

SECTION 07 71 00
ROOF SPECIALTIES

SPEC WRITER NOTES:

1. Use this section only for NCA projects.
2. Delete between //___// if not applicable to project. Also delete any other item or paragraph not applicable in the section and renumber the paragraphs.
3. Include standard manufactured components installed on and in roofing other than mechanical, electrical, and structural items.

PART 1 - GENERAL

1.1 DESCRIPTION

- A. This section specifies manufactured copings, gravel stops, fascias, and expansion joints.

1.2 RELATED WORK

- A. Color and texture of finish: Section 09 06 00, SCHEDULE FOR FINISHES.
B. Sealant material and installation: Section 07 92 00, JOINT SEALANTS.
C. General insulation: Section 07 21 13, THERMAL INSULATION.
D. Rigid insulations for roofing: Section 07 22 00, ROOF AND DECK INSULATION.

1.3 PERFORMANCE REQUIREMENTS

- A. General Performance: Roof specialties must withstand exposure to weather and resist thermally induced movement without failure, rattling, leaking, or fastener disengagement due to defective manufacture, fabrication, installation, or other defects in construction.
- B. Single-Ply Roofing Institute (SPRI) Wind Design Standard: Manufacture and install copings and roof-edge flashings tested according to ANSI/SPRI ES-1 and capable of resisting the design pressures as determined by roofing specifications.
- C. Thermal Movements: Allow for thermal movements from ambient and surface temperature changes to prevent buckling, opening of joints, hole elongation, overstressing of components, failure of joint sealants, failure of connections, and other detrimental effects. Provide clips that resist rotation and avoid shear stress as a result of thermal movements. Base calculations on surface temperatures of materials due to both solar heat gain and nighttime-sky heat loss.

1. Temperature Change (Range): 120 deg F, ambient; 180 deg F, material surfaces.

1.4 QUALITY CONTROL

- A. All roof accessories to be the products of manufacturers regularly engaged in producing the kinds of products specified.
- B. Each accessory type must be the same and be made by the same manufacturer.
- C. Assemble each accessory to the greatest extent possible before delivery to the site.

1.5 SUSTAINABILITY REQUIREMENTS

- A. Materials in this section may contribute towards contract compliance with sustainability requirements. See Section 01 81 11, SUSTAINABLE DESIGN REQUIRMENTS, for project // local/regional materials, // low-emitting materials, // recycled content, // _____// requirements.

1.6 SUBMITTALS

- A. Submit in accordance with Section 01 33 23, SHOP DRAWINGS, PRODUCT DATA, AND SAMPLES.
- B. Samples: Provide representative sample panel of color finished aluminum sheet not less than 100 mm X 100 mm (four by four inches); provide extrusions in a width not less than section to be used. Include manufacturer's identifying label.
- C. Shop Drawings: Indicate each item specified showing design, details of construction, installation and fastenings.
- D. Manufacturer's Literature and Data: Provide for each item specified; include current testing reports confirming compliance to wind design standard.
- E. Certificates: State that aluminum has been given specified thickness of anodizing.

1.7 PRE-INSTALLATION CONFERENCE

- A. Convene a meeting on site, after submittals are received and approved but before any work, to review drawings and specifications, submittals, schedule, manufacturer instructions, site logistics and pertinent matters of coordination, temporary protection, governing regulations, tests and inspections; participants to include RE/COR and all parties whose work is effected or related to the work of this section.

1.8 APPLICABLE PUBLICATIONS

- A. Publications listed below form a part of this specification to extent referenced. Publications are referenced in text by the basic

designation only. Comply with applicable provisions and recommendations of the following, except as otherwise shown or specified.

SPEC WRITER NOTES:

1. Remove reference citations that do not remain in Part 2 or Part 3 of edited specification.
2. Verify and make dates indicated for remaining citations the most current at date of submittal; determine changes from date indicated on the TIL download of the section and modify requirements impacted by the changes.

B. American Architectural Manufacturers Association (AAMA):

2605-11 High Performance Organic Coatings on
Architectural Extrusions and Panels

C. American National Standards Institute/Single-Ply Roofing Institute
(ANSI/SPRI):

ANSI/SPRI ES-1-03 Wind Design Standard for Edge Systems Used with
Low Slope Roofing Systems

D. American Society for Testing and Material (ASTM):

A653/A653M-09 Steel Sheet, Zinc-Coated (Galvanized), or Zinc-
Iron Alloy-Coated (Galvannealed) by the Hot-Dip
Process

B209-10 Aluminum and Aluminum Alloy-Sheet and Plate

B221-13 Aluminum-Alloy Extruded Bars, Rods, Wire,
Profiles, and Tubes

C612-10 Mineral Fiber Block and Board Thermal
Insulation

D1187/D1187M-97(2011)e1 Asphalt-Base Emulsions for Use as Protective
Coatings for Metal

E. National Association of Architectural Metal Manufacturers (NAAMM):

AMP 500-505-06 Metal Finishes Manual

PART 2 - PRODUCTS

SPEC WRITER NOTES:

1. Update materials requirements to agree with applicable requirements (types, grades, classes) specified in the referenced Applicable Publications.

2.1 MATERIALS

A. Aluminum, Extruded: ASTM B221/B221M.

B. Aluminum Sheet: ASTM B209/B209M.

C. Galvanized Sheet Steel: ASTM A653/A653M; G-90 coating.

D. Asphalt Coating: ASTM D 1187, Type I, quick setting.

SPEC WRITER NOTES:

1. Detail coping system; select thickness of metal for wall thickness span. Select anchoring system to conform to details.
2. Specify Category 5 FM rated coping where wind uplift is a critical factor.

2.2 COPINGS

- A. Fabricate coping cap of aluminum not less than // 1.6 // 2 // 3.2 //-mm (0.063 // 0.08 // 0.125 // inch thick; 16 oz copper // 0.5 mm (0.018 inch thick stainless steel)//.
- B. Turn outer edges down each face of wall as shown.
- C. Maximum lengths of 3000 mm (10 feet).
- D. Provide factory mitered and continuously welded external and internal corners as one piece assemblies with not less than 300 mm (12 inch) leg lengths.
- E. Provide 100 mm (four inch) wide 0.8 mm (0.032 inch) thick watertight joint covers.
- F. Provide anchor gutter bar of 0.8 mm (0.032 inch) thick with anchor holes formed for underside of joint.
- G. Provide concealed guttered splice plate of 0.8 mm (0.032 inch) thick with butyl or other resilient seal strips anchored to splice plate for underside of joint. Use galvanized steel anchor plate providing compression spring anchoring of coping cover.
- H. Coping-Cap Attachment Method: Snap-on, fabricated from coping-cap material.
- I. Anchor Plates: Concealed, galvanized-steel sheet, 300 mm (12 inches wide), with integral cleats.
- J. Face Leg Cleats: Concealed, continuous galvanized-steel sheet.
- K. Finish: // Anodized // Fluoropolymer //.

SPEC WRITER NOTES:

1. Detail gravel stop and fascias. Where protective membrane insulation or 1-90 design occurs use system that clamps insulation or pavers down. Provide scupper accessory at water line for overflow protection when stop exceeds one inch in height above roof line.

2.3 EXTRUDED ALUMINUM GRAVEL STOPS AND FASCIAS

- A. Fabricate of exposed cover and splice plates with aluminum not less than 2 mm (0.078 inch) thick.

- B. Turn fascia down face of wall and up above roof as shown.
- C. Limit maximum lengths to 3000 mm (10 feet).
- D. Provide factory mitered and continuously welded external and internal corners as one piece assemblies with not less than 300 mm (12 inch) leg lengths.
- E. Provide continuous extruded aluminum anchor bar, meeting performance requirements.
- F. Finish: // Anodized // Fluorocarbon //.

SPEC WRITER NOTES:

1. Use not less than 100 mm (4 inch) high cant above roof.

2.4 ALUMINUM FASCIA-CANT SYSTEM

- A. The fascia-cant system consists of three pieces, a formed aluminum fascia, a galvanized steel cant, and an aluminum compression clamp.
- B. Furnish in stock lengths of not more than 3000 mm (10 feet) long.
- C. Form fascia from not less than 2 mm (0.070 inch) thick aluminum. Provide minimum 100 mm (4 inch wide) concealed splice plates at cover joints.
- D. Form cant strip from galvanized steel not less than 0.8 mm (0.0299 inch) thick, to profile shown and design to hold lower edge of the fascia.
- E. Form compression clamp aluminum designed to hold the top edge of the fascia and the roof flashing.
- F. Finish: // Anodized // Fluorocarbon //.
- G. Internal and External Corners:
 1. Factory fabricate and fully weld mitered joints.
 2. Furnish corner sections in // manufacturers standard sizes // sizes shown // with not less than 300 mm (12 inch) leg lengths.//

2.5 PERIMETER ACCESSORIES

SPEC WRITER NOTES:

1. Use sump assembly when downspouts are used to drain roof not having roof drains.
- A. Factory Fabricated Fascia Sump Assemblies: Provide as manufactured accessory by same manufacturer as fascia system.
 1. Fabricate sump assemblies with stainless steel cores and extruded aluminum cover to match fascia-cant.
 2. Provide stainless steel outlet, tube sized to suit downspout and solder to core to make watertight.
 3. Furnish sump assembly in 500 mm (20 inch) minimum lengths.

SPEC WRITER NOTES:

1. Use scuppers for overflow safety if only one roof drain occurs.

- B. Factory Fabricated Scupper Assemblies: Provide as manufactured accessory by same manufacturer as fascia system.
1. Fabricate scupper assembly with extended plates to match fascia-cant in 500 mm (20 inch) minimum lengths.
 2. Extend outlet opening not less than 50 mm (two inches) with drip edge.
 3. Fabricate with stainless steel cores or sleeve to drain water from toe of cant and flash in to built-up roofing with 100 mm (4 inch) wide flange.
- C. Finish on aluminum: // anodized // fluorocarbon // as specified.

SPEC WRITER NOTES:

1. Insure expansion joints are installed on curbs providing not less than 200 mm (8 inch) high base flashing. Detail and show system; allow option for use of both system.

2.6 EXTRUDED ALUMINUM ROOF EXPANSION JOINT COVERS

- A. Fabricate in 3000 mm (10 foot) lengths with fastener openings slotting for expansion not over 600 mm (24 inch) centers.
- B. Provide four-way expansion, for joint widths shown.
- C. Mill finish on aluminum.
- D. Form waterstop or moisture seals of continuous sheets of neoprene, not less than 0.8 mm (0.032 inch) thick.
- E. Fabricate corners as one piece assembly with mitered and welded joint and least dimension legs not less than 300 mm (12 inches) long.
- F. Factory fabricate end caps and transitions to insure waterproof assembly.
- G. Three-Piece Assembly:
 1. Roof expansion joint cover system consists of an aluminum cover, extruded frame or curb vertical section, galvanized steel cant, and aluminum compression clamp counter flashing, complete with moisture seals. Form cover and vertical section from extruded aluminum, 2 mm (0.080 inch) minimum thickness with spring stainless steel tension or pivot bar.
 2. Form cant from galvanized steel not less than 0.8 (0.029 inch) thick formed to profile shown.

3. Form splice plates of not less than 0.8 mm (0.032 inch) thick aluminum sheet.
4. Form counter flashing member of 1.3 mm (0.050 inch) thick sheet aluminum, secured with screws to the top edge of the vertical section and providing compression clamp over base flashing.
5. Provide compression gasket separating cover from curb bearing.

H. Two-Piece Assembly:

1. Roof expansion joint system consists of an extruded aluminum cover combination extruded aluminum frame or curb with integral adjustable counter flashing flange, and moisture seals.
2. Form cover from extruded aluminum 2 mm (0.078 inch) minimum thickness.
3. Form cover anchor system of stainless steel pivot bar.
4. Form frame assembly of not less than 2 mm (0.076 inch) aluminum except for flashing portion.
5. Provide compression gasket separating cover from curb at bearing.

SPEC WRITER NOTES:

Edit following:

1. If more than one finish is used on project, proceed finish spec with "Finish for (list items);" Use mill finish for aluminum unless specified otherwise under item.

2.7 FINISH

- A. In accordance with NAAMM Amp 500-505.
- B. Aluminum, Mill Finish: AA-MIX, as fabricated.
- C. Aluminum, Clear Finish: AA-C22A41 medium matte, clear anodic coating, // Class 1, Architectural, 0.7 mils thick. // Class II, Architectural, 0.4 mils thick. //
- D. Aluminum Colored Finish: AA-C22A42 (anodized or AA-C22A44 (electrolytically deposited metallic compound) medium matte, integrally colored coating, // Class 1, Architectural, 0.7 mils thick //. Class II, Architectural, 0.4 mils thick. Dyes will not be accepted.
- E. Fluoropolymer Finish: AAMA 2605 high performance organic coating.

SPEC WRITER NOTES:

1. Show anchorage location for items specified on drawings.

PART 3 - EXECUTION

3.1 INSTALLATION

- A. Install roof accessories where shown and as directed by manufacturer.

- B. Secure with fasteners in accordance with manufacture's printed installation instructions and approved shop drawings unless shown otherwise.
- C. Coordinate to install insulation where shown; see Section 07 21 13, THERMAL INSULATION, and Section 07 22 00, ROOF AND DECK INSULATION.
- D. Comply with section 07 92 00, JOINT SEALANTS, to install sealants where manufactures installation instructions require sealant.
- E. Coordinate with roofing work for installation of items in sequence to prevent water infiltration.
- F. Expansion Joint Covers:
 - 1. Install to terminate base flashing minimum 200 mm (8 inches) above roof.
 - 2. Install moisture seals to drain water to outlets that do not permit water to enter buildings construction.
 - 3. Use stainless steel screws when exposed.
 - 4. Three-Piece Assembly:
 - a. Install curb section with screws to wood blocking, allowing 6 mm (1/4 inch) at butt joints between sections with splice plate at joint.
 - b. Install cant to wood blocking by nailing along horizontal flange every 150 mm (6 inches), with galvanized roofing nails 25 mm (one inch) long.
 - c. After completion of base flashing install cap flashing and compression clamp and fasten to the curb or metal cant with stainless steel self-tapping screws with neoprene washers under head spaced approximately 450 mm (18 inches) on center.
 - d. Install expansion joint cover with a 6 mm (1/4 inch) wide end joints.
 - e. Install over end joint a cover plate complete with concealed aluminum flashing, centered under each joint. Fabricate flashing to lap cover not less than four inches.
 - 5. Two-Piece Assembly:
 - a. Install curb section with screws allowing 6 mm (1/4 inch) space at end joints with splice plate at joint.
 - b. After completion of base flashing bend down cap flashing flange and secure to blocking with screws.
 - c. Install expansion joint cover with 6 mm (1/4 inch) wide space at end joints and tension bars at 600 mm (24 inches) on center.

- d. Install cover plates with formed aluminum flashing concealed and centered on joint. Flashing must lap cover minimum 100 mm (4 inches).

3.2 PROTECTION OF ALUMINUM

- A. Provide protection for aluminum against galvanic action wherever dissimilar materials are in contact, by painting the contact surfaces of the dissimilar material with two coats of asphalt coating (complete coverage), or by separating the contact surfaces with a preformed neoprene tape having pressure sensitive adhesive coating on side.
- B. Paint aluminum in contact with wood, concrete and masonry, or other absorptive materials, that may become repeatedly wet, with two coats of asphalt coating.

3.3 ADJUSTING

- A. Adjust expansion joints to close tightly and be watertight; insuring maximum allowance for building movement.

3.4 PROTECTION

- A. Protect roof accessories from damage during installation and after completion of the work from subsequent construction.

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