

DIVISION 07

MOISTURE PROTECTION

SECTION 07311
ASPHALT SHINGLES

PART 1 GENERAL

1.01 SECTION INCLUDES

- A. Asphalt shingle roofing.
- B. Flexible sheet membranes for eave protection, underlayment, and valley protection.
- C. Associated metal flashings and accessories.

1.02 RELATED SECTIONS

- A. Section 06100 - Rough Carpentry: Roof sheathing and framed openings.
- B. Section 07631 - Gutters and Downspouts.

1.03 REFERENCES

- A. ASTM D 224 - Standard Specification for Smooth-Surfaced Asphalt Roll Roofing (Organic Felt).
- B. ASTM D 225 - Standard Specification for Asphalt Shingles (Organic Felt) Surfaced with Mineral Granules.
- C. ASTM D 226 - Standard Specification for Asphalt-Saturated Organic Felt Used in Roofing and Waterproofing.
- D. ASTM D 3161 - Standard Test Method for Wind-Resistance of Asphalt Shingles (Fan-Induced Method).
- E. ASTM D 4586 - Standard Specification for Asphalt Roof Cement, Asbestos-Free.
- F. ASTM D 4869 - Standard Specification for Asphalt-Saturated Organic Felt Shingle Underlayment Used in Roofing.
- G. SMACNA (ASMM) - Architectural Sheet Metal Manual; Sheet Metal and Air Conditioning Contractors' National Association.
- H. UL (RMSD) - Roofing Materials and Systems Directory; Underwriters Laboratories Inc..
- I. Use the latest issue of the above reference standards as of the date of the Project.

1.04 SUBMITTALS

- A. See Section 01300 - Administrative Requirements, for submittal procedures.
- B. Product Data: Provide data indicating material characteristics.
- C. Shop Drawings: For metal flashings, indicate specially configured metal flashings.
- D. Samples: Submit two samples of each shingle color indicating color range and finish texture/pattern; for color selection.
- E. Manufacturer's Instructions: Indicate installation criteria and procedures.
- F. Manufacturer's Certificate: Certify that products meet or exceed specified requirements.

1.05 QUALITY ASSURANCE

- A. Perform Work in accordance with the recommendations of applicable roofing standards.
 - 1. Maintain one copy of document on site.
- B. Products Required to Comply with Fire or Wind Resistance Criteria: UL listed and labeled.

PART 2 PRODUCTS

2.01 SHINGLES

- A. Manufacturers:
 - 1. Atlas Roofing Corp.
 - 2. GAF Materials Corp.
 - 3. Substitutions: See Section 01600 - Product Requirements.
- B. Asphalt Shingles: Asphalt-coated organic felt, mineral granule surfaced, complying with ASTM D 225.
 - 1. Fire Resistance: Class C.
 - 2. Wind Resistance: Tested in accordance with ASTM D 3161; self-sealing.
 - 3. Weight: 95 lb/100 sq ft weight.
 - 4. Style: Uniform thickness, square tab.
 - 5. Color: to be selected from manufacturer's standard colors.

2.02 SHEET MATERIALS

- A. Smooth Surfaced Roll Roofing: Asphalt-coated organic felt, with smooth asphalt coating both sides, complying with ASTM D 224, Type I or IV.
- B. Eave Protection Membrane: Asphalt-saturated organic roofing felt, unperforated, complying with ASTM D 226, Type I ("No.15").
- C. Underlayment: Asphalt-saturated organic felt underlayment, complying with ASTM D 4869, Type I.

2.03 ACCESSORIES

- A. Nails: Standard round wire shingle type hot dipped zinc coated steel type, minimum 13/64 inch head diameter and 0.080 inch shank diameter, 1-1/4 inch long.
- B. Staples: Standard wire shingle hot dipped zinc coated steel type, of sufficient length to penetrate through roof sheathing or 3/4 inch into roof sheathing or decking.
- C. Plastic Cement: ASTM D 4586, asphalt roof cement.

2.04 METAL FLASHINGS

- A. Metal Flashings: Provide sheet metal eave edge, gable edge, and other flashing indicated.
 - 1. Form flashings to profiles indicated on Drawings.
 - 2. Form sections square and accurate to profile, in maximum possible lengths, free from distortion or defects detrimental to appearance or performance.
 - 3. Hem exposed edges of flashings minimum 1/4 inch on underside.
 - 4. Coat concealed surfaces of flashings with bituminous paint.
- B. Sheet Metal: Prefinished galvanized steel, 0.018 inch/26 gauge thick, minimum G90/Z275 hot-dipped galvanized; PVC coated, color as selected.
- C. Bituminous Paint: Acid and alkali resistant type; black color.

PART 3 EXECUTION

3.01 EXAMINATION

- A. Verify existing conditions prior to beginning work.
- B. Verify that deck is of sufficient thickness to accept fasteners.
- C. Verify that roof penetrations and plumbing stacks are in place and flashed to deck surface.
- D. Verify roof openings are correctly framed.
- E. Verify deck surfaces are dry, free of ridges, warps, or voids.

3.02 PREPARATION

- A. Seal roof deck joints wider than 1/16 inch with deck tape.
- B. At areas where eave protection membrane is to be adhered to substrate, fill knot holes and surface cracks with latex filler.
- C. Broom clean deck surfaces before installing underlayment or eave protection.
- D. Install eave edge flashings tight with fascia boards. Weather lap joints 2 inches and seal with plastic cement. Secure flange with nails spaced 12 inches on center.

3.03 INSTALLATION - EAVE PROTECTION MEMBRANE

- A. Install eave protection membrane from eave edge to minimum 4 ft up-slope beyond interior face of exterior wall.
- B. Install eave protection membrane in accordance with manufacturer's instructions.

3.04 INSTALLATION - UNDERLAYMENT

- A. At Roof Slopes Greater Than 4:12 : Install underlayment perpendicular to slope of roof, with ends and edges weather lapped minimum 4 inches. Stagger end laps of each consecutive layer. Nail in place. Weather lap minimum 4 inches over eave protection.
- B. Items projecting through or mounted on roof: Weather lap and seal watertight with plastic cement.

3.05 INSTALLATION - VALLEY PROTECTION

- A. Install one ply of smooth surfaced roll roofing, minimum 18 inches wide, centered over valleys.
- B. Weather lap joints minimum 2 inches.
- C. Nail in place minimum 18 inches on center, 1 inch from edges.

3.06 INSTALLATION - METAL FLASHING AND ACCESSORIES

- A. Install flashings in accordance with NRCA requirements.
- B. Weather lap joints minimum 2 inches and seal weather tight with plastic cement.
- C. Secure in place with nails at 12 inches on center. Conceal fastenings.
- D. Items Projecting Through or Mounted on Roofing: Flash and seal weather tight with plastic cement.

3.07 INSTALLATION - SHINGLES

- A. Install shingles in accordance with manufacturer's instructions; with a least 4 nails per shingle.
- B. Place shingles in straight coursing pattern with 5 inch weather exposure to produce double thickness over roof area. Provide double course of shingles at eaves.
- C. Project first course of shingles 1/2 inch beyond fascia boards.
- D. Extend shingles 1/2 inch beyond face of gable edge fascia boards.
- E. Extend shingles on both slopes across valley in a weave pattern and fasten. Extend shingles a minimum of 12 inches beyond valley center line to achieve woven valley, concealing the valley protection.
- F. Cap hips with individual shingles, maintaining 5 inch weather exposure. Place to avoid exposed nails.
- G. After installation, place one daub of plastic cement, one inch diameter under each individual shingle tab exposed to weather, to prevent lifting.
- H. Coordinate installation of roof mounted components or work projecting through roof with weather tight placement of counterflashings.
- I. Complete installation to provide weather tight service.

3.08 PROTECTION

- A. Do not permit traffic over finished roof surface.

END OF SECTION

SECTION 07410

METAL ROOF, FASCIA AND SOFFIT PANELS

PART 1 GENERAL

1.01 SECTION INCLUDES

- A. Manufactured metal panels for fascia and soffits, with related flashings and accessory components.
- B. Building paper back-up over wood sheathing.

1.02 RELATED SECTIONS

- A. Section 07900 - Joint Sealers.

1.03 REFERENCES

- A. ASTM A 653/A 653M - Standard Specification for Steel Sheets, Zinc-Coated (Galvanized) or Zinc-Iron Alloy-Coated (Galvannealed) by the Hot-Dip Process.
- B. ASTM A 755/A 755M - Standard Specification for Steel Sheet, Metallic Coated by the Hot-Dip Process and Prepainted by the Coil Coating Process For Exterior Exposed Building Products.
- C. ASTM D 226 - Standard Specification for Asphalt-Saturated Organic Felt Used in Roofing and Waterproofing.
- D. Use the latest issue of the above reference standards as of the date of the Project.

1.04 DESIGN REQUIREMENTS

- A. Components: Design and size components to withstand dead and live loads caused by positive and negative wind pressure acting on roof as calculated in accordance with the Uniform Building Code and applicable local codes.
- B. Movement: Accommodate movement within system without damage to components or deterioration of seals, movement within system; movement between system and perimeter components when subject to seasonal temperature cycling; dynamic loading and release of loads; and deflection of structural support framing.
- C. Drainage: Provide positive drainage to exterior for moisture entering or condensation occurring within panel system.
- D. Products: Provide continuity of thermal barrier at building enclosure elements.

1.05 SUBMITTALS

- A. See Section 01300 - Administrative Requirements, for submittal procedures.
- B. Shop Drawings: Indicate dimensions, layout, joints, construction details, methods of anchorage, and related details.
- C. Samples: Submit one sample each of fascia and soffit panels, 4 inch by 4 inch in size, illustrating finish color, sheen, and texture.

1.06 QUALITY ASSURANCE

- A. Manufacturer: Company specializing in manufacturing the products specified in this section with minimum three years of documented experience.
- B. Installer: Company specializing in performing the work of this section with minimum three years of experience.

1.07 DELIVERY, STORAGE, AND PROTECTION

- A. Protect panels from accelerated weathering by removing or venting sheet plastic shipping wrap.
- B. Store prefinished material off ground and protected from weather. Prevent twisting, bending, or abrasion, and provide ventilation to stored materials. Slope metal sheets to ensure drainage.
- C. Prevent contact with materials that may cause discoloration or staining of products.

1.08 PROJECT CONDITIONS

- A. Coordinate the Work with installation of vents and related components or materials.

1.09 WARRANTY

- A. See Section 01780 - Closeout Submittals, for additional warranty requirements.
- B. Correct defective work within a one year period after Substantial Completion for degradation of panel finish, including color fading caused by exposure to weather.
- C. Correct defective Work within a one year period after Substantial Completion, including defects in water tightness and integrity of seals.

PART 2 PRODUCTS

2.01 MANUFACTURERS

- A. Manufacturers:
 - 1. MBCI.
 - 2. Substitutions: See Section 01600 - Product Requirements.
- B. Colors to be selected by the Owner from the manufacturer's standard colors and shall be approved by the City Planner.

2.02 MANUFACTURED METAL PANELS

- A. Exterior Panel:
 - 1. Minimum 26 gage thick precoated steel stock.
 - 2. Beveled profile.
 - 3. 1-5/8 inches high rib; 12 inch wide panels.
 - 4. Interlocking edges, filled with sealant.
- B. Soffit Panel:
 - 1. 26 gage thick precoated steel.

- 2. Beveled rid profile in 12 inch wide panels; lapped edges filled with sealant.
- C. Internal and External Corners: Same material, thickness, and finish as exterior sheets; profile to suit system; shop cut and factory mitered to required angles. Mitered internal corners to be back braced with 26 gage precoated sheet stock to maintain continuity of profile.
- D. Expansion Joints: Same material, thickness and finish as exterior sheets; 26 gage; manufacturer's standard brake formed type, of profile to suit system.
- E. Trim: Same material, thickness and finish as exterior sheets; brake formed to required profiles.
- F. Anchors: Galvanized steel.

2.03 EXTERIOR PANEL MATERIALS

- A. Precoated Galvanized Steel Sheet: ASTM A 653/A 653M, Commercial Steel (CS) or Forming Steel (FS), Coating Designation G90; shop precoated in accordance with ASTM A 755/A 755M, with acrylic primer coat, silicone polyester top coat, and polyester washcoat for panel back. Exposed Exterior Surfaces: Selected color

2.04 ACCESSORIES

- A. Sealants: Specified in Section 07900. Manufacturer's standard type suitable for use with installation of system; non-staining; color as selected.
- B. Fasteners: Manufacturer's standard type to suit application; with soft neoprene washers, steel, hot dip galvanized. Fastener cap same color as exterior panel.
- C. Field Touch-up Paint: As recommended by panel manufacturer.
- D. Bituminous Paint: Asphalt base.
- E. Building Paper: ASTM D 226, Type I ("No. 15"), unperforated asphalt felt.

2.05 FABRICATION

- A. Form sections true to shape, accurate in size, square, and free from distortion or defects.
- B. Form pieces in longest practicable lengths.
- C. Form panels for standing seams.
- D. Panel Profile: Beveled rib.

PART 3 EXECUTION

3.01 EXAMINATION

- A. Verify that building framing members are ready to receive panels.

3.02 PREPARATION

- A. Install one layer building paper horizontally on surfaces to receive panels.
- B. Weather lap edges 6 inches and ends minimum 6 inches, minimum.
- C. Stagger vertical joints of each layer.

- D. Securely nail in place.

3.03 INSTALLATION

- A. Install panels on fascias and soffits in accordance with manufacturer's instructions.
- B. Protect surfaces in contact with cementitious materials and dissimilar metals with bituminous paint. Allow to dry prior to installation.
- C. Fasten panels to structural supports; aligned, level, and plumb.
- D. Locate joints over supports. Lap panel ends minimum 2 inches.
- E. Provide expansion joints where required and as recommended by manufacturer.
- F. Use concealed fasteners unless otherwise accepted by Engineer.
- G. Seal joints to prevent weather penetration. Maintain neat appearance.

3.04 TOLERANCES

- A. Maximum Offset From True Alignment Between Adjacent Members Butting or In Line: 1/16 inch.
- B. Maximum Variation from Plane or Location Indicated on Drawings: 1/4 inch.

3.05 CLEANING

- A. Remove site cuttings from finish surfaces.
- B. Clean and wash prefinished surfaces with mild soap and water; rinse with clean water.

END OF SECTION

SECTION 07620

SHEET METAL FLASHING AND TRIM

PART 1 GENERAL

1.01 SECTION INCLUDES

- A. Flashings, counterflashings, gutters, downspouts, and fabricated sheet metal items.
- B. Reglets and accessories.
- C. Precast concrete splash pads.

1.02 RELATED SECTIONS

- A. Section 07311 - Asphalt Shingles: Flashings associated with shingle roofing.
- B. Section 07410- Fascia and Soffit Panels.
- C. Section 07900 - Joint Sealers.
- D. Section 08630 - Metal-Framed Skylights: Metal curbs.

1.03 REFERENCES

- A. ASTM A 653/A 653M - Standard Specification for Steel Sheets, Zinc-Coated (Galvanized) or Zinc-Iron Alloy-Coated (Galvannealed) by the Hot-Dip Process.
- B. ASTM D 4586 - Standard Specification for Asphalt Roof Cement, Asbestos-Free.
- C. SMACNA (ASMM) - Architectural Sheet Metal Manual; Sheet Metal and Air Conditioning Contractors' National Association.
- D. Use the latest issue of the above reference standards as of the date of the Project.

1.04 SUBMITTALS

- A. See Section 01300 - Administrative Requirements, for submittal procedures.
- B. Shop Drawings: Indicate material profile, jointing pattern, jointing details, fastening methods, flashings, terminations, and installation details.

1.05 QUALITY ASSURANCE

- A. Perform work in accordance with SMACNA Architectural Sheet Metal Manual requirements and standard details, except as otherwise indicated.
- B. Maintain one copy of each document on site.
- C. Fabricator and Installer Qualifications: Company specializing in sheet metal work with three years of documented experience.

1.06 DELIVERY, STORAGE, AND HANDLING

- A. Stack material to prevent twisting, bending, and abrasion, and to provide ventilation. Slope metal sheets to ensure drainage.

- B. Prevent contact with materials which may cause discoloration or staining.

PART 2 PRODUCTS

2.01 SHEET MATERIALS

- A. Galvanized Steel: ASTM A 653/A 653M, with G90/Z275 zinc coating; 0.02 inch thick steel.
- B. Pre-Finished Galvanized Steel: ASTM A 653/A 653M, with G90/Z275 zinc coating; 0.02 inch core steel, shop pre-coated with modified silicone coating of color as selected.

2.02 ACCESSORIES

- A. Fasteners: Galvanized steel, with soft neoprene washers.
- B. Primer: Zinc chromate type.
- C. Protective Backing Paint: Zinc chromate alkyd.
- D. Sealant: Type as specified in Section 07900.
- E. Plastic Cement: ASTM D 4586, Type I.

2.03 FABRICATION

- A. Form sections true to shape, accurate in size, square, and free from distortion or defects.
- B. Form pieces in longest possible lengths.
- C. Hem exposed edges on underside 1/2 inch; miter and seam corners.
- D. Form material with flat lock seams, except where otherwise indicated. At moving joints, use sealed lapped, bayonet-type or interlocking hooked seams.
- E. Fabricate corners from one piece with minimum 18 inch long legs; seam for rigidity, seal with sealant.
- F. Fabricate vertical faces with bottom edge formed outward 1/4 inch (6 mm) and hemmed to form drip.
- G. Fabricate flashings to allow toe to extend 2 inches over roofing gravel. Return and brake edges.

2.04 GUTTER AND DOWNSPOUT FABRICATION

- A. Gutters: SMACNA Architectural Sheet Metal Manual, Rectangular profile.
- B. Downspouts: Rectangular profile.
- C. Gutters and Downspouts: Size for rainfall intensity determined by a storm occurrence of 1 in 5 years in accordance with SMACNA Architectural Sheet Metal Manual.
- D. Accessories: Profiled to suit gutters and downspouts.
 - 1. Anchorage Devices: In accordance with SMACNA requirements.
 - 2. Gutter Supports: Brackets.
 - 3. Downspout Supports: Brackets.

- E. Splash Pads: Precast concrete type, of size and profiles indicated; minimum 3000 psi at 28 days, with minimum 5 percent air entrainment.
- F. Downspout Boots: Steel.
- G. Seal metal joints.

PART 3 EXECUTION

3.01 EXAMINATION

- A. Verify roof openings, curbs, pipes, sleeves, ducts, and vents through roof are solidly set, reglets in place, and nailing strips located.
- B. Verify roofing termination and base flashings are in place, sealed, and secure.

3.02 PREPARATION

- A. Install starter and edge strips, and cleats before starting installation.
- B. Back paint concealed metal surfaces with protective backing paint to a minimum dry film thickness of 15 mil.

3.03 INSTALLATION

- A. Secure flashings in place using concealed fasteners. Use exposed fasteners only where permitted.
- B. Apply plastic cement compound between metal flashings and felt flashings.
- C. Fit flashings tight in place. Make corners square, surfaces true and straight in planes, and lines accurate to profiles.
- D. Seal metal joints watertight.
- E. Secure gutters and downspouts in place using concealed fasteners.
- F. Slope gutters 1/4 inch per foot minimum.
- G. Connect downspouts to downspout boots. Seal connection watertight.
- H. Set splash pads under downspouts.

3.04 FIELD QUALITY CONTROL

- A. See Section 01400 - Quality Requirements, for field inspection requirements.
- B. Inspection will involve surveillance of work during installation to ascertain compliance with specified requirements.

END OF SECTION

SECTION 07900

JOINT SEALERS

PART 1 GENERAL

1.01 SECTION INCLUDES

- A. Sealants and joint backing.
- B. Precompressed foam sealers.

1.02 REFERENCES

- A. ASTM C 834 - Standard Specification for Latex Sealants.
- B. ASTM C 920 - Standard Specification for Elastomeric Joint Sealants.
- C. ASTM C 1193 - Standard Guide for Use of Joint Sealants.
- D. ASTM D 1056 - Standard Specification for Flexible Cellular Materials--Sponge or Expanded Rubber.
- E. ASTM D 1565 - Standard Specification for Flexible Cellular Materials--Vinyl Chloride Polymers and Copolymers (Open-Cell Foam).
- F. ASTM D 1667 - Standard Specification for Flexible Cellular Materials--Vinyl Chloride Polymers and Copolymers (Closed-Cell Foam).
- G. ASTM D 2628 - Standard Specification for Preformed Polychloroprene Elastomeric Joint Seals for concrete Pavements.
- H. Use the latest issue of the above reference standards as of the date of the Project.

1.03 SUBMITTALS

- A. See Section 01300 - Administrative Requirements, for submittal procedures.
- B. Product Data: Provide data indicating sealant chemical characteristics.
- C. Manufacturer's Installation Instructions: Indicate special procedures.

1.04 QUALITY ASSURANCE

- A. Maintain one copy of each referenced document covering installation requirements on site.
- B. Manufacturer Qualifications: Company specializing in manufacturing the Products specified in this section with minimum three years documented experience.
- C. Applicator Qualifications: Company specializing in performing the work of this section with minimum three years experience.

1.05 ENVIRONMENTAL REQUIREMENTS

- A. Maintain temperature and humidity recommended by the sealant manufacturer during and after installation.

1.06 COORDINATION

- A. Coordinate the work with all sections referencing this section.

1.07 WARRANTY

- A. See Section 01780 - Closeout Submittals, for additional warranty requirements.
- B. Correct defective work within a one year period after Date of Substantial Completion.
- C. Warranty: Include coverage for installed sealants and accessories which fail to achieve watertight seal, exhibit loss of adhesion or cohesion, or do not cure.

PART 2 PRODUCTS

2.01 MANUFACTURERS

- A. Silicone Sealants:
 - 1. Tremco, Inc.
 - 2. Substitutions: See Section 01600 - Product Requirements.
- B. Polyurethane Sealants:
 - 1. Tremco, Inc.
 - 2. Substitutions: See Section 01600 - Product Requirements.
- C. Acrylic Sealants:
 - 1. Tremco, Inc.
 - 2. Substitutions: See Section 01600 - Product Requirements.
- D. Acrylic Emulsion Latex Sealants:
 - 1. Tremco, Inc.
 - 2. Substitutions: See Section 01600 - Product Requirements.

2.02 SEALANTS

- A. General Purpose Exterior Sealant: Polyurethane; ASTM C 920, Grade NS, Class 25, Uses M, G, and A; single component.
 - 1. Color: Standard colors matching finished surfaces.
 - 2. Applications: Use for:
 - a. Control, expansion, and soft joints in masonry.
 - b. Joints between concrete and other materials.
 - c. Joints between metal frames and other materials.
 - d. Other exterior joints for which no other sealant is indicated.
- B. General Purpose Interior Sealant: Acrylic emulsion latex; ASTM C 834, single component, paintable.
 - 1. Color: Standard colors matching finished surfaces.
 - 2. Applications: Use for:
 - a. Interior wall and ceiling control joints.
 - b. Joints between door and window frames and wall surfaces.
 - c. Other interior joints for which no other type of sealant is indicated.

- C. Interior Floor Joint Sealant: Polyurethane, self-leveling; ASTM C 920, Grade P, Class 25, Uses T, M and A; single component.
 - 1. Approved by manufacturer for wide joints up to 1-1/2 inches.
 - 2. Color: Standard colors matching finished surfaces.
 - 3. Applications: Use for:
 - a. Expansion joints in floors.
- D. Concrete Paving Joint Sealant: Polyurethane, self-leveling; ASTM C 920, Class 25, Uses T, M and A; single component.
 - 1. Color: Gray.
 - 2. Applications: Use for:
 - a. Joints in sidewalks and vehicular paving.

2.03 ACCESSORIES

- A. Primer: Non-staining type, recommended by sealant manufacturer to suit application.
- B. Joint Cleaner: Non-corrosive and non-staining type, recommended by sealant manufacturer; compatible with joint forming materials.
- C. Joint Backing: Round foam rod compatible with sealant; ASTM D 1667, closed cell PVC; oversized 30 to 50 percent larger than joint width.
- D. Bond Breaker: Pressure sensitive tape recommended by sealant manufacturer to suit application.

PART 3 EXECUTION

3.01 EXAMINATION

- A. Verify that substrate surfaces are ready to receive work.
- B. Verify that joint backing and release tapes are compatible with sealant.

3.02 PREPARATION

- A. Remove loose materials and foreign matter which might impair adhesion of sealant.
- B. Clean and prime joints in accordance with manufacturer's instructions.
- C. Perform preparation in accordance with manufacturer's instructions and ASTM C 1193.
- D. Protect elements surrounding the work of this section from damage or disfigurement.

3.03 INSTALLATION

- A. Perform work in accordance with sealant manufacturer's requirements for preparation of surfaces and material installation instructions.
- B. Perform installation in accordance with ASTM C 1193.
- C. Measure joint dimensions and size joint backers to achieve width-to-depth ratio, neck dimension, and surface bond area as recommended by manufacturer, except where specific dimensions are indicated.

- D. Install bond breaker where joint backing is not used.
- E. Install sealant free of air pockets, foreign embedded matter, ridges, and sags.
- F. Apply sealant within recommended application temperature ranges. Consult manufacturer when sealant cannot be applied within these temperature ranges.
- G. Tool joints concave.

3.04 CLEANING

- A. Clean adjacent soiled surfaces.

3.05 PROTECTION OF FINISHED WORK

- A. Protect sealants until cured.

END OF SECTION