

**SECTION 07 71 00  
ROOF SPECIALTIES**

**PART 1 GENERAL**

**1.01 REFERENCE STANDARDS**

- A. ASTM A240/A240M - Standard Specification for Chromium and Chromium-Nickel Stainless Steel Plate, Sheet, and Strip for Pressure Vessels and for General Applications; 2024b.
- B. ASTM A666/A666M - Standard Specification for Annealed or Cold-Worked Austenitic Stainless Steel Sheet, Strip, Plate, and Flat Bar; 2024.
- C. ASTM B32 - Standard Specification for Solder Metal; 2020.
- D. ASTM C920 - Standard Specification for Elastomeric Joint Sealants; 2018.
- E. ASTM C1311 - Standard Specification for Solvent Release Sealants; 2022.
- F. ASTM D226/D226M - Standard Specification for Asphalt-Saturated Organic Felt Used in Roofing and Waterproofing; 2017 (Reapproved 2023).
- G. ASTM D1970/D1970M - Standard Specification for Self-Adhering Polymer Modified Bituminous Sheet Materials Used as Steep Roofing Underlayment for Ice Dam Protection; 2021.

**1.02 RELATED DOCUMENTS**

- A. The Contract Documents include: the "Contract Drawings"; the "Specifications"; the "Special Notice to Contractors", "Special Conditions", NYC Housing Authority Contracts", latest edition; the "Form of Proposal", "Form of Bid Bond", and all amendments and addenda, all of which govern the work of this Contract.
- B. Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division 01 Specification Sections, apply to this Section.

**1.03 SUMMARY**

- A. Section Includes:
  - 1. Roof-edge specialties.
  - 2. Roof-edge drainage systems.
  - 3. Reglets and counterflashing.
  - 4. Drip Edge.
- B. Related Requirements:
  - 1. Section 07 14 00 "Cold Fluid Applied Reinforced Roofing".
- C. Pre-installation Conference: Conduct conference at Project site.
  - 1. Meet with Authority Representative, Architect, roofing-system testing and inspecting agency representative, roofing Installer, roofing-system manufacturer's representative, Installer, structural-support Installer, and installers whose work interfaces with or affects roof specialties, including installers of roofing materials and accessories.
  - 2. Examine substrate conditions for compliance with requirements, including flatness and attachment to structural members.
  - 3. Review special roof details, roof drainage, and condition of other construction that will affect roof specialties.

**1.04 SUBMITTALS**

- A. Product Data: For each type of product.
  - 1. Include construction details, material descriptions, dimensions of individual components and profiles, and finishes.
- B. Samples: For each type of roof specialty specified.
  - 1. Include roof-edge specialties made from 12-inch (300-mm) lengths of full-size components in specified material, and including fasteners, cover joints, accessories, and attachments.
- C. Qualification Data: For manufacturer.

- D. Installer's qualifications.
- E. Product Test Reports: For roof-edge flashings, for tests performed by a qualified testing agency.
- F. Sample Warranty: For manufacturer's special warranty.

#### **1.05 QUALITY ASSURANCE**

- A. Manufacturer Qualifications: A qualified manufacturer offering products meeting requirements that are FM Approvals listed for specified class and SPRI ES-1 tested to specified design pressure.
  - 1. Source Limitations: Obtain roof specialties approved by manufacturer providing roofing-system warranty specified in Section 07 14 00 "Cold Fluid Applied Reinforced Roofing".

#### **1.06 DELIVERY, STORAGE, AND HANDLING**

- A. Do not store roof specialties in contact with other materials that might cause staining, denting, or another surface damage. Store roof specialties away from uncured concrete and masonry.
- B. Protect strippable protective covering on roof specialties from exposure to sunlight and high humidity, except to extent necessary for the period of roof-specialty installation.

#### **1.07 FIELD CONDITIONS**

- A. Field Measurements: Verify profiles and tolerances of roof-specialty substrates by field measurements before fabrication and indicate measurements on Shop Drawings.
- B. Coordination: Coordinate roof specialties with flashing, trim, and construction of roof deck, and other adjoining work to provide a leakproof, secure, and noncorrosive installation.

#### **1.08 WARRANTY**

- A. Roofing-System Warranty: Roof specialties are included in warranty provisions in Section 07 14 00 "Cold Fluid Applied Reinforced Roofing".

### **PART 2 PRODUCTS**

#### **2.01 PERFORMANCE REQUIREMENTS**

- A. General Performance: Roof specialties shall 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. FM Approvals' Listing: Manufacture and install copings and roof-edge specialties that are listed in FM Approvals' "RoofNav" and approved for windstorm classification, Class 1-90. Identify materials with FM Approvals' markings.
- C. ANSI/SPRI Wind Design Standard: Manufacture and install copings, fascias, sumps, cap flashings and roof-edge specialties of stainless steel and each location's specific profile shall be tested and certified for ANSI/SPRI ES-1 wind resistance for 110 mph.
- D. 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 (67 deg C), ambient; 180 deg F (100 deg C), material surfaces.

#### **2.02 MANUFACTURERS**

- A. Manufacturers: Subject to compliance with requirements, provide products by the following:
  - 1. Metal-Era, Inc
    - a. 16000 Airport Road, Waukesha, WI 53188
    - b. Phone: (800) 558 – 2162
    - c. Fax: (800) 373 – 9156
    - d. Internet: [www.metalera.com](http://www.metalera.com)

2. B&B Sheet Metal
  - a. 24-40 50th Ave., LIC, NY, 11101
  - b. Phone: (718) 433 – 2501
3. OMG Edge Systems
  - a. 4 Commerce Way,
  - b. Ardden, NC 28704
  - c. Phone: (828) 676 – 1700
  - d. Fax: (828) 676 – 2323
  - e. Internet: www.omgedgesystems.com

### **2.03 ROOF-EDGE SPECIALTIES**

- A. The fascia, fascia sumps coping, angle and cap flashing system.
  1. 1. The fascia, fascia sumps a system should have their own guarantee but must be compatible with and covered by the roofing manufacturer's guaranteed roofing system. Proof of the guarantees must be provided as part of the shop drawing submission (see below).
  2. a. The Fascia, sump, coping and cap flashing metal systems shall be stainless steel and each profile which is designed/detailed for each site-specific location shall be tested and certified for SPRI ES-1 wind resistance for 110 mph.
  3. b. In addition, the coping must meet FM-90/ Class A fire resistance.
  4. c. Manufacture's shop drawings with the Contractor's Company and review dates must be submitted for review and final approval by NYCHA during the submissions process for the fascia, sump, Coping and cap flashing metal systems. No fabrication is permitted before receiving approval of the shop drawings.
  5. d. Fascia /Sumps and coping must be installed by the manufacturer's pre-certified installer or at minimum the manufacturer's representative must be present and approved the sample installation of all metal systems.
  6. e. Stainless steel shall be Type 304 (2D) dull, non-reflective finish, conforming to Federal Specification QQ-S-766 (dead soft fully annealed).
  7. f. Corners of Fascia, coping, sump and cap flashing shall be prefabricated, one piece with soldered or welded seams.
  8. g. Gauges for sheet stainless steel shall be U.S. Standard; gauges for non-ferrous metals shall be B & S.
    - a. • Fascia/gravel stops & Integral fascia Sumps cover 22 gauge
    - b. • concealed anchor bar (cleat) 18 gauge.
    - c. • Fascia Sump down Spout and Leaders @ Roofs: Leaders shall be 4" dia. 20-gauge stainless steel and carry water from Downspout down to elbow and splash block with pad on roof below. Accessories shall include: Leader clips, elbows, end caps, inside miters, outside miters, Leader/downspout seal, Leaf screen and miscellaneous supports.
  9. h. If solder is used for stainless steel shall be 40 percent lead and 60 percent tin (new materials) and shall conform to ASTM B32. Flux shall meet Federal Specifications O-F-506.
  10. i. Underlying fastener Angle for Fascia, Fascia sumps shall be the manufacturer's designated gauge and material or if stainless steel a minimum 20-gauge stainless steel.

### **2.04 ROOF-EDGE DRAINAGE SYSTEMS**

- A. Splash Blocks: Precast concrete splash blocks (downspout splash guards) as indicated on the drawings.

### **2.05 REGLETS AND COUNTERFLASHINGS**

- A. Reglets: Manufactured units formed to provide secure interlocking of separate reglet and counterflashing pieces, from the following exposed metal:
  1. Stainless Steel: Minimum 24 gauge

- B. Counterflashings: Manufactured units of heights to overlap top edges of base flashings by 4 inches and in lengths not exceeding 12 feet designed to snap into reglets or through-wall-flashing receiver and compress against base flashings with joints lapped, from the following exposed metal:
  - 1. Stainless Steel: Minimum 24 gauge
- C. Accessories:
  - 1. Flexible-Flashing Retainer: Provide resilient plastic or rubber accessory to secure flexible flashing in reglet where clearance does not permit use of standard metal counterflashing or where reglet is provided separate from metal counterflashing.
  - 2. Counterflashing Wind-Restraint Clips: Provide clips to be installed before counterflashing to prevent wind uplift of counterflashing lower edge.

## **2.06 MANUFACTURED SHEET METAL FLASHING AND TRIM**

- A. Through-Wall, Sheet Metal Flashing: Manufacture through-wall sheet metal flashing for embedment in masonry, with ribs at 3-inch (75-mm) intervals along length of flashing to provide integral mortar bond. Manufacture through-wall flashing.
  - 1. Stainless Steel: Minimum 22 gauge

## **2.07 MATERIALS**

- A. Stainless-Steel Sheet: ASTM A240/A240M or ASTM A666/A666M, Type 304, dead soft, fully annealed; with smooth, flat surface.
  - 1. Finish: No. 2D (dull, non-reflective finish, conforming to Federal Specification QQ-S-766).

## **2.08 UNDERLAYMENT MATERIALS**

- A. Self-Adhering, High-Temperature Sheet: Minimum 30 to 40 mils (0.76 to 0.04 inch thick, consisting of slip-resisting polyethylene-film top surface laminated to layer of butyl or SBS-modified asphalt adhesive, with release-paper backing; cold applied. Provide primer when recommended by underlayment manufacturer.
  - 1. Thermal Stability: ASTM D1970/D1970M; stable after testing at 240 deg F (116 deg C).
  - 2. Low-Temperature Flexibility: ASTM D1970/D1970M; passes after testing at minus 20 deg F (29 deg C).
- B. Felt: ASTM D226/D226M, Type II (No. 30), asphalt-saturated organic felt, nonperforated.
- C. Slip Sheet: Rosin-sized building paper, 3-lb/100 sq. ft. (0.16-kg/sq. m) minimum.

## **2.09 MISCELLANEOUS MATERIALS**

- A. Fasteners: Manufacturer's recommended fasteners, suitable for application and designed to meet performance requirements. Furnish the following unless otherwise indicated:
  - 1. Fasteners for Stainless-Steel Sheet: Series 300 stainless steel.
- B. Elastomeric Sealant: ASTM C920, elastomeric polyurethane or silicone polymer sealant of type, grade, class, and use classifications required by roofing-specialty manufacturer for each application.
- C. Butyl Sealant: ASTM C1311, single-component, solvent-release butyl rubber sealant; polyisobutylene plasticized; heavy bodied for hooked-type joints with limited movement.
- D. Solder:
  - 1. For Stainless Steel: ASTM B32, Grade Sn60, with acid flux of type recommended by stainless-steel sheet manufacturer.

## **2.10 FINISHES**

- A. Comply with NAAMM's "Metal Finishes Manual for Architectural and Metal Products" for recommendations for applying and designating finishes.
- B. Concealed Surface Finish: Apply pretreatment and manufacturer's standard acrylic or polyester backer finish consisting of prime coat and wash coat with a minimum total dry film thickness of 0.5 mil.

## **PART 3 EXECUTION**

### **3.01 EXAMINATION**

- A. Examine substrates, areas, and conditions, with Installer present, to verify actual locations, dimensions, and other conditions affecting performance of the Work.
- B. Examine walls, roof edges, and roof deck for suitable conditions for roof specialties.
- C. Verify that substrate is sound, dry, smooth, clean, sloped for drainage where applicable, and securely anchored.
- D. Proceed with installation only after unsatisfactory conditions have been corrected.

### **3.02 UNDERLAYMENT INSTALLATION**

- A. Self-Adhering Sheet Underlayment: Apply primer if required by manufacturer. Comply with temperature restrictions of underlayment manufacturer for installation. Apply wrinkle free, in shingle fashion to shed water, and with end laps of not less than 6 inches staggered 24 inches between courses. Overlap side edges not less than 3-1/2 inches. Roll laps with roller. Cover underlayment within 14 days.
  - 1. Coordinate application of self-adhering sheet underlayment under roof specialties with requirements for continuity with adjacent roofing materials.
- B. Felt Underlayment: Install with adhesive for temporary anchorage to minimize use of mechanical fasteners under roof specialties. Apply in shingle fashion to shed water, with lapped joints of not less than 2 inches.
- C. Slip Sheet: Install with tape or adhesive for temporary anchorage to minimize use of mechanical fasteners under roof specialties. Apply in shingle fashion to shed water, with lapped joints of not less than 2 inches.

### **3.03 INSTALLATION, GENERAL**

- A. General: Install roof specialties according to manufacturer's written instructions. Anchor roof specialties securely in place, with provisions for thermal and structural movement. Use fasteners, solder, protective coatings, separators, underlayments, sealants, and other miscellaneous items as required to complete roof-specialty systems.
  - 1. Install roof specialties level, plumb, true to line and elevation; with limited oil-canning and without warping, jogs in alignment, buckling, or tool marks.
  - 2. Provide uniform, neat seams with minimum exposure of solder and sealant.
  - 3. Install roof specialties to fit substrates and to result in weathertight performance. Verify shapes and dimensions of surfaces to be covered before manufacture.
  - 4. Torch cutting of roof specialties is not permitted.
  - 5. Do not use graphite pencils to mark metal surfaces.
- B. Metal Protection: Protect metals against galvanic action by separating dissimilar metals from contact with each other or with corrosive substrates by painting contact surfaces with bituminous coating or by other permanent separation as recommended by manufacturer.
  - 1. Coat concealed side of stainless-steel roof specialties with bituminous coating where in contact with wood, ferrous metal, or cementitious construction.
  - 2. Bed flanges in thick coat of asphalt roofing cement where required by manufacturers of roof specialties for waterproof performance.
- C. Expansion Provisions: Allow for thermal expansion of exposed roof specialties.
  - 1. Space movement joints at a maximum of 12 feet with no joints within 18 inches of corners or intersections unless otherwise indicated on Drawings.
  - 2. When ambient temperature at time of installation is between 40 and 70 deg F (4 and 21 deg C), set joint members for 50 percent movement each way. Adjust setting proportionately for installation at higher ambient temperatures.
- D. Fastener Sizes: Use fasteners of sizes that penetrate substrate not less than recommended by fastener manufacturer to achieve maximum pull-out resistance.
- E. Seal concealed joints with sealant as required by roofing-specialty manufacturer.

- F. Seal joints as required for weathertight construction. Place sealant to be completely concealed in joint. Do not install sealants at temperatures below 40 deg F (4 deg C).
- G. Soldered Joints: Clean surfaces to be soldered, removing oils and foreign matter. Do not use torches for soldering. Heat surfaces to receive solder and flow solder into joint. Fill joint completely. Completely remove flux and spatter from exposed surfaces.

### **3.04 ROOF-EDGE SPECIALTIES INSTALLATION**

- A. Install cleats, cants, and other anchoring and attachment accessories and devices with concealed fasteners.
- B. Anchor roof edgings with manufacturer's required devices, fasteners, and fastener spacing to meet performance requirements.

### **3.05 ROOF-EDGE DRAINAGE-SYSTEM INSTALLATION**

- A. General: Install components to produce a complete roof-edge drainage system according to manufacturer's written instructions. Coordinate installation of roof perimeter flashing with installation of roof-edge drainage system.
- B. Downspouts: Join sections with manufacturer's standard joints. Provide hangers with fasteners designed to hold downspouts securely to walls and 1 inch away from walls; locate fasteners at top and bottom and at approximately 60 inches o.c.
  - 1. Provide elbows at base of downspouts to direct water away from building walls.
- C. Splash Pans: Install where downspouts discharge on low-slope roofs. Set in sealant.
- D. Conductor Heads: Anchor securely to wall with elevation of conductor top edge 1 inch below discharge.

### **3.06 REGLET AND COUNTERFLASHING INSTALLATION**

- A. General: Coordinate installation of reglets and counterflashings with installation of base flashings.

### **3.07 WALL FLASHING INSTALLATION**

- A. General: Install sheet metal wall flashing to intercept and exclude penetrating moisture according to cited sheet metal standard unless otherwise indicated. Coordinate installation of wall flashing with installation of wall-opening components such as windows, doors, and louvers.
  - 1. MISCELLANEOUS FLASHING INSTALLATION
- B. Equipment Support Flashing: Coordinate installation of equipment support flashing with installation of roofing and equipment. Weld or seal flashing with sealant to equipment support member.

### **3.09 CLEANING AND PROTECTION**

- 1. Clean exposed metal surfaces of substances that interfere with uniform oxidation and weathering.
- B. Clean and neutralize flux materials. Clean off excess solder and sealants.
- C. Remove temporary protective coverings and strippable films as roof specialties are installed. On completion of installation, clean finished surfaces, including removing unused fasteners, metal filings, pop rivet stems, and pieces of flashing. Maintain roof specialties in a clean condition during construction.
- D. Replace roof specialties that have been damaged or that cannot be successfully repaired by finish touchup or similar minor repair procedures.

**END OF SECTION 07 71 00**