over Solid Substrate: Secure sheet seal to gypsum board materials. Caulk with Butyl sealant to ensure complete seal. Position lap seal over firm bearing.

.3 Air Seal For Wall/Roof Junction: Lap sheet seal onto roof vapour retarder, ice dam protection, and air barrier materials and seal with sealant. Caulk to ensure complete air seal. Position lap seal over firm bearing.

.4 Install sheet seal between window and door frames and adjacent wall seal materials with sealant. Caulk to ensure complete seal. Position lap seal over firm bearing.

.5 Apply sealant within recommended application temperature ranges. Consult manufacturer when sealant cannot be applied within these temperature ranges.

3.4 SELF-ADHESIVE MEMBRANE INSTALLATION

.1 Install in accordance with manufacturer's instructions.

.2 Verify compatibility of membrane top face with coverings, including metal flashings and stucco finishes.

.3 Prime surfaces to receive membranes where required by manufacturer.

.4 Extend and seal membranes through openings and wall and roof interfaces to provide continuity of vapour and air barrier envelope.

.5 Install membranes to waterproof locations as indicated.

3.5 PROTECTION OF FINISHED WORK

.1 Do not permit adjacent work to damage work of this section.

END OF SECTION

Part 1 General

1.1 REFERENCES

.1 ASTM C1002-07 -Steel Self-Piercing, Tapping Screws for the Application of Gypsum Panel Products or Metal Plaster Bases to Wood Studs or Steel Studs.

.2 ASTM C1396/C1396M-06a -Gypsum Board.

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

.4 CAN/CGSB-37-GP-56M-1985-Membrane Modified, Bituminous, Prefabricated, and Reinforced for Roofing.

.5 CAN/ULC-S704-03 -Thermal Insulation, Polyurethane and Polyisocyanurate, Boards, Fixed.

.6 Province of Alberta Roofing Contractors Association – Roofing Specifications Manual.

1.2 SYSTEM DESCRIPTION

.1 Assembly of components include two ply membrane system, bitumen adhered, with granulated surface, with vapour retarder and insulation.

1.3 ADMINISTRATIVE REQUIREMENTS

.1 Coordination:

.1 Coordinate with other work having a direct bearing on work of this section.

.2 Coordinate the work with the installation of associated metal flashings, as the work of this section proceeds.

1.4 SUBMITTALS FOR REVIEW

.1 Section 01 33 00 - Submittal Procedures.

.2 Shop Drawings: Indicate setting plan for tapered insulation, layout of seams, direction of laps, base flashing details.

.3 Product Data: Provide membrane materials, base flashing materials, insulation, vapour retarders, deck covering.

1.5 SUBMITTALS FOR INFORMATION

.1 Section 01 33 00 - Submittal Procedures.

.2 Installation Data: Manufacturer's special installation requirements, including special precautions required for seaming the membrane.

1.6 QUALITY ASSURANCE

.1 Perform Work in accordance with ARCA Manual and manufacturer's instructions.

.2 Maintain one (1) copy of each document on site.

.3 Manufacturer Qualifications: Company specializing in manufacturing the Products specified in this section with minimum ten (10) years documented experience.

.4 Installer Qualifications: Company specializing in performing the work of this section with minimum ten (10) years documented experience.

1.7 DELIVERY, STORAGE, AND HANDLING

.1 Deliver products in manufacturer's original containers, dry, undamaged, seals and labels intact.

.2 Store products in weather protected environment, clear of ground and moisture.

.3 Stand roll materials on end.

1.8 ENVIRONMENTAL REQUIREMENTS

.1 Do not apply roofing membrane during inclement weather.

.2 Do not apply roofing membrane to damp or frozen deck surface.

.3 Do not expose materials vulnerable to water or sun damage in quantities greater than can be weatherproofed during same day.

1.9 WARRANTY

.1 Contractor's Warranty: Provide ARCA five (5) year Certificate of Assurance on roofing, dated from time of Substantial Performance.

Part 2 Products

2.1 MEMBRANE MATERIALS

.1 Membrane: CAN/CGSB-37-GP-56M, Asphalt and polymer modifiers of styrene-butadiene-styrene (SBS) prefabricated sheet.

.1 Base Sheet Membrane: non-woven polyester reinforcement, weighing 180 g/m².

.1 Application: fully adhered:

.1 Top surface thermofusible plastic film.

.2 Underside sanded.

.2 Base Sheet Flashing: non-woven polyester reinforcement, weighing 180 g/m².

.1 Application: fully adhered:

.1 Both sides thermofusible plastic film.

.3 Cap Sheet Membrane and Cap Sheet Flashing: non-woven polyester reinforcement and elastomeric bitumen with flame-retarding agent, weighing 250 g/m².

2.2 BITUMEN MATERIALS

.1 Asphalt: CSA-A123.4, Type 2

.2 Asphalt Primer: CGSB-37-GP-9Ma.

2.3 DECK COVERING MATERIALS

.1 Gypsum Sheathing: ASTM C1396/C1396M, sheathing grade 16 mm thick; uncoated face, fire rated type, with sheathing joint tape.

2.4 VAPOUR RETARDER

.1 Self-adhesive vapour barrier membrane.

2.5 INSULATION

.1 Insulation: CAN/ULC-S701, CAN/ULC- S102.2 EPS rigid board.

.1 Use sloped EPS insulation for all sloped roof areas and back slopes.

2.6 COVER BOARD

.1 Cellulose Fibreboard: CAN/ULC-S706, 13 mm thick; ship lapped asphalt saturated.

2.7 METAL FLASHINGS

.1 Counter Flashings: Prefinished metal, specified in Section 07 62 00 - Sheet Metal Flashing and Trim.

2.8 ACCESSORIES

.1 Sheathing Fasteners: ASTM C1002, steel drill type, for mechanical attachment of gypsum sheathing to metal deck.

.2 Fasteners: Galvanized, appropriate for purpose intended and approved by Factory Mutual and system manufacturer; length required for thickness of material with metal washers.

.3 Sealants: As recommended by membrane manufacturer.

Part 3 Execution

3.1 EXAMINATION

.1 Verify that surfaces and site conditions are ready to receive work.

.2 Verify deck is supported and secured.

.3 Verify deck is clean and smooth, free of depressions, waves, or projections, properly sloped to drains, valleys or eaves.

.4 Verify deck surfaces are dry and free of snow or ice. Verify flutes of metal deck are clean and dry.

.5 Verify roof openings, curbs, pipes, conduit, sleeves, ducts, and vents through roof are solidly set, and wood cant strips and wood nailing strips are in place.

3.2 PREPARATION - METAL DECK

.1 Install deck sheathing onto the steel deck to Factory Mutual requirements, bulletin 1-28 for installation of boards to roof perimeters and corners, to meet 1-90.

.2 Lay with long side at right angle to flutes; stagger end joints; provide support at ends.

.3 Cut sheathing cleanly and accurately at roof breaks and protrusions to provide smooth surface.

3.3 VAPOUR RETARDER APPLICATION

.1 Install in accordance with manufacturer's written instructions.

3.4 INSULATION APPLICATION

.1 Install insulation to manufacturer written instructions.

.2 Mop first layer of insulation to vapour retarder with hot asphalt at rate of 1 kg/m².

.3 Mop second layer of insulation to first layer of insulation with hot asphalt at rate of 1 kg/m².

.4 Install the second layer of insulation with joints staggered minimum 150 mm from joints of first layer.

.5 Place the constant thickness first layer and the tapered thickness insulation second layer to the required slope pattern in accordance with manufacturer's written instructions.

.6 Minimum Total Insulation Thickness: To match existing roof insulation thickness.

.7 Lay boards with edges in moderate contact without forcing. Cut insulation to fit nearly to perimeter blocking and around penetrations through roof.

.8 Apply no more insulation than can be covered with membrane in same day.

.9 Install cover boards in full mopping of bitumen in accordance with manufacturer's written instructions.

3.5 MEMBRANE APPLICATION

.1 Apply membrane and primer to manufacturer written instructions.

.2 Apply membrane; lap and seal edges and ends permanently waterproof.

.3 Apply membrane smooth, free from air pockets, wrinkles, or tears. Ensure full bond of membrane to substrate.

.4 Extend membrane up cant strips and minimum of 200 mm onto vertical surfaces.

.5 Extend membrane over vapour and air barrier of wall construction and seal.

.6 Mop and seal membrane around roof protrusions and penetrations.

.7 Provide waterproof cut-off to membrane at end of day's operation. Remove cut-off before resuming roofing.

3.6 FLASHINGS AND ACCESSORIES

.1 Apply base flashings to seal membrane to vertical elements.

.2 Fabricate roofing control and expansion joints to isolate roof into areas as indicated.

.3 Coordinate installation of roof drains, sumps, curbs, and related flashings.

.4 Seal flashings and flanges of items penetrating or protruding through the membrane.

.5 Install vent stack covers and other roof penetration flashings and seal to membrane and vapour barrier in accordance with the manufacturer's recommendations and details.

.6 Seal pipe and other penetrations through roof deck using backer rod and sealant.

.7 Coordinate placement and waterproofing of roof drains.

3.7 METAL WORK

.1 Fabricate metal flashing to profiles indicated and in accordance with Section 07 62 00 - Sheet Metal Flashing and Trim.

.2 Install metal flashings as detailed and in longest practical lengths.

.3 Use concealed fastenings except where approved before installation.

.4 Lock end joints using “S” lock style and caulk with sealant.

3.8 FIELD QUALITY CONTROL

.1 Section 01 45 00 – Quality Control.

.2 Provide inspection services in accordance with ARCA warranty requirements.

.3 Monitor and report installation procedures, unacceptable conditions and environmental conditions.

.4 Correct identified defects or irregularities.

3.9 CLEANING

.1 In areas where finished surfaces are soiled by work of this section, consult manufacturer of surfaces for cleaning advice and comply with their documented instructions.

.2 Repair or replace defaced or disfigured finishes caused by work of this section.

3.10 PROTECTION OF FINISHED WORK

.1 Protect building surfaces against damage from roofing work.

.2 Where traffic must continue over finished roof membrane, protect surfaces.

END OF SECTION

Part 1 General

1.1 REFERENCES

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

.1 ASTM A653/A653M-01a, Standard Specification for Steel Sheet, Zinc-Coated (Galvanized) or Zinc-Iron Alloy-Coated (Galvannealed) by the Hot-Dip Process.

.2 ASTM B209-06, Standard Specification for Aluminum and Aluminum-Alloy Sheet and Plate.

1.2 SUBMITTALS

.1 Section 01 33 00 – Submittal Procedures.

.2 Shop Drawings: Indicate material profile, jointing pattern, jointing details, fastening methods, flashings, terminations, and installation details.

.3 Submit two samples 50 x 50 mm (2 x 2 inch) in size illustrating metal finish colour.

1.3 QUALIFICATIONS

.1 Fabricator and Installer: Company specializing in sheet metal flashing work with 5 years documented experience.

1.4 DELIVERY, STORAGE, AND HANDLING

.1 Deliver, store, protect and handle products to site.

.2 Stack preformed and prefinished material to prevent twisting, bending, or abrasion, and to provide ventilation. Slope metal sheets to ensure drainage.

.3 Prevent contact with materials which may cause discolouration or staining.

Part 2 Products

2.1 SHEET MATERIALS

.1 Prepainted Galvanized Steel Sheet: ASTM A653/A653M, 0.66 mm (0.026 inch, 24 gauge) zinc coated galvanized steel sheet. Colour selection by Departmental Representative from unrestricted Baycoat 8000 series.

.2 Aluminum Sheet: ASTM B209, 1.2 mm (0.050 inch) thickness, brake formed. Clear anodized to AA-C22-A41 Class I finish.

2.2 ACCESSORIES

.1 Fasteners: Finish exposed fasteners same as flashing metal. Permitted only on approval of Departmental Representative.

.2 Exposed Sealant: Silicone type, as specified in Section 07 92 00; colour to match sheet metal finish.

.3 Bedding Sealant: Butyl, as specified in Section 07 92 00.

.4 Protective Backing Paint: Bituminous.

2.3 FABRICATION

.1 Form sections true to shape, accurate in size, square, and free from distortion or defects.

.2 Fabricate cleats of same material as sheet, minimum 50 mm (2 inches) wide, interlockable with sheet.

.3 Form pieces in longest possible lengths.

.4 Hem exposed edges on underside 13 mm (1/2 inch); mitre and seam corners.

.5 Form material with flat lock seams.

.6 Fabricate vertical faces with bottom edge formed outward 6 mm (1/4 inch) and hemmed to form drip.

.7 Fabricate flashings to allow toe to extend 50 mm (2 inches) over roofing gravel. Return and brake edges.

2.4 FINISH

.1 Back paint concealed metal surfaces with protective backing paint to a minimum dry film thickness of 0.4 mm (15 mil).

Part 3 Execution

3.1 EXAMINATION

.1 Verify roof openings, curbs, pipes, sleeves, ducts, or vents through roof are solidly set, reglets in place, and nailing strips located.

.2 Verify roofing termination and base flashings are in place, sealed, and secure.

3.2 PREPARATION

.1 Install starter and edge strips, and cleats before starting installation.

3.3 INSTALLATION

.1 Secure flashings in place using concealed fasteners. Use exposed fasteners only where permitted.

.2 Fit flashings tight in place. Make corners square, surfaces true and straight in planes, and lines accurate to profiles.

.3 Seal metal joints watertight.

END OF SECTION

Part 1 General

1.1 REFERENCES

.1 Underwriters' Laboratories of Canada (ULC).

.1 Guide BXUVC, Fire Resistance Ratings.

.2 Guide CHPXC, Spray-Applied Fire Resistive Material.

.3 CAN/ULC-S101-1989, Standard Methods of Fire Endurance Tests of Building Construction and Materials.

.2 Underwriters Laboratories Inc. (UL).

.1 Guide BXRH7, Fire Resistance Ratings Certified for Canada.

.2 Guide CHPX7, Spray-applied Fire Resistive Materials Certified for Canada.

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

.1 ASTM E 605-93(2000), Standard Test Methods for Thickness and Density of Sprayed Fire Resistive Material (SFRM) Applied to Structural Members.

.4 Association of the Wall and Ceiling Industry (AWCI).

.1 Technical Manual 12-A, 3rd Edition; Standard Practice for the Testing and Inspection of Field Applied Sprayed Fire-Resistive Materials; an Annotated Guide - 122

1.2 DEFINITIONS

.1 SFRM: Spray-applied Fire Resistive Materials, as defined by Underwriters' Laboratories of Canada.

1.3 QUALITY ASSURANCE

.1 Refer to Section 01 45 00 - Quality Control.

1.4 STORAGE AND HANDLING

.1 Deliver materials to the project in manufacturer's unopened packages, fully identified as to trade name, type and other identifying data. Packaging shall bear the UL and ULC labels for fire hazard and fire-resistance classifications.

.2 Store materials above ground, in a dry location, protected from weather, moisture and areas of high humidity. Damaged packages found unsuitable for use should be rejected and removed from the project.

1.5 SUBMITTALS

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

.2 Submit proof of installer approval by manufacturer.

.3 Manufacturer's Data: Submit manufacturer's instructions for proper application of fireproofing.

.4 Fire Testing: Submit evidence that the fireproofing has been subjected to full-scale ASTM E119 fire testing at Underwriters Laboratories Inc. by the manufacturer.

.5 Thickness Schedule: Provide schedule indicating material to be used, building elements to be protected with spray applied fireproofing, hourly rating and material thickness provided and appropriate references.

.6 Submit WHMIS Material Safety Data Sheets.

.7 Engineering Judgement: For assemblies not tested and rated, submit proposals based on related ULC designs using accepted fireproofing design criteria. Proposals will be reviewed by Departmental Representative and Authority Having Jurisdiction. Allow 14 days for review of proposals.

1.6 ENVIRONMENTAL CONDITIONS

.1 At outdoor temperatures less than 5°C, ensure that a 5°C air and substrate temperature is maintained during and for 24 hours after application. Provide heated enclosures to maintain temperatures.

.2 Provide ventilation to allow for drying of fireproofing during and subsequent to its application. In enclosed areas, ventilation shall be not less than 4 complete air changes per hour.

.3 Provide temporary enclosures to prevent spray from contaminating air beyond application area.

.4 Protect adjacent surfaces, flooring and equipment from damage by overspray, fall-out, and dusting of fireproofing materials.

Part 2 Products

2.1 SPRAY-APPLIED FIRE RESISTIVE MATERIALS (SFRM)

.1 SFRM: Cementitious wet or dry mix, ULC Listed or UL Certified for use in Canada when tested in accordance with CAN/ULC-S101.

.2 Fire Resistance Rating: as indicated.

.3 Density: Medium, minimum 22 pcf when tested to ASTM E605.

.4 Water: Potable and free from mineral or organic substances that may affect set of the SFRM.

2.2 ACCESSORIES

.1 Provide installation accessories required by ULC/UL fire resistance design or site conditions including, but not limited to; bonding agents, mechanical attachments, metal lath, scrim, or netting, curing compound, and sealer.

Part 3 Execution

3.1 EXAMINATION

.1 All surfaces to receive SFRM/SFRTB to be free of oil, grease, loose mill scale, dirt, paints/primers (other than those listed and tested) or other foreign materials, which would impair bonding.

.2 Where necessary, cleaning or other corrections of surfaces shall be the responsibility of the supplier of the incompatible substrate.

.3 Application of the fireproofing shall not begin until the Departmental Representative, applicator and testing laboratory (inspector) have examined surfaces and determined that surfaces are acceptable to receive the material.

.4 Verify that spray-applied foam insulation has cured prior to application of SFRTB. Coordinate with Section 07 21 00 – Thermal Insulation.

3.2 PREPARATION

.1 Clips, hangers, supports, sleeves and other attachments to the substrate are to be placed prior to the application of SFRM/SFRTB.

.2 Verify that ducts, piping, equipment, or other items which would interfere with application of SFRM/SFRTB are not positioned until SFRM/SFRTB work is completed.

.3 Complete placing of concrete on floor and roof decking prior to application of the SFRM to the underside of steel deck and supporting beams and joists.

.4 On roof decks without concrete cover, complete roofing application and roof mounted equipment installation prior to application of the SFRM to the underside of roof decking and supporting beams and joists.

.5 Prohibit all roof traffic upon commencement of the SFRM application and until the SFRM material is dry.

.6 Provide masking, drop cloths or other suitable coverings to prevent overspray from coming in contact with surfaces not intended to be sprayed.

3.3 APPLICATION

.1 Equipment, mixing and application shall be in accordance with the manufacturer's written application instructions.

.2 Bonding materials (adhesives, catch coats, metal lath, mesh, stud pins, etc.) shall be applied as per the appropriate ULC/UL fire resistance design and manufacturer's written recommendations.

.3 Apply bonding adhesive, primer and spatter coat to substrate if recommended by manufacturer.

.4 Apply SFRM/SFRTB over substrate, building up to required thickness to cover substrate with monolithic blanket of uniform density and texture.

3.4 INSPECTION AND TESTING

.1 Inspection and testing of SFRM/SFRTB will be carried out by Testing Laboratory designated by Departmental Representative.

.2 The spray-applied fire resistive material and thermal barrier shall be tested for thickness and density in accordance with ASTM E605 or AWCI.

3.5 PATCHING

.1 Patch damage to fireproofing caused by testing or by other trades before fireproofing is concealed, or if exposed, before final inspection.

.2 All patching of and repair to sprayed fire protection, due to damage by other trades, shall be performed under this Section and paid for by the trade responsible for the damage.

.3 Appearance of patches in exposed areas to be identical to main field application in colour, texture and thickness, when viewed from expected vantage points.

3.6 CLEANING

.1 Refer to Section 01 74 11 - Cleaning.

END OF SECTION

Part 1 General

1.1 REFERENCES

.1 Underwriters' Laboratories of Canada (ULC).

.1 Guide BXUVC, Fire Resistance Ratings.

.2 Guide XHEZC, Firestop Systems.

.3 CAN/ULC-S101, Standard Methods of Fire Endurance Tests of Building Construction and Materials.

.4 CAN/ULC-S102, Standard Test Method for Surface Burning Characteristics of Building Materials.

.5 CAN/ULC-S115, Standard Method of Fire Tests of Firestop Systems.

.2 Underwriters Laboratories Inc. (UL).

.1 Guide BXUV7, Fire Resistance Ratings Certified for Canada.

.2 Guide XHEZ7, Through-penetration Firestop Systems Certified for Canada.

.3 UL 2079, Tests for Resistance of Building Joint Systems.

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

.1 ASTM E2174, Standard Practice for On-site Inspection of Installed Fire Stops.

.2 ASTM E2307, Standard Test Method for Determining Fire Resistance of Perimeter Fire Barrier Systems Using Intermediate-Scale, Multi-story Test Apparatus.

.3 ASTM E2393, Standard Practice for On-Site Inspection of Installed Fire Resistive Joint Systems and Perimeter Fire Barriers.

.4 International Firestop Council (IFC).

.1 Guidelines for Evaluating Firestop Systems Engineering Judgments.

1.2 DEFINITIONS

.1 Firestopping: Material or combination of materials used to retain integrity of fire-rated construction by maintaining an effective barrier against the spread of flame, smoke, water and hot gases through penetrations and joints between fire rated wall, floor and roof assemblies.

.2 System Design: An assembly of products designed to maintain the integrity of fire-rated construction when tested in accordance with CAN/ULC-S115, designed by a voting IFC member, certified by an independent ULC licensed testing agency, and ULC/UL Listed.

1.3 QUALITY ASSURANCE

.1 Firestop installation must meet requirements of CAN/ULC-S115 tested assemblies.

.2 For firestop applications for which no ULC or UL System Design is available through a manufacturer, a manufacturer's Engineering Judgment to be submitted to local Authorities Having Jurisdiction for review and approval prior to installation. Engineer

Judgment drawings must follow requirements set forth by the International Firestop Council.

.3 Installer Qualifications: Company specializing in performing the work of this section with minimum five years documented experience, certified by the firestop manufacturer.

1.4 QUALITY CONTROL

.1 Refer to Section 01 45 00 - Quality Control.

1.5 SUBMITTALS

.1 Section 01 33 00 - Submittal Procedures.

.2 Product Data: Provide data on product characteristics, performance and limitation criteria.

.3 Shop Drawings: Submit System Design listings, indicating ULC or UL design number and including illustrations, applicable to each firestop configuration. Where there is no System Design available for a particular firestop configuration, the Installer to pay for and obtain, from the firestop manufacturer, an Engineering Judgment (EJ) or Equivalent Fire Resistance Rated Assembly (EFRRA) for submittal.

.4 Schedule: Provide schedule indicating material to be used, building elements to be protected, hourly rating and appropriate references.

.5 Manufacturer's Installation Instructions: Indicate preparation and installation instructions.

.6 Submit material safety data sheets (MSDS) provided with products delivered to job site.

1.6 PERFORMANCE REQUIREMENTS

.1 Penetrations: Provide and install firestopping systems produced to resist the spread of fire, and the passage of smoke and other gases according to requirements indicated, including but not limited to the following:

.1 Firestop all penetrations passing through fire resistance rated wall and floor assemblies and other locations as indicated on the drawings.

.2 Provide and install complete penetration firestopping systems that have been tested and approved by third party testing agency.

.3 F - Rated Through-Penetration Firestop Systems: Provide through-penetration firestop systems with F ratings indicated, but not less than one hour or the fire-resistance rating of the construction being penetrated.

.4 T - Rated Through-Penetration Firestop Systems: Provide firestop systems with T ratings, in addition to F ratings, where required by Code.

.5 L – Rated Through-Penetration Firestop Systems: Provide firestop systems with L ratings, in addition to F and T ratings, where required by Code.

.6 W – Rated Through-Penetration Firestop Systems: Provide firestop systems with W Water Resistance ratings, in addition to F, T and L ratings, where indicated.

.2 Perimeter Fire Containment Systems: Provide interior perimeter joint systems with fire-resistance ratings indicated, but not less than the fire-resistance rating of the floor construction.

.3 Fire-Resistive Joints: Provide joint systems with fire-resistance ratings indicated, but not less than the fire-resistance rating of the construction in which the joint occurs.

.4 For firestopping exposed to view, traffic, moisture, and physical damage, provide appropriate firestop systems for these conditions.

1.7 ENVIRONMENTAL REQUIREMENTS

.1 Comply with manufacturer's recommended requirements for temperature, relative humidity and substrate moisture content during application and curing of materials.

.2 Do not proceed with installation of firestopping materials when temperatures or weather conditions exceed manufacturer's recommendations.

.3 Ventilate solvent based and moisture-cure firestopping per manufacturer's instructions by natural means or, where inadequate, by forced air circulation.

1.8 SINGLE SOURCE RESPONSIBILITY

.1 Obtain firestop systems for each kind of penetration and construction condition indicated from a single primary firestop systems manufacturer.

.2 Where selected firestop system manufacturer cannot provide a System Design to suit site conditions, provide a tested and listed firestop System Design from an alternate manufacturer before using an Engineering Judgment (EJ) or Equivalent Fire Resistance Rated Assembly (EFRRA).

1.9 SEQUENCING AND SCHEDULING

.1 Do not cover up firestopping installations until receipt of written notice from the Departmental Representative.

1.10 PRE-INSTALLATION CONFERENCE

.1 Conduct conference at Project site. Review methods and procedures related to firestopping including, but not limited to, the following:

.2 Review and finalize construction schedule and verify availability of materials, Installer's personnel, equipment, and facilities needed to make progress and avoid delays.

.3 Review methods and procedures related to firestopping installation.

.4 Verify reinforcement, blocking and other ancillary components required by the System Design, installed by others, are in place.

Part 2 Products

2.1 ACCEPTABLE MANUFACTURERS

.1 Provide firestopping and smoke seal systems only from manufacturers publishing ULC Listed or UL Certified For Use In Canada System Designs tested in accordance with CAN/ULC-S115.

2.2 ACCEPTABLE PRODUCTS

.1 Selection of appropriate system to maintain required fire resistance rating is the responsibility of the Installer.

.2 Selection to be based on specified performance requirements and is limited to ULC Listed or UL Certified For Use In Canada System Designs tested in accordance with CAN/ULC-S115.

.3 Substitution of products, components or accessories forming part of a System Design is not acceptable, unless accompanied by an EJ or EFRRA from the system manufacturer.

2.3 ACCESSORIES

.1 Primer: Type recommended by firestopping manufacturer for specific substrate surfaces.

.2 Installation Accessories: Clips, collars, fasteners, temporary stops or dams, and other devices required to position and retain materials in place, as required by System Design.

Part 3 Execution

3.1 EXAMINATION

.1 Verify openings are ready to receive the work of this section.

.2 Examine substrates and conditions for compliance with requirements for opening configurations, penetrating items, substrates, and other conditions affecting performance of firestopping.

.3 Verify that blocking, anchoring devices, back-up materials, clips, sleeves, supports and other related materials is in place where required by System Design.

.4 Do not apply firestopping to painted surfaces or surfaces treated with sealers, curing compounds, water repellent or other coatings unless compatibility of materials has been verified.

.5 Notify the Departmental Representative of unsatisfactory conditions. Do not proceed with installation until unsatisfactory conditions have been corrected.

.6 Commencement of Work will be considered acceptance of conditions.

3.2 PREPARATION

.1 Prime substrates where recommended by firestopping manufacturer using manufacturer's recommended products and methods. Limit priming to area of bond.

.2 Use masking tape to prevent firestopping from contacting adjoining surfaces scheduled to remain exposed. Remove tape on completion of installation, without disturbing the firestopping seal with substrates.

.3 Clean substrate surfaces of dirt, dust, grease, oil, loose material, or other matter which may affect bond of firestopping material.

.4 Remove incompatible materials which may affect bond.

3.3 INSTALLATION – GENERAL

.1 Install firestopping material and components in accordance with System Design and manufacturer's written instructions.

.2 Install permanent warning labels, provided by firestopping manufacturer, adjacent to openings that may be re-penetrated or disturbed. Include following information:

.1 Warning that opening has being firestop protected.

.2 System Design number.

.3 F rating or FT rating.

.4 Fire stop products used.

.5 Contact person and phone number in case of modification or new penetration of firestop system.

3.4 INSTALLING PENETRATION FIRESTOPS

.1 Verify that pipes, conduit, cable, and other items penetrating fire rated construction have been permanently installed prior to firestopping.

.2 Schedule work so partitions and other construction that conceals penetrations are not erected prior to firestopping.

.3 Install forming/damming materials and other accessories in accordance with manufacturers written instructions.

.4 Completely fill voids and cavities formed by openings, forming materials, accessories, and penetrating items.

.5 Install materials to contact and adhere to substrates formed by openings and penetrating items.

.6 Finish to produce smooth, uniform surfaces for fill materials to remain exposed.

3.5 INSTALLING FIRESTOP JOINT SYSTEMS

.1 Install joint fillers to provide support of firestop materials during application.

.2 Install in full contact with joint substrates.

.3 Completely fill recesses provided for joint configuration.

.4 Provide uniform, cross-sectional shapes and depths relative to joint width that optimize movement capability.

.5 Tool immediately after application and prior to skinning. Form smooth, uniform beads of configuration required to produce fire-resistance rating, eliminate air pockets and ensure contact and adhesion with sides of joint.

3.6 INSTALLING PERIMETER FIRE BARRIER SYSTEMS

.1 Install metal framing, curtain wall insulation, mechanical attachments, safing materials and firestop materials in accordance with System Design.

3.7 FIELD QUALITY CONTROL

.1 Notify Departmental Representative when completed installations are ready for inspection prior to concealing or enclosing area containing firestopping materials.

.2 Arrange for inspections by independent inspection agency.

.3 Where no deficiencies are found, provide repair of inspected installations, as required to comply with requirements of the System Design.

.4 Where deficiencies are found, repair or replace the fire stopping, at no cost, to comply with requirements of the System Design.

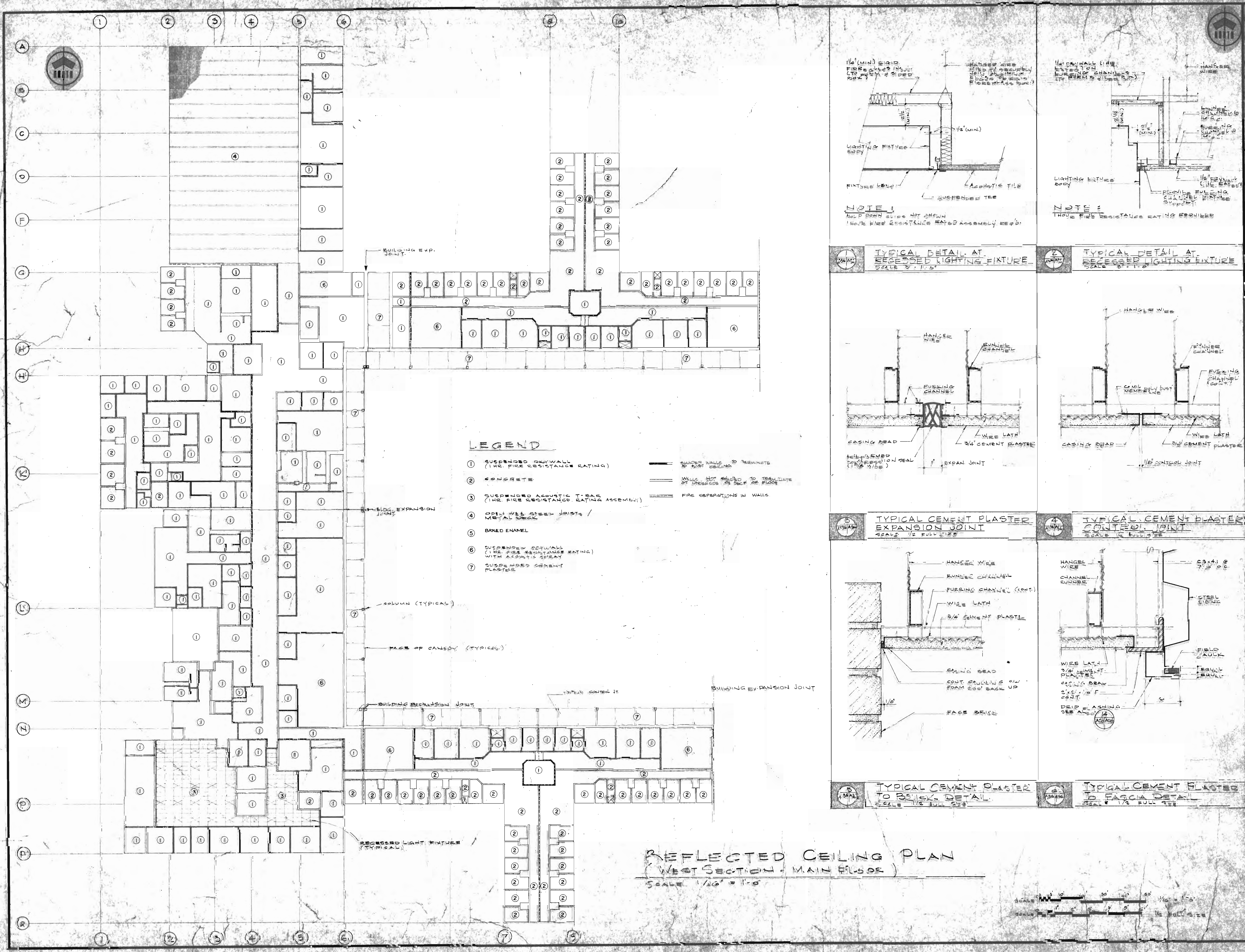
3.8 CLEANING

.1 Refer to Section 01 74 11 - Cleaning.

3.9 PROTECTION OF FINISHED WORK

.1 Protect firestopping during and after curing period from contact with contaminating substances. If damage caused by others, make appropriate repairs at no cost to Department Representative.

END OF SECTION



Public Works Canada / Travaux publics Canada

Western Region / Région de l'Ouest

J.W. ROSE ARCHITECTS LTD.

Underwood McLellan & Associates Limited
CONSULTING PROFESSIONAL ENGINEERS

0 - ISSUE FOR TENDER OCT. 15/76
1 - MODIFIED FOR "AS BUILT" SEPT. 18-80

AS BUILT
This drawing has been revised to show this building as built.
Certified
Date Nov. 24/80

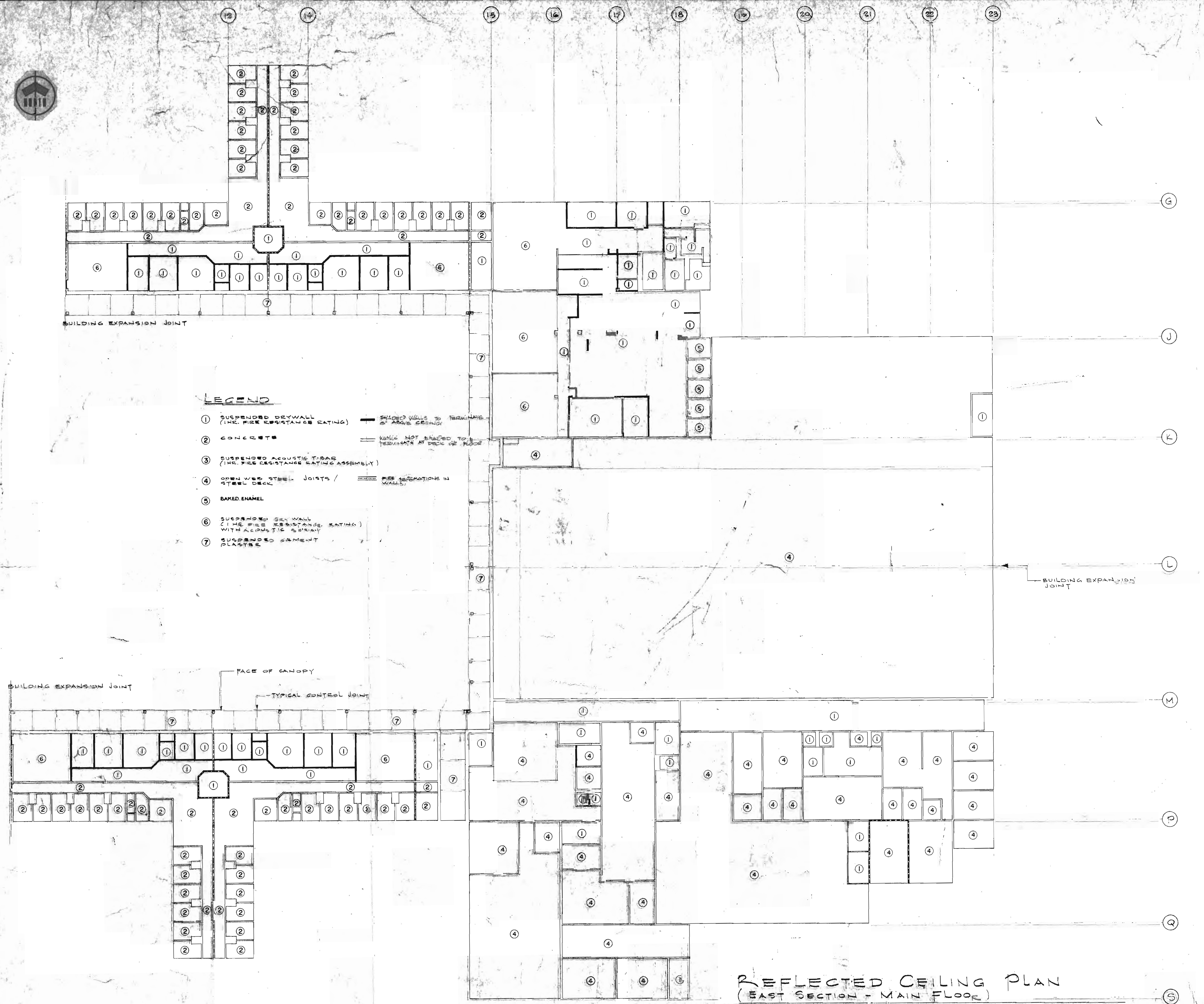
project title / titre du projet
EDMONTON ALBERTA
MAXIMUM SECURITY INSTITUTION
CANADIAN PENITENTIARY SERVICE

drawing title / titre du dessin
REFLECTED CEILING PLAN & DETAILS

designed by / conçu par: J. ROSE
date: OCT. 1976
drawn by / dessiné par: D. JANCZAK/W.DZIVER
date: OCT. 1976
reviewed by / examiné par: Oct. 76
approved by / approuvé par
date
Tender / Soumission
D.P.W. Project Manager / Administrateur de projets M.T.P.
project number / no. du projet: 85451
drawing no. / dessin no.: A8-A36-R1

3904-2

DPW 2005



LEGEND

1. SUSPENDED DRYWALL (1HR. FIRE RESISTANCE RATING)
2. CONCRETE
3. SUSPENDED ACOUSTIC T-BAR (1HR. FIRE RESISTANCE RATING ASSEMBLY)
4. OPEN WEB STEEL JOISTS / STEEL DECK
5. BAKED ENAMEL
6. SUSPENDED DRY WALL (1 HR FIRE RESISTANCE RATING) WITH ACOUSTIC SPRAY
7. SUSPENDED CEMENT PLASTER

- SHADED WALLS TO TERMINATE 6" ABOVE CEILING
- WALLS NOT SHADED TO TERMINATE AT DECK OR FLOOR
- FIRE SEPARATIONS IN WALLS.

REFLECTED CEILING PLAN
(EAST SECTION - MAIN FLOOR)

SCALE 1/16" = 1'-0"

SCALE 0 5 10 20 30 40 50 1/16" = 1'-0"

KEY PLAN

Public Works Canada | Travaux publics Canada

Western Region | Région de l'Ouest

J. W. ROSE ARCHITECTS LTD.

Underwood McLellan & Associates Limited
CONSULTING PROFESSIONAL ENGINEERS

revisions
0 - ISSUE FOR TENDER OCT. 18/76
1 - MODIFIED FOR 'AS BUILT' SEPT. 18-80

AS BUILT
This drawing has been reviewed to show this building as built.
Certified: [signature]
Date: Nov. 28/80

project title: EDMONTON, ALBERTA MAXIMUM SECURITY INSTITUTION
CANADIAN PENITENTIARY SERVICE

drawing title: REFLECTED CEILING PLAN

designed by: J. ROSE
date: OCT. 1976
drawn by: D. JANCZAK
date: OCT. 1976
reviewed by: J.W. Rose
date: Oct. 76
approved by:
date:
tender:
D.P.W. Project:
project number: 35451
drawing no.: AB-A37-RD

DPW 7005
TRANSTEX

Part 1 General

1.1 REFERENCES

.1 American Society for Testing of Materials (ASTM).

.1 ASTM C834-00e1, Standard Specification for Latex Sealants.

.2 ASTM C919-02, Standard Practice for Use of Sealants in Acoustical Applications.

.3 ASTM C920-02, Standard Specification for Elastomeric Joint Sealants.

.4 ASTM D2369-04, Standard Test Method for Volatile Content of Coatings.

.5 ASTM D5893-96, Standard Specification for Cold Applied, Single Component, Chemically Curing Silicone Joint Sealant for Portland Cement Concrete Pavements.

1.2 SUBMITTALS FOR REVIEW

.1 Section 01 33 00 - Submittal Procedures.

.2 Product Data: Provide data indicating sealant chemical characteristics, performance criteria, substrate preparation, limitations, and colour availability.

.3 Samples: Submit two sample ribbons of sealant, illustrating sealant colours for selection.

.4 Submit laboratory tests or data validating product compliance with performance criteria specified. Include SWRI validation certificate where required.

.5 Closeout Submittals: Sealant applicator to submit copies of the Manufacturer's Warranty.

1.3 QUALITY ASSURANCE

.1 Installer Qualifications: Qualified to perform work specified by reason of experience or training provided by product manufacturer. Submit reference list including minimum three projects of similar size and scope.

.2 Adhesion Pull Tests: the number of adhesion pull tests to be determined by manufacturers weatherseal warranty. Adhesion pull tests to be conducted by or in the presence of manufacturers representative. Manufacturer to supply Departmental Representative with results of adhesion pull tests. Sealant installer responsible for repairing areas where adhesion pull tests are conducted, without change to the Contract price.

.3 Manufacturer’s Representative: Coordinate with manufacturers representative to provide access to completed work areas until adhesion pull tests can be completed.

1.4 DELIVERY, STORAGE AND HANDLING

.1 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.

.2 Store products in a location protected from freezing, damage, construction activity, precipitation, and direct sunlight in strict accordance with manufacturer's recommendations.

.3 Condition products to approximately 16 to 21°C for use in accordance with manufacturer's recommendations.

1.5 ENVIRONMENTAL AND SAFETY 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 acceptable to Labour 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.

1.6 WARRANTY

.1 Provide manufacturer’s two-year material warranty for installed silicone sealant.

Part 2 Products

2.1 SEALANT MATERIALS

.1 Acoustical sealant: to ASTM C919, single component, non-hardening, non-skinning, synthetic rubber. Acceptable product: Tremco Acoustical Sealant.

.2 Butyl Sealant: to ASTM C1311, single component, solvent release, non-skinning, non-sagging, black colour.

.3 Polyurethane Sealant: Two-component, non-sag to ASTM C920, Type M, Grade NS, Class 25; with ±25% movement capability for vertical joints.

.4 Silicone, one part: to ASTM C 920, Type S, Grade NS, Class 25, single component neutral cure silicone sealant, plus minus 50% joint movement capability. Silicone, mildew resistant: to ASTM C 920, single component mildew resistant silicone sealant, +/- 25% movement capability.

.5 Low Modulus STP: single component, low modulus, silyl-terminated polyether (STP), to ASTM C920, Type M, Grade NS, Class 100/50; with +100% and -50% movement capability for vertical joints, colour as selected by Departmental Representative from full range.

.6 Polyurethane, self-levelling: to ASTM C 920, Type S, Grade P, Class 25, single component self-levelling polyurethane sealant with plus or minus 25 percent movement capability for horizontal joints.

.7 Epoxy, flexible: Poured flexible 100% solids epoxy joint filler. Acrylic latex: to ASTM C 834, single component general purpose siliconized acrylic latex sealant.

2.2 ACCESSORIES

.1 Primer: Type recommended by the sealant manufacturer and compatible with joint forming materials.

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

.3 Soft Backer Rod: to ASTM C 1330, non-gassing, reticulated closed-cell polyethylene rod designed for use with cold-applied joint sealants. Size required for joint design.

.4 Closed-Cell Backer Rod: to ASTM C 1330, closed-cell polyethylene rod designed for use with cold-applied joint sealants for on-grade or below-grade applications. Size required for joint design.

.5 Joint Filler: closed-cell polyethylene joint filler designed for use in cold joints, construction joints, or isolation joints wider than 6 mm. Size required for joint design.

.6 Bond Breaker: Pressure-sensitive tape recommended by sealant manufacturer to suit application.

2.3 COLOURS

.1 Unless indicated otherwise in respective technical specification sections, colour selection is at the option of the Departmental Representative.

2.4 SEALANT SCHEDULE

.1 Perimeters of exterior openings where frames meet exterior facade of building. All other exterior applications.

.1 Sealant type: Silicone, one part.

.2 Perimeters of interior door/window frames and surfaces, where required.

.1 Sealant type: Acrylic latex.

.3 Perimeter of washroom fixtures, countertop backsplash at wall.

.1 Sealant type: Silicone, mildew resistant.

.4 Building envelope applications (vapour barrier/vapour barrier, vapour barrier/wall opening, etc.):

.1 Sealant type: Acoustical sealant.

.5 Interior partitions and acoustic applications:

.1 Sealant type: Acoustical sealant.

.6 Brick veneer control joints.

.1 Sealant type: Silicone, one part.

.7 Interior concrete control joints and sawcuts.

.1 Sealant type: Epoxy, flexible.

.8 Perimeter of interior concrete slab.

.1 Sealant type: Polyurethane, self-levelling.

.9 For locations not included in this schedule, consult with Departmental Representative for proper selection of sealants.

Part 3 Execution

3.1 EXAMINATION

.1 Section 01 71 00 – Examination and Preparation: Verify existing conditions before starting work.

.2 Verify that substrate surfaces and joint openings are clean, dry, and free of frost and ready to receive work.

.3 Verify that joint backing and release tapes are compatible with sealant.

3.2 PREPARATION

.1 Remove loose materials and foreign matter which might impair adhesion of sealant.

.2 Clean and prime joints in accordance with sealant manufacturer's written instructions.

.3 Perform preparation in accordance with sealant manufacturer's written instructions.

.4 Protect elements surrounding the work of this section from damage or disfiguration.

3.3 INSTALLATION

.1 Install sealant in accordance with sealant manufacturer's written instructions.

.2 Mask edges of joint where irregular surface or sensitive joint border exists to provide neat joint.

.3 Measure joint dimensions and size materials to achieve required 2:1 width/depth ratios.

.4 Install joint backing to achieve a neck dimension no greater than 1/3 of the joint width.

.5 Install bond breaker where joint backing is not used.

.6 Install sealant free of air pockets, foreign embedded matter, ridges, and sags.

.7 Apply sealant within recommended application temperature ranges. Consult manufacturer when sealant cannot be applied within these temperature ranges.

.8 Tool joints concave.

3.4 FIELD QUALITY CONTROL

.1 Joint Sealants: Perform adhesion tests in accordance with manufacturer’s written instructions.

.1 Perform test 21 days after installation at a rate of one test every 300 m (1000 feet) of installed sealant.

.2 Remove sealants failing adhesion test, clean substrates, reinstall sealants and perform retesting.

.3 Maintain test log and submit report to Departmental Representative indicating tests, locations, dates, results, and remedial actions.

3.5 MANUFACTURER'S FIELD SERVICES

.1 Monitor and report installation procedures and unacceptable conditions.

3.6 CLEANING

.1 Section 01 74 11 - Cleaning: Cleaning installed work.

.2 Clean adjacent soiled surfaces.

3.7 PROTECTION OF FINISHED WORK

.1 Remove masking tape and excess sealant.

.2 Protect sealants until cured.

END OF SECTION