

**SECTION 22 14 23**  
**STORM DRAINAGE PIPING SPECIALTIES**

**PART 1 GENERAL**

**1.01 REFERENCE STANDARDS**

- A. ASME A112.6.4 - Roof, Deck, and Balcony Drains; 2022.
- B. ASTM A48/A48M - Standard Specification for Gray Iron Castings; 2022.
- C. ASTM A653/A653M - Standard Specification for Steel Sheet, Zinc-Coated (Galvanized) or Zinc-Iron Alloy-Coated (Galvannealed) by the Hot-Dip Process; 2023.
- D. ASTM B32 - Standard Specification for Solder Metal; 2020.
- E. ASTM D4068 - Standard Specification for Chlorinated Polyethylene (CPE) Sheeting for Concealed Water-Containment Membrane; 2017 (Reapproved 2022).

**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. Replacement roof drains.
  - 2. Retro-fit metal roof drains.
  - 3. Canopy roof: Clean drains and covers, reinstall existing covers, replace damaged covers and accessories in kind. Match existing cover in every respect.
  - 4. Miscellaneous storm drainage piping specialties.
  - 5. Cleanouts.
  - 6. Flashing materials.
- B. Related Requirements:
  - 1. Section 07 14 00 "Cold Fluid Applied Reinforced Roofing".
  - 2. Section 07 71 00 "Roof Specialties".

**1.04 SUBMITTALS**

- A. Product Data: For each type of product indicated.
- B. Shop Drawings: For roof drains and accessories.

**1.05 QUALITY ASSURANCE**

- A. Drainage piping specialties shall bear label, stamp, or other markings of specified testing agency.
- B.

**PART 2 PRODUCTS**

**2.01 REPLACEMENT METAL ROOF DRAINS**

- A. Cast-Iron, General-Purpose Roof Drains:
  - 1. Subject to compliance with requirements, provide products by one of the following:

- a. Josam Company.
  - b. MIFAB, Inc.
  - c. Smith, Jay R. Mfg. Co.
  - d. Tyler Pipe, Wade Div.
  - e. Watts Water Technologies, Inc.
  - f. Zurn Industries, LLC.
2. Standard: ASME A112.6.4, for general-purpose roof drains.
  3. Body Material: Cast iron.
  4. Dimension of Body: As required.
  5. Dome Material: Cast iron.
  6. Perforated Gravel Guard: Stainless steel.
  7. Vandal-Proof Dome and Hardware: Required.

## **2.02 RETRO-FIT METAL ROOF DRAINS**

- A. Retro-fit roof drains shall be used on roof applications where existing roof drain bodies cannot be utilized as determined by the Authority.
  1. Basis-of-Design Product: Subject to compliance with requirements, provide Zurn Industries, LLC Plumbing Products Group, Model RD2150 Replacement Roof Drain or comparable product by one of the following:
    - a. Josam Company.
    - b. MIFAB, Inc.
    - c. Smith, Jay R. Mfg. Co.
    - d. Tyler Pipe, Wade Div.
    - e. Watts Water Technologies, Inc.
  2. Product shall be furnished with 16-gauge Type 304 stainless steel body and neoprene gasket, complete with coated cast iron clamp collar and cast-iron vandal-proof dome and stainless-steel hardware.

## **2.03 MISCELLANEOUS STORM DRAINAGE PIPING SPECIALTIES**

- A. Downspout Adaptors:
  1. Description: Manufactured, gray-iron casting, for attaching to horizontal-outlet, parapet roof drain and to exterior, sheet metal downspout.
  2. Size: Inlet size to match parapet drain outlet.
- B. Downspout Boots:
  1. Description: Manufactured, ASTM A48/A48M, gray-iron casting, with strap or ears for attaching to building; NPS 4 (DN 100) outlet; and shop-applied bituminous coating.
  2. Size: Inlet size to match downspout and NPS 4 (DN 100) outlet.
- C. Conductor Nozzles:
  1. Description: Bronze body with threaded inlet and bronze wall flange with mounting holes.
  2. Size: Same as connected conductor.

## **2.04 FLASHING MATERIALS**

- A. Comply with Section 07 14 00 "Cold Fluid Applied, Reinforced Roofing" and Section 07 71 00 "Roof Specialties".
- B. Zinc-Coated Steel Sheet: ASTM A653/A653M, with 0.20 percent copper content and 0.04-inch (1.01-mm) minimum thickness unless otherwise indicated. Include G90 (Z275) hot-dip galvanized, mill-phosphatized finish for painting if indicated.
- C. Elastic Membrane Sheet: ASTM D4068, flexible, chlorinated polyethylene, 40-mil (1.01-mm) minimum thickness.
- D. Fasteners: Metal compatible with material and substrate being fastened.

- E. Metal Accessories: Sheet metal strips, clamps, anchoring devices, and similar accessory units required for installation; matching or compatible with material being installed.
- F. Solder: ASTM B32, lead-free alloy.

## **PART 3 EXECUTION**

### **3.01 INSTALLATION**

- A. Install roof drains at low points of roof areas according to roof membrane manufacturer's written installation instructions.
  - 1. Install flashing collar or flange of roof drain to prevent leakage between drain and adjoining roofing. Maintain integrity of waterproof membranes where penetrated.
  - 2. Install expansion joints, if indicated, in roof drain outlets.
  - 3. Position roof drains for easy access and maintenance.
- B. Install replacement roof drains according to roof membrane manufacturer's written installation instructions.
  - 1. Remove existing drain parts leaving drain bowl/body in place.
  - 2. Install roofing assembly including cover board.
  - 3. Insert gasket end of drain stem into exist bowl/leader connection
  - 4. Fasten down stainless-steel mounting flange of drain assembly down through insulation and into concrete deck using stainless steel concrete screws (like Red Head).
  - 5. Install roofing membrane over flange and into drain bowl.

### **3.02 FLASHING INSTALLATION**

- A. Comply with Section 07 14 00 "Cold Fluid Applied, Reinforced Roofing" and Section 07 71 00 "Roof Specialties".
- B. Fabricate flashing from single piece of metal unless large pans, sumps, or other drainage shapes are required. Join flashing according to the following if required:
  - 1. Lead Sheets: Burn joints of 6.0-lb/sq. ft. (30-kg/sq. m) lead sheets, 0.0938-inch (2.4-mm) thickness or thicker. Solder joints of 4.0-lb/sq. ft. (20-kg/sq. m) lead sheets, 0.0625-inch (1.6-mm) thickness or thinner.
- C. Install sheet flashing on pipes, sleeves, and specialties passing through or embedded in floors and roofs with waterproof membrane.
  - 1. Pipe Flashing: Sleeve type, matching the pipe size, with a minimum length of 10 inches and with skirt or flange extending at least 8 inches around pipe.
  - 2. Sleeve Flashing: Flat sheet, with skirt or flange extending at least 8 inches around sleeve.
  - 3. Embedded Specialty Flashing: Flat sheet, with skirt or flange extending at least 8 inches around specialty.
- D. Set flashing on floors and roofs in solid coating of bituminous cement.
- E. Secure flashing into sleeve and specialty clamping ring or device.
- F. Fabricate and install flashing and pans, sumps, and other drainage shapes.

### **3.03 PROTECTION**

- A. Protect drains during remainder of construction period to avoid clogging with dirt or debris and to prevent damage from traffic or construction work.
- B. Place plugs in ends of uncompleted piping at end of each day or when work stops.

**END OF SECTION 22 14 23 22 14 23**