

SECTION 072100 - BUILDING INSULATION

PART 1 - GENERAL

1.1 SUMMARY

A. Section Includes:

1. Insulation.

1.2 SUBMITTALS

A. Product Data: Each type of insulation product specified.

- B. Product Test Reports: From and based on tests performed by a qualified independent testing agency evidencing compliance of insulation products with specified requirements including those for thermal resistance, fire-test-response characteristics, water absorption, and other properties, based on comprehensive testing of current products.

- C. Research or Evaluation Reports: Reports of the model code organization acceptable to authorities having jurisdiction that evidence compliance of foam-plastic insulations with building code in effect for Project.

1.3 QUALITY ASSURANCE

- A. Single-Source Responsibility for Insulation Products: Obtain each type of building insulation from a single source with resources to provide products complying with requirements indicated without delaying the Work.

- B. Fire-Test-Response Characteristics: Provide insulation and related materials with the fire-test-response characteristics indicated on Drawings or specified elsewhere in this Section as determined by testing identical products per test method indicated below by UL or another testing and inspecting agency acceptable to authorities having jurisdiction. Identify materials with appropriate markings of applicable testing and inspecting agency.

1. Surface-Burning Characteristics: ASTM E 84.
2. Fire-Resistance Ratings: ASTM E 119.
3. Combustion Characteristics: ASTM E 136.

1.4 DELIVERY, STORAGE, AND HANDLING

- A. Protect insulation materials from physical damage and from deterioration by moisture, soiling, and other sources. Store inside and in a dry location. Comply with manufacturer's written instructions for handling, storing, and protecting during installation.

PART 2 - PRODUCTS

2.1 MANUFACTURERS

- A. Manufacturers: Subject to compliance with requirements, provide insulation products by one of the following:
 - 1. Batt Insulation:
 - a. CertainTeed Corporation.
 - b. JohnsManville
 - c. Knauf Fiber Glass GmbH.
 - d. Owens-Corning Fiberglas Corporation.
 - e. Schuller International, Inc.

2.2 INSULATING MATERIALS

- A. General: Provide insulating materials that comply with requirements and with referenced standards.

2.3 BATT INSULATION

- A. Batt Insulation: Unfaced mineral-fiber blanket insulation; ASTM C 665, Type I (blankets without membrane facing); consisting of fibers manufactured from glass; with maximum flame-spread and smoke-developed indices of 25 and 50, respectively; passing ASTM E 136 for combustion characteristics.
 - 1. Thickness: As indicated.
 - 2. R-Value: 3.1 per inch thickness, minimum.

PART 3 - EXECUTION

3.1 EXAMINATION

- A. Examine substrates and conditions, with Installer present, for compliance with requirements of Sections in which substrates and related work are specified and to determine if other conditions affecting performance of insulation are satisfactory. Do not proceed with installation until unsatisfactory conditions have been corrected.

3.2 PREPARATION

- A. Clean substrates of substances harmful to insulation.

3.3 INSTALLATION, GENERAL

- A. Comply with insulation manufacturer's written instructions applicable to products and application indicated.
- B. Install insulation that is undamaged, dry, and unsoiled
- C. Extend insulation in thickness indicated to envelop entire area to be insulated. Cut and fit tightly around obstructions and fill voids with insulation. Remove projections that interfere with placement.
- D. Apply single layer of insulation to produce thickness indicated, unless multiple layers are otherwise shown or required to make up total thickness.

3.4 INSTALLATION OF INSULATION

- A. General: Apply insulation types specified to substrates indicated, complying with manufacturer's written instructions and recommendations.
- B. Install blanket insulation in cavities formed by framing members according to the following requirements:
 - 1. Use blanket 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.
 - 2. Place blankets in cavities formed by framing members to produce a friction fit between edges of insulation and adjoining framing members.
 - 3. For metal-framed wall cavities where cavity heights exceed 96 inches, support unfaced blankets mechanically.
 - 4. Do not force or compact insulation into stud cavity.

3.5 PROTECTION

- A. General: Protect installed insulation from damage due to harmful weather exposures, physical abuse, and other causes. Provide temporary coverings or enclosures where insulation is subject to abuse and cannot be concealed and protected by permanent construction immediately after installation.

END OF SECTION 072100

SECTION 074213 - METAL WALL PANELS

PART 1 - GENERAL

1.1 SUMMARY

- A. Section Includes:
1. Metal wall panels.
 2. Insulated composite backup panels.

1.2 SUBMITTALS

- A. Product Data: Manufacturer's data sheets, for specified products.
1. Include data indicating compliance with performance requirements.
- B. Shop Drawings: Provide shop drawings prepared by manufacturer or manufacturer's authorized Installer. Include full elevations showing openings and penetrations. Include details of each condition of installation and attachment. Provide details at a minimum scale of 1-1/2-inch per foot (1:8) of all required trim and extrusions needed for a complete installation.
1. Indicate points of supporting structure that must coordinate with metal wall panel assembly installation.
 2. Indicate details of fastening, including clip spacing, supported by load span tables that include an evaluation of clip and panel side joint interaction.
- C. Samples for Initial Selection: For each product specified. Provide representative color charts of manufacturer's full range of colors.
- D. Samples for Verification: Provide 12-inch (300 mm) section of panel(s) showing finishes. Provide 12-inch long pieces of trim pieces and other exposed components.
- E. Product Test Reports: Indicating compliance of products with requirements, from a qualified independent testing agency.
- F. Qualification Data: For Installer.
- G. Sample Warranties: For warranties.
- H. Maintenance Data: For metal panels to include in maintenance manuals.

1.3 QUALITY ASSURANCE

- A. Installer Qualifications: An entity that employs installers and supervisors who are trained and approved by manufacturer.

1.4 DELIVERY, STORAGE, AND HANDLING

- A. Deliver components, metal panels, and other manufactured items so as not to be damaged or deformed. Package metal panels for protection during transportation and handling.
- B. Unload, store, and erect metal panels in a manner to prevent bending, warping, twisting, and surface damage.
- C. Store metal panels in accordance with manufacturer's instruction and recommendations.
- D. Retain strippable protective covering on metal panels during installation.

1.5 FIELD CONDITIONS

- A. Weather Limitations: Proceed with installation only when existing and forecasted weather conditions permit assembly of metal panels to be performed according to manufacturers' written instructions and warranty requirements.

1.6 COORDINATION

- A. Coordinate metal panel installation with rain drainage work, flashing, trim, construction of soffits, and other adjoining work to provide a leakproof, secure, and noncorrosive installation.

1.7 WARRANTY

- A. Manufacturer's Warranty: Manufacturer's standard form in which manufacturer agrees to repair or replace components of metal panel systems that fail in materials or workmanship within specified warranty period.
 - 1. Warranty Period: Minimum two years from date of Substantial Completion.
- B. Warranty on Panel Finishes: Manufacturer's standard form in which manufacturer agrees to repair finish or replace metal panels that show evidence of deterioration of factory-applied finishes within specified warranty period.
 - 1. Finish Warranty Period: Minimum 20 years from date of Substantial Completion.

PART 2 - PRODUCTS

2.1 METAL WALL PANELS

- A. Panel Type A:
 - 1. Product and Manufacturer – Basis of Design: CENTRIA Exposed Fastener Series TR4-36 Metal Wall Panels; CENTRIA Architectural Systems
 - a. Florida Product Approval Number: FL26505

2. Description: Metal wall panels over insulated-composite backup panel wall system.
 - a. Panel Material: Metallic coated steel face sheet; ASTM A755.
 - b. Face Sheet: Minimum 0.030 inch/22 gage (0.76 mm) nominal uncoated thickness.
 - 1) Surface: Smooth
 - c. Finish: Fluoropolymer two-coat system; CENTRIA Fluorofinish.
 - 1) Panel Exterior Surface: To be selected by Architect from manufacturer's standard colors.
 - 2) Interior Surface: Manufacturer's standard primer color

B. Type B:

1. Product and Manufacturer – Basis of Design: CENTRIA Concept Series CS-200 Metal Wall Panels; CENTRIA Architectural Systems
 - a. Florida Product Approval Number: FL3481
2. Description: Metal wall panels over insulated-composite backup panel wall system.
 - a. Panel Material: Metallic coated steel face sheet; ASTM A755.
 - b. Face Sheet: Minimum 0.030 inch/22 gage (0.76 mm) nominal uncoated thickness.
 - 1) Surface: Smooth
 - c. Finish: Fluoropolymer two-coat system; CENTRIA Fluorofinish.
 - 1) Panel Exterior Surface: To be selected by Architect from manufacturer's standard colors.
 - 2) Interior Surface: Manufacturer's standard primer color

2.2 INSULATED COMPOSITE BACKUP PANELS

- A. Product and Manufacturer – Basis of Design: CENTRIA MetalWrap Insulated-Composite Backup Panel System; CENTRIA Architectural Systems
- B. MetalWrap Long Span Panel Faces: Minimum 0.031-22-ga. thick metallic-coated steel sheet: ASTM A 653, G90 coating designation; structural quality, with smooth surface.
- C. Panel Face Finish: 0.2-mil thick primer coat and 0.2-mil thick primer coat on interior face.
- D. Metal Wrap Long Span Vertical Backup Panel Thickness and Thermal Resistance: 2.75 inches; R-20, U-.049.
- E. Panel Core: Foamed-in-place modified polyisocyanurate, closed-cell, CFC and HCFC free, with minimum density of 2.4 lb./cu. ft. and minimum compressive strength of 15 lb./sq.

- F. Panel Width: Long Span 36 inches.
- G. Panel Attachment Clips: Metallic-coated steel sheet, ASTM A 653/A 653M, G90 (Z275) coating designation, of thickness indicated, configured to serve as attachment points for secondary metal framing where indicated, manufacturer-furnished.
- H. Self-Adhering Sheet Flashing Tape: Minimum 25-mil (0.64-mm) modified bituminous sheet, recommended by panel manufacturer for application.
- I. Joint Sealants:
 - 1. Concealed: Non-skinning butyl sealant, AAMA 809.2.
 - 2. Exposed: Elastomeric silicone sealant, ASTM C 920, as recommended by panel manufacturer.
- J. Fasteners: Corrosion-resistant, self-tapping and self-drilling screws, bolts, nuts, and other fasteners as recommended by panel manufacturer for application.
 - 1. Size fasteners to prevent penetration of interior panel facing.

2.3 PERFORMANCE REQUIREMENTS – METAL WALL PANELS

- A. General: Provide metal wall panel assemblies meeting performance requirements as determined by application of specified tests by a qualified testing agency on manufacturer's standard assemblies.
- B. Air Infiltration: When installed over Insulated Composite Backup Panels or Metal Liner Panels, maximum 0.06 cfm/sq. ft. per ASTM E 283 at a static-air-pressure difference of 1.57 lbf/sq. ft. , using minimum 10-by-10 foot test panel that includes side joints.
- C. Water Penetration, Static Pressure: When installed over Insulated Composite Backup Panels or Metal Liner Panels, no uncontrolled water penetration per ASTM E 331 at a minimum static differential pressure of 6.24 lbf/sq. ft., using minimum 10-by-10-foot test panel that includes side joints.
- D. Florida State Building Code Compliance: Provide wall panels that comply with the requirements for installation under Florida State Building Code.
- E. Thermal Movements: Allow for thermal movements from variations in both ambient and internal temperatures. Accommodate movement of support structure caused by thermal expansion and contraction.

2.4 METAL WALL PANEL ACCESSORIES

- A. Metal Wall Panel Accessories, General: Provide complete metal wall panel assembly incorporating trim, copings, fasciae, parapet caps, soffits, sills, inside and outside corners, and miscellaneous flashings. Provide manufacturer's factory-formed clips, shims, flashings, lap tapes, and closure strips for a complete installation. Fabricate and install accessories in accordance with SMACNA Manual.

- B. Mitered Corners: Structurally-bonded horizontal interior and exterior trimless corners matching metal wall panel material, profile, and factory-applied finish, fabricated and finished by metal wall panel manufacturer.
 - 1. Welded, riveted, fastened, or field- fabricated corners do not meet the requirements of this specification.
 - 2. Basis of Design: CENTRIA, MicroSeam Corners.
- C. Formed Flashing and Trim: Match material, thickness, and color of metal wall panel face sheets.
- D. Sealants: Type recommended by metal wall panel manufacturer for application, meeting requirements of Division 07 Section "Joint Sealants."
- E. Flashing Tape: 4-inch wide self-adhering butyl flashing tape.
- F. Fasteners, General: Self-tapping screws, bolts, nuts, and other acceptable fasteners recommended by panel manufacturer. Where exposed fasteners cannot be avoided for miscellaneous applications, supply corrosion-resistant fasteners with heads matching color of metal wall panels by means factory-applied coating.
- G. Concealed Clips: Galvanized steel, 0.06 inch/16 ga. (1.52 mm) nominal thickness, designed to allow unimpeded thermal movement of panel and configured to hold panel minimum 1/2 inch (12.7 mm) from substrate.

2.5 SECONDARY METAL SUBGIRT FRAMING – FOR METAL WALL PANELS

- A. Miscellaneous Framing Components, General: Cold-formed metallic-coated steel sheet, ASTM A 653, G90.
 - 1. Hat Channels: 0.06 inch/16 ga. minimum – nominal thickness.

2.6 FABRICATION

- A. Fabricate and finish metal panels and accessories at the factory, by manufacturer's standard procedures and processes, as necessary to fulfill indicated performance requirements demonstrated by laboratory testing. Comply with indicated profiles and with dimensional and structural requirements.
- B. Sheet Metal Flashing and Trim: Fabricate flashing and trim to comply with manufacturer's recommendations and recommendations in SMACNA's "Architectural Sheet Metal Manual" that apply to design, dimensions, metal, and other characteristics of item indicated.

PART 3 - EXECUTION

3.1 EXAMINATION

- A. Examine metal wall panel substrate with Installer present. Inspect for erection tolerances and other conditions that would adversely affect installation of metal wall panels.
- B. Confirm that wall substrate is within tolerances acceptable to metal wall panel system manufacturer.
- C. Inspect framing that will support metal wall panels to determine if support components are installed as required. Confirm presence of acceptable framing members at recommended spacing to match installation requirements of metal wall panels.
- D. Proceed with installation only after unsatisfactory conditions have been corrected.

3.2 INSTALLATION

- A. General: Install metal wall panels and insulated-composite metal wall backup panels in accordance with shop drawings and manufacturer's instructions and recommendations. Install metal wall panels in orientation, sizes, and locations indicated. Anchor metal wall panels and other components securely in place. Provide for thermal and structural movement.
- B. Attach panels to metal framing using recommended clips, screws, fasteners, sealants, and adhesives indicated on approved shop drawings.
 - 1. Fasten metal wall panels to supports with concealed clips at each joint at location, spacing, and with fasteners recommended by manufacturer. Install clips to supports with self-tapping fasteners.
 - 2. Provide weatherproof escutcheons for pipe and conduit penetrating exterior walls.
- C. Fasteners: Types recommended by the panel manufacturer for installations indicated.
- D. Metal Protection: Where dissimilar metals contact each other or corrosive substrates, protect against galvanic action as recommended in writing by metal panel manufacturer.
- E. Accessory Installation: Install metal wall panel accessories with positive anchorage to building and provide for thermal expansion. Coordinate installation with flashings and other components.
 - 1. Install related flashings and sheet metal trim per requirements of Division 07 Section "Sheet Metal Flashing and Trim."
 - 2. Install components required for a complete metal wall panel assembly, including trim, copings, corners, lap strips, flashings, sealants, fillers, closure strips, and similar items.
 - 3. Comply with performance requirements and manufacturer's written installation instructions.
 - 4. Provide concealed fasteners except where noted on approved shop drawings.
 - 5. Set units true to line and level as indicated.

3.3 CLEANING AND PROTECTION

- A. Remove temporary protective films. Clean finished surfaces as recommended by metal wall panel manufacturer. Clear weep holes and drainage channels of obstructions, dirt, and sealant. Maintain in a clean condition during construction.
- B. Replace damaged panels and accessories that cannot be repaired by finish touch-up or minor repair.

END OF SECTION 074213.13

SECTION 079200 - JOINT SEALANTS

PART 1 - GENERAL

1.1 SUMMARY

- A. Section Includes:
 - 1. Sealants for interior and exterior applications.

1.2 PERFORMANCE REQUIREMENTS

- A. Provide elastomeric joint sealants that establish and maintain watertight and airtight continuous joint seals without staining or deteriorating joint substrates.
- B. Provide joint sealants for interior applications that establish and maintain airtight and water-resistant continuous joint seals without staining or deteriorating joint substrates.

1.3 SUBMITTALS

- A. Product Data: For each joint-sealant product indicated.
- B. Samples for Initial Selection: Manufacturer's color charts consisting of strips of cured sealants showing the full range of colors available for each product exposed to view.

1.4 DELIVERY, STORAGE, AND HANDLING

- A. Deliver materials to Project site in original unopened containers or bundles with labels indicating manufacturer, product name and designation, color, expiration date, pot life, curing time, and mixing instructions for multicomponent materials.
- B. Store and handle materials in compliance with manufacturer's written instructions to prevent their deterioration or damage due to moisture, high or low temperatures, contaminants, or other causes.

1.5 PROJECT CONDITIONS

- A. Environmental Limitations: Do not proceed with installation of joint sealants under the following conditions:
 - 1. When ambient and substrate temperature conditions are outside limits permitted by joint sealant manufacturer.
 - 2. When ambient and substrate temperature conditions are outside limits permitted by joint sealant manufacturer or are below 40 degrees F.
 - 3. When joint substrates are wet.

- B. Joint-Width Conditions: Do not proceed with installation of joint sealants where joint widths are less than those allowed by joint sealant manufacturer for applications indicated.
- C. Joint-Substrate Conditions: Do not proceed with installation of joint sealants until contaminants capable of interfering with adhesion are removed from joint substrates.

1.6 WARRANTY

- A. Manufacturer's Warranty: Written warranty, signed by elastomeric sealant manufacturer agreeing to furnish elastomeric joint sealants to repair or replace those that do not comply with performance and other requirements specified in this Section within specified warranty period.
 - 1. Warranty Period: As specified beginning from date of Substantial Completion.

PART 2 - PRODUCTS

2.1 PRODUCTS AND MANUFACTURERS

- A. Products: Provide the following products for each application listed. Substitutions for exterior building joint sealants shall be listed on the Validated Products list published by the Sealant, Waterproofing, and Restoration Institute (SWRI).
 - 1. Joint Sealant - Two-Part, Pourable Urethane Sealant: For horizontal joints, exterior and interior; provide joint sealant with a joint movement capability of plus-or-minus 25%.
 - a. Products and Manufacturers: Provide one of the following.
 - 1) Vulkem 245; Tremco, Inc.
 - 2) NR200 Urexpan; Pecora Corp.
 - 3) Sikaflex 2c SL; Sika Corp.
 - 4) THC-900; Tremco, Inc.
 - b. Warranty: Manufacturer's extended 5-year warranty.
 - 2. Joint Sealant - Two-Part Urethane Non-Sag Sealant: For general interior use; provide joint sealant with a joint movement capability of plus-or-minus 50%.
 - a. Products and Manufacturers: Provide one of the following.
 - 1) Vulkem 922; Tremco, Inc.
 - 2) Dynatrol II; Pecora Corp.
 - 3) Sikaflex 2c NS; Sika Corp.
 - 4) NP II; Sonneborne Building Products Division, ChemRex, Inc.
 - b. Warranty: Manufacturer's extended 5-year warranty.

3. Joint Sealant - One-Part Silicone - Sanitary Sealant: For Interior use at plumbing fixtures in toilets and janitor closets, and horizontal and vertical joints of dissimilar materials in toilets and other wet areas.
 - a. Products and Manufacturers: Provide one of the following.
 - 1) Dow Corning 786 Silicone Mildew Resistant Sealant; Dow Corning Corp.
 - 2) SCS1700 Sanitary; General Electric Co.
 - 3) Pecora 898 Silicone Mildew Resistant Silicone Sealant; Pecora Corp.
 - 4) Tremsil 200; Tremco, Inc.
 - b. Warranty: Manufacturer's extended 3-year warranty.
4. Joint Sealant - One-Part Latex Sealant: For interior use for horizontal and vertical joints around door frames, and joints between dissimilar materials.
 - a. Products and Manufacturers: Provide one of the following.
 - 1) AC-20 + Silicone; Pecora Corp.
 - 2) Sonolac; Sonneborn Building Products Div., ChemRex, Inc.
 - 3) Tremflex 834; Tremco, Inc.
 - b. Warranty: Manufacturer's standard warranty.

2.2 MATERIALS, GENERAL

- A. 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 sealant manufacturer based on testing and field experience.
- B. Colors of Exposed Joint Sealants: As selected by Architect from manufacturer's full range for this characteristic.

2.3 JOINT-SEALANT BACKING

- A. General: Provide sealant backings of material and type that are nonstaining; are compatible with joint substrates, sealants, primers, and other joint fillers; and are approved for applications indicated by sealant manufacturer based on field experience and laboratory testing.
- B. Backer Rod (Joint Fillers, Compressible Filler): Type B, ASTM C 1330, preformed, cylindrical, flexible, compressible, resilient, non-staining, bi-cellular material, with a density of 24-48 km/m³ per ASTM D1622, tensile strength greater than 200 kPa per ASTM D 1623, and water absorption less than 0.1 g/cc per ASTM C 1016.
 1. Product and Manufacturer - Basis of Design:
 - a. Sof Rod; Nomaco, Inc., Zebulon, NC.

- C. Bond-Breaker Tape: Polyethylene tape or other plastic tape recommended by sealant manufacturer for preventing sealant from adhering to rigid, inflexible joint-filler materials or joint surfaces at back of joint where such adhesion would result in sealant failure. Provide self-adhesive tape where applicable.

2.4 MISCELLANEOUS MATERIALS

- A. Primer: Material recommended by joint sealant manufacturer where required for adhesion of sealant to joint substrates indicated, as determined from preconstruction joint-sealant-substrate tests and field tests.
- B. Cleaners for Nonporous Surfaces: Chemical cleaners acceptable to manufacturers of sealants and sealant backing materials, free of oily residues or other substances capable of staining or harming joint substrates and adjacent nonporous surfaces in any way, and formulated to promote optimum adhesion of sealants with joint substrates.
- C. Masking Tape: Nonstaining, nonabsorbent material compatible with joint sealants and surfaces adjacent to joints.

PART 3 - EXECUTION

3.1 EXAMINATION

- A. 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.
- B. Proceed with installation only after unsatisfactory conditions have been corrected.
- C. Verify location and application of acoustical sealant and all other sealants indicated. Do not allow sealants to come into contact with incompatible materials. Prevent reaction to metals and other substances; protect all surfaces.

3.2 PREPARATION

- A. Surface Cleaning of Joints: Clean out joints immediately before installing joint sealants to comply with joint sealant manufacturer's written instructions.
- B. Joint Priming: Prime joint substrates, unless otherwise recommended in writing by joint sealant manufacturer, based on preconstruction joint-sealant-substrate tests or prior experience.
 - 1. Apply primer to comply with joint sealant manufacturer's written instructions. Confine primers to areas of joint-sealant bond; do not allow spillage or migration onto adjoining surfaces.

- C. Masking Tape: Use masking tape where required to prevent contact of sealant 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.

3.3 INSTALLATION OF JOINT SEALANTS

- A. General: Comply with joint sealant manufacturer's written installation instructions for products and applications indicated, unless more stringent requirements apply.
 - 1. Install sealants by proven techniques and at the same time backings are installed.
 - 2. Place sealants so they directly contact and fully wet joint substrates.
 - 3. Completely fill recesses provided for each joint configuration.
 - 4. Produce uniform, cross-sectional shapes and depths relative to joint widths that allow optimum sealant movement capability.
- B. Backing Materials: Install sealant backings of type indicated to support sealants during application and at position required to produce cross-sectional shapes and depths of installed sealants relative to joint widths that allow optimum sealant movement capability.
 - 1. Do not leave gaps between ends of sealant backings.
 - 2. Do not stretch, twist, puncture, or tear sealant backings.
 - 3. Remove absorbent sealant backings that have become wet before sealant application and replace them with dry materials.
- C. Bond-Breaker Tape: Install bond-breaker tape behind sealants where sealant backings are not used between sealants and back of joints.
- D. Tooling of Nonsag Sealants: Immediately after sealant application and before skinning or curing begins, tool sealants according to requirements specified below to form smooth, uniform beads of configuration indicated; to eliminate air pockets; and to ensure contact and adhesion of sealant with sides of joint.
 - 1. Remove excess sealants from surfaces adjacent to joint.
 - 2. Use tooling agents that are approved in writing by sealant manufacturer and that do not discolor sealants or adjacent surfaces.
 - 3. Provide concave joint configuration per Figure 5A in ASTM C 1193, unless otherwise indicated.

3.4 CLEANING

- A. Clean off excess sealants or sealant smears adjacent to joints as the Work progresses by methods and with cleaning materials approved in writing by manufacturers of joint sealants and of products in which joints occur.

3.5 PROTECTION

- A. Protect joint sealants during and after curing period from contact with contaminating substances and from damage resulting from construction operations or other causes so sealants are without deterioration or damage at time of Substantial Completion. If, despite such protection, damage or deterioration occurs, cut out and remove damaged or deteriorated joint sealants immediately so installations with repaired areas are indistinguishable from the original work.

END OF SECTION 079200