1 General

1.01 REFERENCES

.1 ASTM International (ASTM)

.1 ASTM E2174-14B, Standard Practice for On-Site Inspection of Installed Firestops

.2 ASTM E2393-10A(2015), Standard Practice for On-Site Inspection of Installed Fire Resistive Joint Systems and Perimeter Fire Barriers

.3 ASTM G21-15, Standard Practice for Determining Resistance of Synthetic Polymeric Materials to Fungi.

.2 National Research Council Canada (NRC)

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

.3 Underwriter's Laboratories of Canada (ULC)

.1 ULC-S115-1995, Fire Tests of Firestop Systems.

1.02 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.

1.03 ADMINISTRATION

.1 Pre-Construction Meeting: Conduct mandatory pre-construction meeting after Design System Listings Shop Drawings are reviewed by Departmental Representative.

.1 Ensure attendance by each subcontractor affected including but not limited to concrete, masonry, window, gypsum board/steel stud, mechanical and electrical, along with Firestopping subcontractor, Contractor, Departmental Representative and independent inspection agency.

.2 Provide copy of reviewed Design System Listings Shop Drawings for each attendee.

.3 Review standard installation procedures, scheduling / sequencing of other work around or affecting outcome of installation, precautions, annular opening sizes, wall/floor service single and multi – preparations, joints and perimeter joints shall be reviewed to ensure attendees understand full complexity of fire stop installation, based on approved Design System Listings Shop Drawings.

.4 Record minutes of meeting and distributing to attendees.

.2 Sequencing And Scheduling: Do not cover up firestopping installations until Departmental Representative or Authorities Having Jurisdiction have examined installation.

1.04 SUBMITTALS

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

.2 Product Data:

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

.2 Submit system design listings, including illustrations from qualified testing and inspection agency applicable to each firestop configuration. Indicate proposed material, reinforcement, anchorage, fastenings, and method of installation. Construction details should accurately reflect actual job conditions.

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

.4 Submit Design Listings Shop Drawings as follows:

.1 Provide list of each proposed Design Listing and corresponding service penetration type or joint type in a matrix spreadsheet schedule, indicating floor and wall system, including rating for each.

.2 Provide list of each proposed Design Listing with approximate total quantity or amounts of each listing per floor on separate sheet.

.3 Number each penetration corresponding to the exact number of plate penetration no. identified in Part 2.

.4 Provide copies of all fire and smoke stop system ULC or cUL Design No. listings for each penetration type for all areas located.

.5 Provide product data, MSDS and all other technical data information required as indicated in this section.

.3 Informational Submittals:

.1 Quality assurance submittals: submit following in accordance with Section [01 45 00 - Quality Control].

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

.2 Submit certified test reports from approved independent testing laboratories, indicating compliance of applied fire stopping with specifications for specified performance characteristics and physical properties.

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

.4 Provide certifications of each installer proposed on working on the Project.

.2 Manufacturer's Field Reports: submit manufacturer's written reports within 3 days of review, verifying compliance of Work, as described in PART 3 - FIELD QUALITY CONTROL

.4 Closeout Submittals:

.1 Operations and maintenance manual in accordance with Section 01 78 00 – Closeout Submittals.

.1 As-Builts:

.1 Provide as-built drawings, project manual, schedules, submittals, and firestop drawing details on site and make them available for periodic review by the Departmental Representative.

.2 Drawings, schedules, submittals and details shall be marked up on weekly basis showing alterations, changes and confirmation of each Design Listing in relationship to submittal documents.

.3 Indicate service penetrations, and joints for each reference wall, and floor in the submittal schedules. Record information by indicating and imputing all required descriptions based on actual on-site condition. Turn over schedules to Departmental Representative at end of project for electronic imputing for Owner's maintenance use.

1.05 QUALITY ASSURANCE

.1 Fire-Test-Response Characteristics: Provide firestopping System Design Listing by testing and inspection agency in accordance with appropriate ASTM standard(s).

.1 Qualified testing and inspection agencies include UL, ULC, cUL, Intertek Testing Services, or another agency performing testing and follow-up inspection services for firestop materials that is acceptable to authority having jurisdiction.

.2 Installer qualifications:

.1 Firestop Contractors International Association Contractor (FCIA) Member in good standing.

.2 Licensed by local authority, where applicable.

.3 Shown to have successfully completed not less than five comparable scale projects.

.3 Single Source Responsibility: Obtain firestop systems for each kind of penetration and construction conditions indicated from a single primary firestop systems manufacturer.

.1 Do not intermix materials of different manufacture than allowed by tested and listed system in the same firestop system or opening.

.2 Tested and listed firestop systems are to be used first. If such systems are not possible, install an Engineering Judgement (EJ) or Equivalent Fire Resistance Rated Assembly (EFRRA).

.4 Single Source Installation: Provide one sub-contractor for installation of all fire-stopping on project.

.5 Schedule pre-construction meeting for parties involved prior to start of construction.

1.06 DELIVERY, STORAGE, AND HANDLING

.1 Deliver firestopping products to Project Site in original, unopened containers, or packages with intact and legible manufacturer's labels identifying product and manufacturer.

.2 Store and handle firestopping materials in accordance with manufacturer's written instructions.

1.07 SITE CONDITIONS

.1 Environmental Conditions: Install firestopping in accordance with manufacturers written instructions.

.2 Ventilation: Ventilate in accordance with firestopping manufacturers' instructions or Material Safety Data Sheet (MSDS).

1.08 WASTE MANAGEMENT AND DISPOSAL

.1 Separate waste materials fore reuse, recycling in accordance with Section 01 74 21 – Construction/Demolition Waste Management and Disposal.

2 Products

2.01 DESIGN AND PERFORMANCE REQUIREMENTS

.1 Firestopping systems produced to resist spread of fire and passage of smoke and other gases according to requirements indicated, including but not limited to:

.1 Firestop perimeter joints and penetrations passing through fire resistance rated wall and floor assemblies, and other locations as indicated.

.2 Compatibility: Provide firestopping composed of components that are compatible with each other, substrates forming openings, and items penetrating firestopping under conditions of service and application, as demonstrated by firestopping manufacturer based on testing and field experience.

.3 Provide components for each firestopping system needed to install fill material. Use only components specified by firestopping manufacturer and approved by qualified testing agency for proposed fire-resistance-rated systems.

.4 Where there is no specific third party tested and classified firestop system is available for a particular firestop configuration, obtain Engineering Judgement (EJ) or Equivalent Fire Resistance Rated Assembly (EFFRA) for submittal from firestop manufacturer.

.5 Fire stopping and smoke seal systems: In accordance with ULC-S115.

.1 For service penetrations and joints through fire separation wall: Provide firestop system with "F" Rating as determined by ULC or cUL as indicated below:

.2	Fire Resistance	Required ULC or cUL "F"
.3	Rating of Separation	Rating of Firestopping Assembly
.4	0 minutes	60 minutes
.5	30 minutes	20 minutes

.6	45 minutes	45 minutes
.7	1 hour	45 minutes
.8	1.5 hours	1 hour
.9	2 hours	1.5 hours
.10	3 hours	2 hours
.11	4 hours	3 hours

.12 For combustible pipe penetrations through Fire Separation: Provide firestop system with "F" Rating as determined by ULC or cUL which is equal to fire resistance rating of fire separation being penetrated.

.13 For penetrations through horizontal fire separation: Provide firestop system with "FT" Rating as determined by ULC or cUL which is equal to fire resistance rating of fire separation being penetrated.

.14 Penetrations in Smoke Barriers: Provide firestopping with ratings determined in accordance with ULC S115.

.1 L-Rating: Not exceeding 5.0 cfm/sq. ft. of penetration opening at both ambient and elevated temperatures.

.15 For joints at perimeter of fire separations provide firestop system with Assembly Rating as determined by CAN/ULC S115 or UL 2079 which is equal to fire resistance rating of adjacent fire separation.

.6 Firestop products produced by FCIA Manufacturer Members in good standing.

.7 Mold Resistance: Provide penetration firestoppping with mold and mildew resistance rating of 0 as determined by ASTM G21.

2.02 MATERIALS

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

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

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

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

.5 Primers: To manufacturer's recommendation for specific material, substrate, and end use.

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

.7 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.

.8 Sealants for vertical joints: Non-sagging.

.1 Maximum VOC Content: 250 g/L (less water)

.9 Labels: self-adhering-type metal labels with adhesives capable of permanently bonding labels to surfaces on which labels are placed. Include the following information on labels:

.1 The words "Warning - Penetration Firestopping - Do Not Disturb. Notify Building Management of Damage."

.2 Plate Penetration Number.

.3 Floor Level.

.4 Room Number.

.5 Product Name.

.6 ULC or cUL System Design No.

.7 Fire Rating Required: hour(s)

.8 Contractor's name, address, and phone number.

.9 Date of installation.

.10 Manufacturer's name.

.11 Installer's name.

.12 Re-penetrated by:

.13

Company	Installer	Date
.1		
.2		
.3		
.4		

3 Execution

3.01 EXAMINATION

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

.1 Notify Departmental Representative of unsatisfactory conditions.

.2 Do not proceed with installation until unsatisfactory conditions have been corrected.

.2 Examine sizes and conditions of voids to be filled to establish correct thicknesses and installation of materials.

.1 Ensure that substrates and surfaces are clean, dry and frost free.

.3 Verify that field dimensions are as indicated and as recommended by manufacturer.

.4 Perform field review of existing fire separations prior to commencing Work of this Section.

.1 Determine fire resistance ratings: Perform visual review of labels and markings on fire separations. Where labels and markings are not provided, review building as-built documents available from Departmental Representative.

.1 Submit written record of fire separation ratings for Departmental Representative’s review.

.2 Deficiencies: Where observed submit to Departmental Representative written report with photographs documenting deficiencies.

.1 Fire Separation deficiencies will be repaired by Departmental Representative under separate contract or as change to the Work at the sole discretion of the Departmental Representative.

3.02 PREPARATION

.1 Prepare surfaces in contact with firestopping materials and smoke seals to manufacturer's instructions.

.2 Maintain insulation around pipes and ducts penetrating fire separation without interruption to vapour barrier.

.3 Mask where necessary to avoid spillage and over coating onto adjoining surfaces.

.1 Remove masking as soon as it is possible to do so without disturbing the firestopping seal with substrates.

.4 Remove stains on adjacent surfaces.

3.03 INSTALLATION

.1 General:

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

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

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

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

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

.2 Penetration Firestops:

.1 Coordinate with other trades to ensure pipes, conduit, cable, and other items, which penetrate fire rated construction, have been permanently installed prior to installation of firestop assemblies.

.2 Schedule Work to ensure partitions and other construction that conceals penetrations are not erected prior to installation of firestop and smoke seals.

.3 Install fill materials for through-penetrations firestop systems to produce the following result:

.1 Fill voids and cavities formed by openings, forming materials, accessories, and penetrating items.

.2 Install materials so they contact and adhere to substrates formed by opening and penetrating items.

.3 For fill materials that will remain exposed after completing Work, finish to produce smooth, uniform surfaces.

.3 Firestop Joint Systems:

.1 Install joint fillers to provide support of firestop materials during application and at position required to produce cross-sectional shapes and depths of installed firestop material relative to joint widths that allow optimum sealant movement capability and develop fire-resistance rating required.

.2 Install systems by proved techniques that result in firestop materials:

.1 Directly contacting and wetting joint substrates.

.2 Filling recesses provided for each joint configuration.

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

.3 Tool non-sag firestop materials immediately after application and prior to skinning. Form smooth, uniform beads of configuration indicated or required to:

.1 Produce fire-resistance rating.

.2 Eliminate air pockets.

.3 Ensure contact and adhesion with sides of joint.

3.04 FIELD QUALITY CONTROL

.1 Daily Worksheet:

.1 Keep daily log of firestopping activities on site during course of construction. Develop worksheet to be utilized during course of construction, indicate general location within rooms, floor, or wall assembly, required rating, penetration, joint, ULC Design No., where no ULC Design is available then reference engineering judgement, date installed, quality control reviews, name and title of reviewers.

.2 Departmental Representative will make periodic reviews of these worksheets during the course of construction.

.2 Inspection and Testing: Engage and pay costs for third party inspection and testing agency to examine firestop penetration seals for proper installation, labelling, adhesion and curing appropriate for respective seal material before concealing or enclosing areas.

.1 Base examination on format similar to ASTM E2174 and ASTM E2393.

.2 Random review of installation, include:

.1 Construction progress.

.2 Construction photographs.

.3 Product storage, handling and delivery.

.4 As-built schedules and drawings.

.5 Penetration / Joint label installation.

.6 Barrier marking installation

.7 Protection of installed systems.

.3 Inspections: notify Departmental Representative when ready for inspection and prior to concealing or enclosing fire stopping materials and service penetration assemblies.

.4 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 as described in PART 1 - SUBMITTALS.

.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 Schedule site visits, to review Work, as directed in PART 1 - QUALITY ASSURANCE.

3.05 LABELING

.1 Install labels adjacent to through wall/floor service penetrations and joints that are fire stopped, and at joint penetrations. Provide one assembly identification label per penetration opening and one assembly identification plate at every 6 000 mm along bottom and top of wall joints, and wall to wall joints.

.2 Fill out and install labels prior to Substantial Performance of Work.

.3 Clean substrate prior to applying label.

.4 Securely apply label to substrate.

.5 Install label 50 mm away from penetration or joint.

3.06 CLEANING

.1 Proceed in accordance with Section 01 74 00 - Cleaning.

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

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

3.07 SCHEDULE

.1 Fire stop and smoke seal to provide fire-resistance ratings indicated for following conditions.

.1 Penetrations through fire-resistance rated partitions.

.2 Complete perimeter of fire-resistance rated partitions.

.3 Intersection of fire-resistance rated partitions.

.4 Control and sway joints in fire-resistance rated partitions.

.5 Penetrations through fire-resistance rated floor assemblies.

END OF SECTION

1 General

1.01 REFERENCES

.1 ASTM International (ASTM)

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

.2 ASTM C920, Standard Specification for Elastomeric Joint Sealants

1.02 ACTION AND INFORMATIONAL SUBMITTALS

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

.2 Action 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 literature to describe:

.1 Caulking compound.

.2 Primers.

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

.2 Samples:

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

.3 Informational Submittals:

.1 Manufacturer's Instructions:

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

1.03 CLOSEOUT SUBMITTALS

.1 Operation and Maintenance Data: submit operation and maintenance data for incorporation into manual

1.04 DELIVERY, STORAGE, AND HANDLING

.1 Deliver, store and handle materials in accordance with Section with manufacturer's written instructions, and 01 61 00 - Common Product Requirements

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

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

.4 Waste Management:

.1 Deposit packaging materials in appropriate container on site for recycling or reuse.

1.05 SITE CONDITIONS

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

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

.2 When joint substrates are wet.

.3 Where joint widths are less than those allowed by joint-sealant manufacturer for applications indicated.

.4 Where contaminants capable of interfering with adhesion have not yet been removed from joint substrates.

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

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

.4 Ventilate area of work by use of approved portable supply and exhaust fans.

.1 For work within existing buildings, arrange with Departmental Representative for ventilation system to be operated on maximum outdoor air and exhaust during installation of caulking and sealants.

2 Products

2.01 GENERAL

.1 Compatibility: Provide joint sealants, backings, and other related materials that are compatible with one another and with joint substrates under conditions of service and application, as demonstrated by joint-sealant manufacturer, based on testing and field experience.

.2 Do not use sealants that emit strong odours, contain toxic chemicals or are not certified as mould resistant in air handling units.

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

.4 Maximum volatile organic compound (VOC):

.1 Architectural Sealants: Maximum 250 g/L (less water).

.2 Modified bituminous sealant primers: Maximum 500 g/L (less water).

.3 Architectural sealant primers for non-porous materials: Maximum 250 g/L (less water).

.4 Architectural sealant primers for porous materials: Maximum 775 g/L (less water).

2.02 MATERIALS

.1 Neutral cure, low modulus silicone, for exterior and interior use on concrete, masonry, stone, metals, glass, porcelain, control joints, expansion joints; to ASTM C920, Type S, Grade NS, Class 50, Use NT, colour selected by Departmental Representative.

.2 Multi-component, polyurethane, for finished, interior, exterior areas in control joints, concrete, precast concrete, tile, floors, and walks, designed for use in pedestrian and vehicular traffic areas, to ASTM C920, Type S, Grade NS, Class 25, Use T, colour selected by Departmental Representative.

.3 Mildew-resistant, to ASTM C920, Type S, Grade NS, Class 25, one part, high modulus silicone, movement range ±25%, for interior use in wet areas around mop sink bases, and lavatories, toilets, and other plumbing fixtures. Colour selected by Departmental Representative.

.4 Mildew-resistant, paintable silicone, to ASTM C920, Type S, Grade NS, Class 25, one part, high modulus silicone, movement range ±25%, for interior use around countertops, other counter surfaces adjacent to painted surfaces.

.5 Acrylics One Part: general purpose, one part, paintable translucent acrylic, movement range ±10%, for interior use in dry areas around windows, door frames, interior caulking to gypsum board, masonry, and metals; to ASTM C834.

.6 Acoustical Sealant, for use at perimeter joints, and penetrations in sound rated gypsum board partitions, and masonry partitions:

.1 For exposed and joints: non-sag, paintable, non-staining latex sealant complying with ASTM C834.

.2 For concealed joints: to CAN/CGSB-19.21, non-drying, non-hardening, non-skinning, non-staining, gunnable, synthetic-rubber sealant recommended for sealing interior concealed joints to reduce airborne sound transmission.

.7 Fire Rated Acoustical Sealant: Sealants to Section 07 84 00 - Firestopping

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

.9 Primer: as recommended by manufacturer.

.1 Maximum VOC Content: 200g/L, less water.

.10 Back-up Materials:

.1 Backer rod: polyethylene, closed cell foam backer rod, compatible with sealant, recommended by manufacturer, diameter oversize 30% to suit joint.

.2 Bond breaker tape: polyethylene, pressure sensitive bond breaker tape which will not bond to sealant.

.11 Preformed Foam Joint Sealant: Manufacturer's standard preformed, pre-compressed, open-cell foam sealant manufactured from urethane foam with minimum density of 160 kg/m3 and impregnated with non-drying, water-repellent agent. Factory produce in pre-compressed sizes in roll or stick form to fit joint widths indicated; coated on one side with a pressure-sensitive adhesive and covered with protective wrapping.

3 Execution

3.01 EXAMINATION

.1 Examine joints indicated to receive joint sealants, with installer present, for compliance with requirements for joint configuration, installation tolerances, and other conditions affecting joint-sealant performance.

.2 Proceed with installation only after unsatisfactory conditions have been corrected.

3.02 PREPARATION

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

.2 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.

.3 Ensure joint surfaces are dry and frost free.

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

.5 Test materials being sealed, caulked for staining, adhesion.

.6 Masking Tape: Use masking tape where required to prevent contact of sealant or primer with adjoining surfaces that otherwise would be permanently stained or damaged by such contact or by cleaning methods required to remove sealant smears. Remove tape immediately after tooling without disturbing joint seal

3.03 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.

3.04 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.

3.05 MIXING

.1 For multi-component sealants, mix materials in strict accordance with sealant manufacturer's instructions.

3.06 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.
- .9 Apply non-paintable silicone sealants after wall surfaces have been painted.

.2 Curing:

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

.3 Cleanup:

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

END OF SECTION