

SECTION 22 14 23 - STORM DRAINAGE PIPING SPECIALTIES

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

- A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division 01 Specification Sections, apply to this Section.

1.2 SUMMARY

- A. This Section includes the following storm drainage piping specialties:
 - 1. Cleanouts.
 - 2. Roof drains.
- B. Related Sections include the following:
 - 1. Division 22 Section "Sanitary Waste Piping Specialties" for floor drains, grease interceptors, oil interceptors, and solid interceptors.

1.3 DEFINITIONS

- A. Retain acronyms and abbreviations that remain after this Section has been edited.
- B. ABS: Acrylonitrile-butadiene-styrene plastic.
- C. FOG: Fats, oils, and greases.
- D. FRP: Fiberglass-reinforced plastic.
- E. HDPE: High-density polyethylene plastic.
- F. PE: Polyethylene plastic.
- G. PP: Polypropylene plastic.
- H. PUR: Polyurethane plastic.
- I. PVC: Polyvinyl chloride plastic.

1.4 SUBMITTALS

- A. Product Data: For each type of product indicated.

1.5 QUALITY ASSURANCE

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

1.6 COORDINATION

- A. Coordinate size and location of roof penetrations.

PART 2 – PRODUCTS

2.1 CLEANOUTS

- A. Exposed Metal Cleanouts:

1. Manufacturers: Subject to compliance with requirements, provide products by one of the following:
 - a. Josam Company; Josam Div.
 - b. Smith, Jay R. Mfg. Co.; Division of Smith Industries, Inc.
 - c. Tyler Pipe; Wade Div.
 - d. Watts Drainage Products Inc.
 - e. Zurn Plumbing Products Group; Specification Drainage Operation.
2. Standard: ASME A112.36.2M for cast iron, ASME A112.3.1 for stainless steel for cleanout test tee.
3. Size: Same as connected drainage piping
4. Body Material: as required to match connected piping.
5. Closure: Countersunk plastic plug.
6. Closure Plug Size: Same as or not more than one size smaller than cleanout size.
7. Retain last two subparagraphs above for ASME A112.36.2M cleanouts or subparagraph below for ASME A112.3.1, stainless-steel cleanouts.
8. Closure: Stainless-steel plug with seal.

- B. Metal Floor Cleanouts:

1. Manufacturers: Subject to compliance with requirements, provide products by one of the following:
 - a. Retain one of three lists of manufacturers below.
 - b. Manufacturers in list below are for ASME A112.36.2M, cast-iron cleanouts.
 - c. Josam Company; Josam Div.
 - d. Sioux Chief Manufacturing Company, Inc.
 - e. Smith, Jay R. Mfg. Co.; Division of Smith Industries, Inc.
 - f. Tyler Pipe; Wade Div.
 - g. Watts Drainage Products Inc.
 - h. Zurn Plumbing Products Group; Light Commercial Operation.
2. Retain 12 subparagraphs below for cast-iron or stainless-steel cleanouts complying with ASME A112.36.2M.
3. Standard: ASME A112.36.2M for heavy-duty, adjustable housing cleanout.

4. Size: Same as connected branch.
5. Type: Heavy-duty, adjustable housing.
6. Body or Ferrule: Cast iron.
7. Clamping Device: Required.
8. Outlet Connection: Threaded.
9. Closure: Brass plug with tapered threads.
10. Adjustable Housing Material: Cast iron with threads.
11. Frame and Cover Material and Finish: Polished bronze.
12. Frame and Cover Shape: Round.
13. Top Loading Classification: Heavy Duty.
14. Riser: ASTM A 74, Service class, cast-iron drainage pipe fitting and riser to cleanout.
15. Retain five subparagraphs below for stainless-steel cleanouts complying with ASME A112.3.1.
16. Standard: ASME A112.3.1.
17. Size: Same as connected branch.
18. Housing: Stainless steel.
19. Closure: Stainless steel with seal.
20. Riser: Stainless-steel drainage pipe fitting to cleanout.

C. Cast-Iron Wall Cleanouts:

1. Manufacturers: Subject to compliance with requirements, provide products by one of the following:
 - a. Josam Company; Josam Div.
 - b. Smith, Jay R. Mfg. Co.; Division of Smith Industries, Inc.
 - c. Tyler Pipe; Wade Div.
 - d. Watts Drainage Products Inc.
 - e. Zurn Plumbing Products Group; Specification Drainage Operation.
2. Standard: ASME A112.36.2M. Include wall access.
3. Size: Same as connected drainage piping.
4. Body: Hub-and-spigot, cast-iron soil pipe T-branch as required to match connected piping.
5. Option for drilled-and-threaded plug in first subparagraph below is for a screw for a wall cover plate.
6. Closure: Countersunk or raised-head cast-iron plug.
7. Closure Plug Size: Same as or not more than one size smaller than cleanout size.
8. Wall Access: Round, flat, chrome-plated brass or stainless-steel cover plate with screw.
9. Retain subparagraph above for cover plate or subparagraph below for frame and cover to be installed in drywall.
10. Wall Access: Round stainless-steel wall-installation frame and cover.

2.2 ROOF DRAINS

A. Metal Roof Drains:

1. Manufacturers: Subject to compliance with requirements, provide products by one of the following:
 - a. Retain one of three lists of manufacturers below.
 - b. Manufacturers in list below are for aluminum roof drains.
 - c. Josam Company; Josam Div.
 - d. Smith, Jay R. Mfg. Co.; Division of Smith Industries, Inc.
 - e. Tyler Pipe; Wade Div.
 - f. Watts Drainage Products Inc.
 - g. Zurn Plumbing Products Group; Light Commercial Operation.
2. Standard: ASME A112.21.2M.
3. Pattern: Roof drain.
4. Body Material: Cast iron.
5. Combination Flashing Ring and Gravel Stop: Required.
6. Flow-Control Weirs: Not required.
7. Outlet: See schedule.
8. Dome Material: Cast iron.
9. Extension Collars: Required.
10. Underdeck Clamp: Required.
11. Sump Receiver: Required.

PART 3 - EXECUTION

3.1 INSTALLATION

- A. Refer to Division 22 Section "Common Work Results for Plumbing" for piping joining materials, joint construction, and basic installation requirements.
- B. Install cleanouts in aboveground piping and building drain piping according to the following, unless otherwise indicated:
 1. Size same as drainage piping up to NPS 4. Use NPS 4 for larger drainage piping unless larger cleanout is indicated.
 2. Locate at each change in direction of piping greater than 45 degrees.
 3. Locate at minimum intervals of 50 feet for piping NPS 4 and smaller and 100 feet for larger piping.
 4. Locate 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 roof drains at low points of roof areas according to roof membrane manufacturer's written installation instructions. Roofing materials are specified in Division 07.
 - 1. Install roof-drain flashing collar or flange so that there will be no leakage between drain and adjoining roofing. Maintain integrity of waterproof membranes where penetrated.
 - 2. Position roof drains for easy access and maintenance.
- F. Install sleeve flashing device with each riser and stack passing through floors with waterproof membrane.
- G. Install expansion joints on vertical stacks and conductors. Position expansion joints for easy access and maintenance.
- H. Install escutcheons at wall, floor, and ceiling penetrations in exposed finished locations and within cabinets and millwork. Use deep-pattern escutcheons if required to conceal protruding pipe fittings.

3.2 CONNECTIONS

- A. Piping installation requirements are specified in other Division 22 Sections. Drawings indicate general arrangement of piping, fittings, and specialties.

3.3 FLASHING INSTALLATION

- A. Fabricate flashing from single piece unless large pans, sumps, or other drainage shapes are required. Join flashing according to the following if required:
 - 1. Lead Sheets: Burn joints of lead sheets 6.0-lb/sq. ft., 0.0938-inch thickness or thicker. Solder joints of lead sheets 4.0-lb/sq. ft., 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 pipe size, with minimum length of 10 inches, and 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.

3.4 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