

## **SECTION 15160**

### **ROOF DRAINS**

#### **PART 1 GENERAL**

##### **1.1 SECTION INCLUDES**

- A. Bi-functional roof drains.
- B. Standard roof drains

##### **1.2 RELATED SECTIONS**

- A. Section 15100 - Building Services Piping.
- B. Section 7500 - Roofing

##### **1.3 REFERENCES**

- A. ANSI/ASME A112.6.4-2003 – Roof, Deck and Balcony Drains.
- B. IAPMO IGC 187-2009 Roof Drains with Integral Overflow Drain
- C. LC1021 Roof Drains with Integral Overflow Drain or air Vent
- C. ASTM A 48 - Standard Specification for Gray Iron Castings.

##### **1.4 SUBMITTALS**

- A. Comply with Section 01330 - Submittal Procedures.
- B. Product Data: Submit manufacturer's product data, including installation instructions.

##### **1.5 DELIVERY, STORAGE, AND HANDLING**

- A. Delivery: Deliver materials to site in manufacturer's original, unopened containers and packaging, with labels clearly identifying product name and manufacturer.
- B. Storage: Store materials in clean, dry area indoors in accordance with manufacturer's instructions.
- C. Handling: Protect materials from damage during handling and installation.

#### **PART 2 PRODUCTS**

## 2.1 MANUFACTURER

- A. Froet Industries LLC. 1741 Industrial Drive, Sterling, Illinois 61081 PH. 815-626-7922  
Fax 815-626-0702.  
Web Site [www.froetindustries.com](http://www.froetindustries.com). E-mail [info@froetindustries.com](mailto:info@froetindustries.com) .

## 2.2 MATERIALS

- A. Roof Drains: 100C (2, 3, 4, 5, 6, 8) bi-functional roof drain.
1. Compliance: ANSI/ASME A112.6.4-2003, IAPMO IGC 187-2009 and ICC LC1021
  2. Body: Patented bi-functional body. Powder coated, ASTM A 48, Class 25 cast iron body with anchor flange and fully cast sump which includes the outlets within the casting. Smooth sump walls for maximum flow ability no boss obstructions. Bolts holes drilled and tapped to 1.5" depth. Designed with separate strainers for both the primary and secondary systems
  3. Dome Strainer: Cast Iron strainer. Min. free area by drain size: [2"-30 in<sup>2</sup>] [3"-62 in<sup>2</sup>] [4"-62 in<sup>2</sup>] [5"-95 in<sup>2</sup>] [6"-95 in<sup>2</sup>] [8"-163 in<sup>2</sup>]
  4. Membrane Clamp Ring: 2.375-inch (61-mm) wide, ASTM A 48, Class 25 cast iron, waterproofing membrane clamp ring with 1.25" min. high integral gravel stop. 4 bolt anchorage and .25" nominal drainage free area height.
  5. Pipe Size: 3 inches (76 mm), 4 inches (100 mm), 5 inches (127 mm) and 6 inches (152 mm)
  6. Overflow pipe: removable to facilitate drain rodding if ever required
  7. Drain bolts: 1.5" long threaded length with anti-seize pre-applied to threads

B. Standard Primary Drains

Roof Drains: 200C (3, 4, 5, 6,) Standard primary roof drain.

1. Compliance: ANSI/ASME A112.6.4-2003,
2. Body: Powder coated, ASTM A 48, Class 25 cast iron body with anchor flange and fully cast sump which includes the outlet within the casting. Smooth sump walls for maximum flow ability no boss obstructions. Bolts holes drilled and tapped to 1.5" depth
3. Dome Strainer: Cast Iron strainer.
4. Membrane Clamp Ring: 2.375-inch (61-mm) wide, ASTM A 48, Class 25 cast iron, waterproofing membrane clamp ring with 1.25" min. high integral gravel stop. 4 bolt anchorage and .25" nominal drainage free area height.
5. Pipe Size: 3 inches (76 mm), 4 inches (100 mm), 5 inches (127 mm) and 6 inches (152 mm)
6. Drain bolts 1.5" long threaded length with anti-seize pre-applied to threads

C. Roof Drain Options:

1. LP-Low profile roof drain 4" overflow height
2. OFS-Overflow Strainer: Debris strainer for overflow pipe Minimum free area by drain size; (2-73 in<sup>2</sup>), (3-105 in<sup>2</sup>), (4-105 in<sup>2</sup>), (5-146 in<sup>2</sup>), (6-146 in<sup>2</sup>), (8-200 in<sup>2</sup>)
3. ER(1.5, 2)- Elevation Ring is a pre-engineered ring with a fixed height to elevate drain so start of free drainage area is level with height of 1.5" & 2" insulation to eliminate ponding around roof drain.
4. DEX (2, 4, 6)-adjustable extension (2", 4" and 6") to adjust proper primary outlet elevations in relation to deck thickness and/or to adjust drain inlet elevations in relation to insulation thickness.

5. FR-Finishing Ring; recessed ring to allow the drain body to be installed in flush configuration and/or to be used to install drain with extensions used to adjust for thicker deck sections.
6. DC-Deck Clamp; under deck clamp (used to secure drain to deck). Exterior clamp
7. IG (4,6)-IRMA Guard (4",6") high type #304 stainless steel perforated gravel guard (attaches to drain ring to prevent ballast and debris from entering drain area when installed with an IRMA roofing system.
8. DP-deck plate 30" by 30" pan to install drain flush with deck
9. SP- 1 ½" deep sumped drain pan (needs to be field cut)
10. DMP- Deck mounting plate allows drain to be directing mounted to plate and eliminates need for deck clamp. **Important condition: requires a minimum of 2 ½" of insulation on top of roof deck (2" thru 6") and 3" for the 8" drain.**
11. VP-Vent pipe 12" extension above the primary drain strainer to be used as a plumbing vent when the overflow drain option is not needed
12. CFW- Control Flow Weir can be configured on the jobsite for the required amount of flow. The weir is produced with one open weir, additional weirs can be opened with a metal cutting saw to provide the design flow. The weir can also be removed from the drain without breaking the roofing seal to facilitate cleaning of the drain.

D. Specified Drain Configuration:

1. 100C2, 100C3, 100C4, 100C5, 100C6, 100C8
2. 200C3, 200C4, 200C5, 200C6

## **PART 3 EXECUTION**

### **3.1 EXAMINATION**

- A. Examine areas to receive roof drains. Notify Architect of conditions that would adversely affect installation or subsequent use. Do not proceed with installation until unsatisfactory conditions are corrected.

### **3.2 INSTALLATION**

- A. Install roof drains in accordance with manufacturer's instructions at locations indicated on the drawings.
- B. Install roof drains plumb, level, and to correct elevation.
- C. Install roof drains using manufacturer's supplied hardware.

### **3.3 PROTECTION**

- A. Protect installed roof drains from damage during construction.

### **3.4 WARRANTY**

- A. Standard warranty 1 year on all roof drain products
- B. Optional 25 year Replacement Warranty contractor is required complete all requirements for warranty. Warranty will not be activated until all required paper work is submitted and invoice is paid in full. See website for details.
- C. Optional 25 year Enhanced Installation and Replacement Warranty contractor is required complete all requirements for warranty. Warranty will not be not in effect until all required paper work is submitted, warranty and product invoice is paid in full. See website for details

END OF SECTION