

SECTION 221423 - STORM DRAINAGE PIPING SPECIALTIES

PART 1 - GENERAL

1.1 SUBMITTAL REQUIREMENTS

A. Product Data (PD):

1. Provide product datasheets for all products specified under this section.
2. Clearly state model numbers on all submittals.

PART 2 - PRODUCTS

2.1 PRIMARY AND SECONDARY ROOF DRAINS

A. Cast-iron Roof Drains:

1. Standard: ASME A112.21.2M.
2. Refer to schedule on drawings for manufacturer and model number(s).
3. If size of roof drain is not specified, match roof drain outlet size to pipe size shown on plan.
4. Provide Zurn Z-100-90 (side outlet) drain for all canopy drains and for situations where clear space below the roof deck is a problem.
5. Available Manufacturers: Subject to compliance with requirements, manufacturers offering products that may be incorporated into the Work include, but are not limited to, the following:
 - a. Smith, Jay R. Mfg. Co.; Division of Smith Industries, Inc.
 - b. Watts Drainage Products Inc.
 - c. Zurn Industries, LLC.

2.2 ADDITIONAL SPECIFICATION REQUIREMENTS

A. If not expressly specified, the following drainage specialty products shall be equipped with and include, but are not limited to:

1. Primary and Secondary Roof Drains:
 - a. Membrane clamp.
 - b. Structural deck drain stabilizer.
 - c. Underdeck clamp.
 - d. 2-inch high static extension.
 - e. 2-inch high external water dam.
 - f. Roof sump receiver.
 - g. Roof deck plate.

B. Wall Cleanouts:**1. Cast-iron Wall Cleanouts:**

- a. Standard: ASME A112.36.2M. Include wall access.
- b. Provide product equal to Zurn Z1445 cleanout body and plug complete with square wall access panel and frame equal to Zurn Z1460, smooth, stainless steel panel secured to frame, set flush to finish wall plane, complete with securing lugs.
- c. Available Manufacturers: Subject to compliance with requirements, manufacturers offering products that may be incorporated into the Work include, but are not limited to, the following:
 - 1) Smith, Jay R. Mfg. Co.; Division of Smith Industries, Inc.
 - 2) Watts Drainage Products Inc.
 - 3) Zurn Industries, LLC.

2. PVC Wall Cleanouts:

- a. Standard: ASME A112.36.2M. Include wall access.
- b. Provide product equal to Zurn CO-2411 cleanout body and plug complete with square wall access panel and frame equal to Zurn Z1460, smooth, stainless steel panel secured to frame, set flush to finish wall plane, complete with securing lugs.
- c. Available Manufacturers: Subject to compliance with requirements, manufacturers offering products that may be incorporated into the Work include, but are not limited to, the following:
 - 1) Oatey.
 - 2) Sioux Chief Manufacturing Company, Inc.
 - 3) Zurn Industries, LLC.

2.3 FLASHING MATERIALS

- A. Copper Sheet: ASTM B 152/B 152M, 12 oz./sq. ft..
- B. Zinc-Coated Steel Sheet: ASTM A 653/A 653M, with 0.20 percent copper content and 0.04-inch minimum thickness unless otherwise indicated. Include G90 hot-dip galvanized, mill-phosphatized finish for painting if indicated.
- C. Elastic Membrane Sheet: ASTM D 4068, flexible, chlorinated polyethylene, 40-mil 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 B 32, lead-free alloy.

2.4 MISCELLANEOUS SANITARY DRAINAGE PIPING SPECIALTIES

A. No-hub Cast Iron Soil Pipe Fitting Restraints

1. Description: CISPI Designation 301-12, large diameter no-hub cast iron fittings, over 4 inches (102 mm) in size, shall be provided with supplemental support to minimize the risk of joints separation under high thrust conditions. Auxiliary restraint products used shall be manufactured assemblies with thrust pressure rating adequate for the specific installation. Field devised methods and materials shall not be used to accomplish this application solution.
2. Available Manufacturers: Subject to compliance with requirements, manufacturers offering products that may be incorporated into the Work include, but are not limited to, the following:
 - a. HOLDRITE
 - b. EBAA Iron, Inc.
 - c. Romac Industries, inc.

PART 3 - EXECUTION

3.1 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 cleanouts in aboveground piping and building drain piping according to the following instructions unless otherwise indicated:
 1. Use cleanouts the same size as drainage piping up to NPS 4. Use NPS 4 for larger drainage piping unless larger cleanout is indicated.
 2. Locate cleanouts at each change in direction of piping greater than 45 degrees.
 3. Locate cleanouts at minimum intervals of 50 feet for piping NPS 4 and smaller and 100 feet for larger piping.
 4. Locate cleanouts at base of each vertical soil and waste stack.
- C. For floor cleanouts for piping below floors, install cleanout deck plates with top flush with finished floor.
- D. For cleanouts located in concealed piping, install cleanout wall access covers, of types indicated, with frame and cover flush with finished wall.
- E. Install test tees in vertical conductors and near floor.

- F. Install wall cleanouts in vertical conductors. Install access door in wall if indicated.
- G. Install sleeve flashing device with each conductor passing through floors with waterproof membrane.

3.2 FLASHING INSTALLATION

- A. 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. lead sheets, 0.0938-inch thickness or thicker. Solder joints of 4.0-lb/sq. ft. lead sheets, 0.0625-inch thickness or thinner.
 - 2. Copper Sheets: Solder joints of copper sheets.
- B. 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.
- C. Set flashing on floors and roofs in solid coating of bituminous cement.
- D. Secure flashing into sleeve and specialty clamping ring or device.
- E. Fabricate and install flashing and pans, sumps, and other drainage shapes.

END OF SECTION 221423