



SECTION 07720 [07 72 00]

ROOF DRAIN AND VENT ACCESSORIES

PART 1 GENERAL

1.1 SECTION INCLUDES

- A. Roof Drains.
- B. Roof Vents
- C. Roof Security Vent Flashing
- D. Roof Penetration Flashings

1.2 RELATED SECTIONS

- A. Section 06100 - Rough Carpentry.
- B. Section 07260 - Air Barriers.
- C. Division 07 - Adjacent Roofing Systems.
- D. Section 07620 - Sheet Metal Flashing and Trim.
- E. Section 07920 - Joint Sealants.
- F. Section 15145 - Plumbing Piping.

1.3 REFERENCES

- A. ASME A112.6.4 - Roof, Deck, and Balcony Drains.

1.4 SUBMITTALS

- A. Submit under provisions of Section 01300.
- B. Product Data: Manufacturer's data sheets on each product to be used, including:
 - 1. Preparation instructions and recommendations.
 - 2. Storage and handling requirements and recommendations.
 - 3. Installation methods.

- C. Shop Drawings: Submit shop drawings showing layout, profiles and product components, including anchorage, and accessories.
- D. Manufacturer's Certificates: Certify products meet or exceed specified requirements.

1.5 QUALITY ASSURANCE

- A. Manufacturer Qualifications: Minimum 50 years manufacturing similar products.
- B. Installer Qualifications: Minimum 2 years installing similar products.

1.6 DELIVERY, STORAGE, AND HANDLING

- A. Deliver products in manufacturer's unopened packaging with labels intact and legible until ready for installation.
- B. Store off the ground and under cover. Protect internal parts, ends, inlets, outlets, and specialties against corrosion, dirt, and damage.

1.7 SEQUENCING

- A. Ensure that products of this section are supplied to affected trades in time to prevent interruption of construction progress.

1.8 PROJECT CONDITIONS

- A. Maintain environmental conditions (temperature, humidity, and ventilation) within limits recommended by manufacturer for optimum results. Do not

install products under environmental conditions outside manufacturer's absolute limits.

PART 2 PRODUCTS

2.1 MANUFACTURERS

- A. Acceptable Manufacturer: Marathon Roofing Products Inc.; 3310 Benzing Rd., Orchard Park, NY 14127-1538. Phone Toll Free: 800-828-8424. Phone: 716-332-7673. Fax: 716-332-7676. Web: www.marathondrains.com.
- B. Substitutions: Not permitted.
- C. Requests for substitutions will be considered in accordance with provisions of Section 01600.

2.2 ROOF DRAINS

- A. Aluminator Extended Drain: All aluminum retrofit drain with aluminum body
 - 1. Construction:
 - a. Heavy duty spun aluminum (.125 gauge).
 - b. Heavy duty aluminum ring that is 1-1/4 inches tall
 - 1) 12 scallops to maximize drainage
 - 2) Seep holes on bottom of ring and bolt in place
 - 3) 3 bolt aluminum strainer that is 10 inches by 6 inches tall
 - c. Standard with ProSeal rubber seal that prevents water back-up issues
 - d. Larger stud diameter for increased strength of hardware
 - e. 16 inch flange diameter

- f. 24 inch drain outlet length
2. Drain Size:
- a. 3 inch – Fits pipe I.D 2-7/8 inches to 3-1/4 inches.
 - b. 4 inch – Fits pipe I.D 3-7/8 inches to 4-1/4 inches.
 - c. 5 inch – Fits pipe I.D 4-7/8 inches to 5-1/4 inches.
 - d. 6 inch – Fits pipe I.D 5-7/8 inches to 6-1/4 inches.
3. Options:
- a. TPO flange coating
 - b. PVC flange coating
- B. Aluminator Extended Drain: All aluminum retrofit drain with aluminum body
1. Construction:
- a. Heavy duty spun aluminum (.125 gauge).
 - b. Heavy duty aluminum ring that is 1-1/4 inches tall
 - 1) 12 scallops to maximize drainage
 - 2) Seep holes on bottom of ring and bolt in place
 - 3) 3 bolt aluminum strainer that is 10 inches by 6 inches tall
 - c. Standard with ProSeal rubber seal that prevents water back-up issues
 - d. Larger stud diameter for increased strength of hardware
 - e. 16 inch flange diameter
 - f. 24 inch drain outlet length
2. Drain Size:
- a. 3 inch – Fits pipe I.D 2-7/8 inches to 3-1/4 inches.
 - b. 4 inch – Fits pipe I.D 3-7/8 inches to 4-1/4 inches.
 - c. 5 inch – Fits pipe I.D 4-7/8 inches to 5-1/4 inches.
 - d. 6 inch – Fits pipe I.D 5-7/8 inches to 6-1/4 inches.
3. Options:

- a. TPO flange coating
 - b. PVC flange coating
 - c. 2 inch Aluminum overflow/clamping ring.
- C. Economy Aluminum Drain: All aluminum drain with aluminum body
- 1. Construction:
 - a. Heavy duty spun aluminum (.125 gauge).
 - b. 16 inch flange diameter
 - c. 12 inch drain outlet length
 - 2. Drain Size:
 - a. 2 inch – Fits pipe I.D 1-3/4 inches to 2-1/4 inches
 - b. 3 inch – Fits pipe I.D 2-7/8 inches to 3-1/4 inches.
 - c. 4 inch – Fits pipe I.D 3-7/8 inches to 4-1/4 inches.
 - d. 5 inch – Fits pipe I.D 4-7/8 inches to 5-1/4 inches.
 - e. 6 inch – Fits pipe I.D 5-7/8 inches to 6-1/4 inches.
- D. Aluminum Fast Flow Drain (retrofit)
- 1. Construction:
 - a. Heavy gauge (.125) spun aluminum
 - b. New PVC clamping ring style for single-ply systems, cast iron or aluminum rings optional
 - c. Bolt in place PVC strainer dome standard, cast iron or aluminum strainers optional
 - 2. Fast Flow Drain: Fits existing drain size.
 - a. FF175: 1-3/4 inch to 2-1/4 inch
 - b. FF275: 2-3/4 inch to 3-1/4 inch
 - c. FF375: 3-3/4 inch to 4-1/4 inch
 - d. FF475: 4-3/4 inch to 5-1/4 inch
 - e. FF575: 5-3/4 inch to 6-1/4 inch

3. Fast Flow Drain with clamping ring: Fits existing drain size.
 - a. FF175CR: 1-3/4 inch to 2-1/4 inch
 - b. FF275CR: 2-3/4 inch to 3-1/4 inch
 - c. FF375CR: 3-3/4 inch to 4-1/4 inch
 - d. FF475CR: 4-3/4 inch to 5-1/4 inch
 - e. FF575CR: 5-3/4 inch to 6-1/4 inch
 - f. FF775CR: 7-3/4 inch to 8-1/4 inch
 - g. FF775CR: 7-3/4 inch to 8-1/4 inch
4. Fast Flow Drain with expanding anti-back-up tape: Fits existing drain size.
 - a. FF175-S: 1-3/4 inch to 2-1/4 inch
 - b. FF275-S: 2-3/4 inch to 3-1/4 inch
 - c. FF375-S: 3-3/4 inch to 4-1/4 inch
 - d. FF475-S: 4-3/4 inch to 5-1/4 inch
 - e. FF575-S: 5-3/4 inch to 6-1/4 inch
5. Fast Flow Drain with expanding anti-back-up tape and clamping ring: Fits existing drain size.
 - a. FF175-SCR: 1-3/4 inch to 2-1/4 inch
 - b. FF275-SCR: 2-3/4 inch to 3-1/4 inch
 - c. FF375-SCR: 3-3/4 inch to 4-1/4 inch
 - d. FF475-SCR: 4-3/4 inch to 5-1/4 inch
 - e. FF575-SCR: 5-3/4 inch to 6-1/4 inch
 - f. FF775SCR: 7-3/4 inch to 8-1/4 inch
 - g. FF775SCR: 7-3/4 inch to 8-1/4 inch
6. Fast Flow Drain New Installation Direct Connect:
 - a. FF2000: 2 inch to 2.125 inch
 - b. FF3000: 3 inch to 3.125 inch
 - c. FF4000: 4 inch to 4.125 inch
7. Fast Flow Drain with Clamping Ring New Installation Direct Connect:

- a. FF2000CR: 2 inch to 2.125 inch
 - b. FF3000CR: 3 inch to 3.125 inch
 - c. FF4000CR: 4 inch to 4.125 inch
8. Connection Options:
- a. Straight rubber coupling
 - b. XJ rubber coupling
 - c. Bushing reducers
 - d. 90 degree elbow
9. Flange Options
- a. PVC coated
 - b. TPO coated
10. Strainer Options
- a. 10 inch aluminum strainer
 - b. 10 inch cast iron strainer
- E. Aluminum Gutter Drain (retrofit): All aluminum retrofit drain with aluminum body
1. Construction:
- a. Heavy gauge (.125) spun aluminum
 - b. 5 inch by 5 inch clamping ring, stainless steel
 - c. Snap on stainless steel grate strainer
 - d. Standard with ProSeal rubber seal that prevents water back-up issues
 - e. Flange 8 inches by 8 inches
 - f. 24 inch drain outlet length
2. Drain Size:
- a. 3 inch – Fits pipe I.D 2-7/8 inches to 3-1/4 inches.
 - b. 4 inch – Fits pipe I.D 3-7/8 inches to 4-1/4 inches.
3. Flange Options

- a. PVC coated
 - b. TPO coated
4. Strainer Options
- a. 5 inch aluminum strainer

F. Aluminum Fast Flow Drain (direct connect)

- 1. Construction:
 - a. Heavy gauge (.125) spun aluminum
 - b. New PVC clamping ring style for single-ply systems, cast iron or aluminum rings optional
 - c. Bolt in place PVC strainer dome standard, cast iron or aluminum strainers optional
- 2. Fast Flow Size:
 - a. FF200: 2 inch
 - b. FF300: 3 inch
 - c. FF400: 4 inch
- 3. Fast Flow Size with clamping ring:
 - a. FF200CR: 2 inch
 - b. FF300CR: 3 inch
 - c. FF400CR: 4 inch
- 4. Connection Options:
 - a. Straight rubber coupling
 - b. XJ rubber coupling
 - c. Bushing reducers
 - d. 90 degree elbow
- 5. Flange Options
 - a. PVC coated
 - b. TPO coated
- 6. Strainer Options

- a. 8 inch aluminum strainer
- b. 8 inch cast iron strainer
- c. 8 inch plastic strainer
- d. 10 inch cast iron strainer
- e. 10 inch aluminum strainer
- f. 0 inch aluminum low profile strainer (2-3/4 inch)
- g. 10 inch plastic strainer

G. CENTURY Premium Series Copper Roof Drain

- 1. Construction:
 - a. All copper drain
 - b. 9 inch outlet length standard (longer lengths available)
 - c. 10 inch polyethylene strainer standard
 - d. Polyethylene clamping ring standard (metal or aluminum ring optional)
- 2. Century Premium: Fits drain pipe size
 - a. CS29: 2 inch drain size, 18 inch flange
 - b. CS39: 3 inch drain size, 18 inch flange
 - c. CS49: 4 inch drain size, 18 inch flange
 - d. CS69: 6 inch drain size, 18 inch flange
- 3. Century Premium / Clamping Ring: Fits drain pipe size
 - a. CS29 CR6: 2 inch drain size, 18 inch flange
 - b. CS39 CR6: 3 inch drain size, 18 inch flange
 - c. CS49 CR6: 4 inch drain size, 18 inch flange
- 4. Century Premium Side Outlet: Fits drain pipe size
 - a. CPS29: 2 inch drain size, 18 inch flange
 - b. CPS39: 3 inch drain size, 18 inch flange
 - c. CPS49: 4 inch drain size, 18 inch flange

- d. CPS69: 6 inch drain size, 18 inch flange
- 5. Century Premium Side Outlet / Clamping Ring: Fits drain pipe size
 - a. CPS29 CR(E): 2 inch drain size, 18 inch flange
 - b. CPS39 CR(E): 3 inch drain size, 18 inch flange
 - c. CPS49 CR(E): 4 inch drain size, 18 inch flange
 - d. CPS69 CR(E): 6 inch drain size, 18 inch flange
- 6. Connection Options:
 - a. Straight rubber coupling
 - b. XJ rubber coupling
 - c. FURNCO 90 degree elbow
- 7. Flange Options
 - a. PVC coated
 - b. TPO coated
- 8. Strainer Options
 - a. 10 inch High density polyethylene
 - b. 10 inch cast iron strainer
 - c. 10 inch aluminum low profile strainer 2-3/4 inch

H. CENTURY Economy Series Copper Roof Drain

- 1. Construction:
 - a. All copper drain
 - b. 9 inch outlet length standard (longer lengths available)
 - c. 10 inch polyethylene strainer standard
 - d. Polyethylene clamping ring standard (metal or aluminum ring optional)
- 2. Century Economy: Fits drain pipe size
 - a. CS29: 2 inch drain size, 14 inch flange
 - b. CS39: 3 inch drain size, 14 inch flange

- c. CS49: 4 inch drain size, 14 inch flange
- 3. Century Economy / Clamping Ring: Fits drain pipe size
 - a. CS29 CR(E): 2 inch drain size, 18 inch flange
 - b. CS39 CR6(E): 3 inch drain size, 18 inch flange
 - c. CS49 CR6(E): 4 inch drain size, 18 inch flange
- 4. Century Economy Side Outlet: Fits drain pipe size
 - a. CPS29: 2 inch drain size, 18 inch flange
 - b. CPS39: 3 inch drain size, 18 inch flange
 - c. CPS49: 4 inch drain size, 18 inch flange
- 5. Century Economy Side Outlet / Clamping Ring: Fits drain pipe size
 - a. CPS29 CR(E): 2 inch drain size, 18 inch flange
 - b. CPS39 CR(E): 3 inch drain size, 18 inch flange
 - c. CPS49 CR(E): 4 inch drain size, 18 inch flange
- 6. Connection Options:
 - a. Straight rubber coupling
 - b. XJ rubber coupling
 - c. FURNCO 90 degree elbow
- 7. Flange Options
 - a. PVC coated
 - b. TPO coated
- 8. Strainer Options
 - a. 10 inch High density polyethylene
 - b. 10 inch cast iron strainer
 - c. 10 inch aluminum low profile strainer 2-3/4 inch

I. COPPERTITE Roof Drain

- 1. Construction:
 - a. Copper retro-fit drain

- b. 2 inch wide expandable sealant tape designed to expand approximately an inch to prevent water back-ups
 - c. 9 inch outlet length standard (longer lengths available)
 - d. 10 inch polyethylene strainer standard
 - e. Polyethylene clamping ring standard (metal or aluminum ring optional)
2. Coppertite BUR Application: Fits drain pipe size
- a. CTS29: 1-3/4 inch to 2-1/4 inch, 14 inch flange
 - b. CTS39: 2-7/8 inch to 3-1/4 inch, 14 inch flange
 - c. CTS49: 3-7/8 inch to 4-1/4 inch, 14 inch flange
 - d. CTS59: 4-7/8 inch to 5-1/4 inch, 18 inch flange
 - e. CTS69: 5-7/8 inch to 6-1/4 inch, 18 inch flange
 - f. CTS89: 7-3/4 inch to 8-1/4 inch, 18 inch flange
 - g. CTS109: 9-7/8 inch to 10-1/4 inch, 18 inch flange
3. Coppertite BUR Application / Clamping Ring: Fits drain pipe size
- a. CTS29CR: 1-3/4 inch to 2-1/4 inch, 18 inch flange
 - b. CTS39CR: 2-7/8 inch to 3-1/4 inch, 18 inch flange
 - c. CTS49CR: 3-7/8 inch to 4-1/4 inch, 18 inch flange
 - d. CTS59CR: 4-7/8 inch to 5-1/4 inch, 18 inch flange
 - e. CTS69CR: 5-7/8 inch to 6-1/4 inch, 18 inch flange
 - f. CTS89CR: 7-3/4 inch to 8-1/4 inch, 18 inch flange
 - g. CTS109: 9-7/8 inch to 10-1/4 inch, 18 inch flange
4. Coppertite / Clamping Ring: Fits drain pipe size
- a. CTS29CR(E): 1-3/4 inch to 2-1/4 inch, 14 inch flange
 - b. CTS39CR(E): 2-7/8 inch to 3-1/4 inch, 14 inch flange
 - c. CTS49CR(E): 3-7/8 inch to 4-1/4 inch, 14 inch flange
5. Flange Options
- a. PVC coated
 - b. TPO coated

6. Strainer Options
 - a. 10 inch cast iron strainer
 - b. 10 inch aluminum strainer
 - c. 10 inch aluminum low profile strainer (2-3/4 inch)

J. PROLINER series drain: Retrofit roof drain.

1. Construction:
 - a. Provides multiple seals for water back-up prevention
 - b. 10 inch polyethylene strainer standard
 - c. Polyethylene clamping ring standard (metal or aluminum ring optional)
2. Proliner BUR Application: Fits drain pipe size
 - a. PS2: 1-7/8 inch to 2-1/4 inch drain size, 18 inch flange
 - b. PS3: 2-7/8 inch to 3-1/4 inch drain size, 18 inch flange
 - c. PS4: 3-7/8 inch to 4-1/4 inch drain size, 18 inch flange
 - d. PS5: 4-7/8 inch to 5-1/4 inch drain size, 18 inch flange
 - e. PS6: 5-7/8 inch to 6-1/4 inch drain size, 18 inch flange
3. Proliner: Fits drain non-standard pipe size
 - a. PS200: 2-1/4 inch to 2-5/8 inch drain size, 18 inch flange
 - b. PS300: 3-1/4 inch to 3-5/8 inch drain size, 18 inch flange
 - c. PS400: 4-1/4 inch to 4-5/8 inch drain size, 18 inch flange
 - d. PS500: 5-1/4 inch to 5-5/8 inch drain size, 18 inch flange
4. Proliner / Clamping Ring: Fits drain pipe size
 - a. PS2CR: 1-7/8 inch to 2-1/4 inch drain size, 18 inch flange
 - b. PS3CR: 2-7/8 inch to 3-1/4 inch drain size, 18 inch flange
 - c. PS4CR: 3-7/8 inch to 4-1/4 inch drain size, 18 inch flange
 - d. PS5CR: 4-7/8 inch to 5-1/4 inch drain size, 18 inch flange
 - e. PS6CR: 5-7/8 inch to 6-1/4 inch drain size, 18 inch flange

5. Proliner / Clamping Ring: Fits drain non-standard pipe size
 - a. PS200CR: 2-1/4 inch to 2-5/8 inch drain size, 18 inch flange
 - b. PS300CR: 3-1/4 inch to 3-5/8 inch drain size, 18 inch flange
 - c. PS400CR: 4-1/4 inch to 4-5/8 inch drain size, 18 inch flange
 - d. PS500CR: 5-1/4 inch to 5-5/8 inch drain size, 18 inch flange
6. Flange Options
 - a. PVC coated
 - b. TPO coated
7. Strainer Options
 - a. 10 inch cast iron strainer
 - b. 10 inch aluminum strainer
 - c. 10 inch aluminum low profile strainer (2-3/4 inch)

K. PROSEAL Copper Drain: Retrofit roof drain.

1. Construction:
 - a. Supplied with ProSeal mechanical seal for water back-up prevention.
 - b. 10 inch polyethylene strainer standard
 - c. Polyethylene clamping ring strainer standard (metal or aluminum ring optional)
2. ProSeal / Clamping Ring: Fits drain pipe size.
 - a. STR3CR: 3 inch
 - b. STR4CR: 4 inch
 - c. STR5CR: 5 inch
 - d. STR6CR: 6 inch
3. Outlets: 11 inch standard. Available in variable lengths up to 15 inches.
4. Strainer
 - a. 10 inch cast iron
 - b. 10 inch aluminum

- c. 10 inch aluminum low profile (2-3/4 inch)
 - 5. Flange Options
 - a. PVC coated
 - b. TPO coated

- L. ENPOCO Pac/ PVC Drain: Fully assembled kit
 - 1. Construction:
 - a. PVC Roof Drain with metal clamping ring, polyethylene strainer, cast aluminum under deck clamp, PVC connector and straight rubber flexible coupling.
 - 2. Pipe Size:
 - a. BS-1072: 2 inch
 - b. BS-1070: 3 inch
 - c. BS-1080: 4 inch
 - d. BS-1087: 6 inch
 - 3. Options
 - a. -D Deck Clamp
 - b. -E Adjustable Extension
 - c. -GG SS Gravel Guard
 - d. -A Aluminum Dome
 - e. -P Sump Receiver
 - f. -R 2 inch External Overflow Dam
 - g. -VP Vandal Proof Screws
 - h. -X Flotrol Device
 - i. -2DP Poly Dome Only
 - j. -2D Cast Iron Dome Only
 - k. Aluminum strainer

M. ULRD PVC Drain

1. Construction:
 - a. PVC Roof Drain with metal clamping ring and polyethylene strainer.
2. Pipe Size:
 - a. BS-1089: 2 inch
 - b. BS-1090: 3 inch
 - c. BS-1100: 4 inch
 - d. BS-1107: 6 inch
3. Options
 - a. -D Deck Clamp
 - b. -E Adjustable Extension
 - c. -GG SS Gravel Guard
 - d. -A Aluminum Dome
 - e. -P Sump Receiver
 - f. -R 2 inch External Overflow Dam
 - g. -VP Vandal Proof Screws
 - h. -X Flotrol Device
 - i. -2DP Poly Dome Only
 - j. -2D Cast Iron Dome Only

N. Cast Pak Cast Iron Drain: Fully A\assembled kit.

1. Construction:
 - a. Epoxy coated cast iron body, no hub outlet
 - b. Epoxy coated metal clamping ring with gravel stop.
 - c. Grooved for positive drainage on smooth surfaced roofs
 - d. Aluminum underdeck clamp fastens drain securely to deck
 - e. Flexible rubber coupling
 - f. Molded polyethylene strainer bolts securely to clamping ring

2. Drain Pipe Size:
 - a. BS-1110: 3 inch, dome size 10 inch.
 - b. BS-1120: 4 inch, dome size 10 inch.
 - c. BS-1130: 6 inch, dome size 12 inch.
 - d. BS-1135: 8 inch, dome size 12 inch.
 - e. BS-1136: 10 inch, dome size 12 inch
3. Overflow option available
4. Options
 - a. D Under Deck Clamp
 - b. E Extension Flange
 - c. R 2 inch External Overflow Dam
 - d. M Cast Iron Dome
 - e. A Aluminum Dome
 - f. P Bearing Pan
 - g. W Waterproofing Flange
 - h. X Flotrol Device

O. RD1 Cast Iron Drain

1. Construction:
 - a. Epoxy coated cast iron body, no hub outlet
 - b. Epoxy coated metal clamping ring with gravel stop.
 - c. Molded polyethylene dome strainer bolts securely to clamping ring
2. Drain Pipe Size:
 - a. BS-1140: 3 inch, dome size 10 inch.
 - b. BS-1150: 4 inch, dome size 10 inch.

P. Fast-Pac Cast Iron Drain

1. Construction:

- a. Epoxy coated cast iron body, no hub outlet
 - b. Epoxy coated aluminum clamping ring with gravel stop.
 - c. Grooved for positive drainage on smooth surfaced roofs
 - d. Galvanized extension/bearing flange
 - e. Aluminum underdeck clamp fastens drain securely to deck
 - f. Flexible expansion coupling connects to PVC or cast iron pipe
 - g. Molded polyethylene dome strainer bolts securely to clamping ring
2. Drain Pipe Size:
 - a. BS-1110FP: 3 inch, dome size 10 inch.
 - b. BS-1120FP: 4 inch, dome size 10 inch.
 3. Overflow option available

Q. Fast-Pac PVC Drain:

1. Construction:
 - a. Injection molded PVC body. UL stabilized for long life.
 - b. Molded polyethylene strainer. Bolts directly to clamping ring.
 - c. Epoxy coated aluminum clamping collar with gravel stop.
 - d. Grooved for positive drainage on smooth surfaced roofs
 - e. Galvanized extension/bearing flange
 - f. Flexible expansion coupling connects to PVC or cast iron pipe
2. Drain Pipe Size:
 - a. BS-1172FP: 2 inch
 - b. BS-1170FP: 3 inch
 - c. BS-1180FP: 4 inch
3. Overflow option available

R. Extra Large Body Cast Iron Drain

1. 4 bolt pattern ring

2. Ballast guard available in many sizes
3. Pipe Size:
 - a. RD-300-2: 2 inch
 - b. RD-300-3: 2 inch
 - c. RD-300-4: 2 inch
 - d. RD-300-5: 5 inch
 - e. RD-300-6: 6 inch
 - f. RD-300-8: 8 inch
 - g. RD-300-10: 10 inch
4. Options
 - a. -13 Galvanized Body and Clamp
 - b. -B Sump Receiver
 - c. -D Underdeck Clamp
 - d. -F Adjustable Extension Flange
 - e. -GSS Stainless Steel Ballast Guard
 - f. -K Ductile Iron Dome
 - g. -K13 Galvanized Dome
 - h. -K40 Ductile Iron Low Dome (4 inches high)
 - i. -K80 Aluminum Dome
 - j. -K81 Rough Bronze Dome
 - k. -K83 SS Mesh Covered Dome
 - l. -L Vandal Proof Dome
 - m. -R 2 inch External Water Dam
 - n. -W Adjustable Internal Water Dam
 - o. -85 IRMA Perf. SS Extension

S. Extra Large Body Cast Iron Drain - RD100CP

1. Construction:

- a. Epoxy coated cast iron promenade roof drain with flashing clamp with integral gravel stop, 12-3/4 inch by 12-3/4 inch square epoxy coated ductile iron promenade top, and no hub (standard) outlet.
2. Pipe Size:
 - a. RD-100-2: 2 inch
 - b. RD-100-3: 3 inch
 - c. RD-100-4: 4 inch
 - d. RD-100-5: 5 inch
 - e. RD-100-6: 6 inch
 3. Options
 - a. -1 All Nickel Bronze Top
 - b. -6 Vandal Proof Top
 - c. -9 Hinged Grate
 - d. -12 Galvanized Top
 - e. -13 Galvanized Body and Flashing Clamp
 - f. -B Sump Receiver
 - g. -D Underdeck Clamp
 - h. -F Adjustable Extension Flange
 - i. -SO Side Outlet (2, 3,4 inch Only)
 4. Optional Body Material
 - a. -60 PVC Body with Socket Outlet
 - b. -61 ABS Body with Socket Outlet

T. Small Body Cast Iron Drain - RD200CP

1. Construction:
 - a. Epoxy coated cast iron promenade roof drain with flashing clamp with integral gravel stop, 8 inch by 8 inch square epoxy coated ductile iron promenade top, and no hub (standard) outlet.
2. Pipe Size:
 - a. RD-200-2: 2 inch

- b. RD-200-3: 3 inch
- c. RD-200-4: 4 inch
- 3. Outlet Type:
 - a. NH: No Hub
 - b. P: Push On
 - c. T: Threaded Outlet
 - d. X: Inside Caulk
- 4. Options
 - a. -1 All Nickel Bronze Top
 - b. -6 Vandal Proof Top
 - c. -9 Hinged Grate
 - d. -12 Galvanized Top
 - e. -13 Galvanized Body and Flashing Clamp
 - f. -B Sump Receiver
 - g. -D Underdeck Clamp
 - h. -F Adjustable Extension Flange
 - i. -SO Side Outlet (2, 3,4 inch Only)
- 5. Optional Body Material
 - a. -60 PVC Body with Socket Outlet
 - b. -61 ABS Body with Socket Outlet

U. Side Outlet Cast Iron Balcony Drain - RD230

- 1. Construction:
 - a. Epoxy coated cast iron side outlet balcony drain with flashing clamp, cast nickel bronze strainer and IPS threaded outlet.
- 2. Pipe Size:
 - a. RD-230-2: 2 inch
 - b. RD-230-3: 3 inch

c. RD-230-4: 4 inch

3. Options

- a. -6 Vandal Proof Top
- b. -13 Galvanized Body and Flashing Clamp
- c. -14 Flat Grate
- d. -83 Stainless Steel Screened Dome

V. Cast Iron Balcony Drain - RD240

1. Construction:

- a. Epoxy coated cast iron bottom outlet balcony drain with flashing clamp, cast nickel bronze strainer and IPS threaded outlet.

2. Pipe Size:

- a. RD-240-2: 2 inch
- b. RD-240-3: 2 inch
- c. RD-240-4: 2 inch

3. Options

- a. -6 Vandal Proof Top
- b. -13 Galvanized Body and Flashing Clamp
- c. -14 Flat Grate
- d. -83 Stainless Steel Screened Dome

W. One Piece Cast Iron Combination Drain - RD250

1. Construction:

- a. Epoxy coated cast iron combination roof drain / overflow with deck flange, overflow standpipe, self locking cast iron dome, and no hub outlets

2. Pipe Size:

- a. RD-250-2: 2 inch
- b. RD-250-3: 3 inch

- c. RD-250-4: 4 inch

- 3. Options

- a. -6 Vandal Proof Top

- X. One Piece Small Area Dual Overflow Cast Iron Roof Drain - RD260

- 1. Construction:

- a. Epoxy coated cast iron combination roof drain / overflow with deck flange, overflow standpipe, self locking cast iron dome, and no hub outlets

- 2. Pipe Size:

- a. RD-260-2: 2 inch

- b. RD-260-3: 3 inch

- c. RD-260-4: 4 inch

- 3. Options

- a. Threaded outlet

- b. Under deck clamp

- c. 16 inch by 32 inch deck flange

- d. Cast iron strainer

- e. Aluminum strainer

- f. Vandal proof strainer

- Y. Cast Iron Scupper Drain - RD270

- 1. Construction:

- a. Epoxy coated cast iron scupper drain with flashing clamp, secured angle grate, and no hub (standard) outlet.

- 2. Pipe Size:

- a. RD-270-2: 2 inch

- b. RD-270-3: 3 inch

- c. RD-270-4: 4 inch

3. Options
 - a. -A 45 Degree Outlet
 - b. -T Threaded Outlet
 - c. -1 Nickel Bronze Grate and Frame
 - d. -6 Vandal Proof Top
 - e. -13 Galvanized Body and Flashing Clamp

Z. One Piece Cast Iron Drain - RD280

1. Construction:
 - a. Cast iron roof drain with deck flange, drain body, flashing clamp with integral gravel guard, self locking cast iron dome, and no hub outlet.
2. Pipe Size:
 - a. RD-280-2: 2 inch
 - b. RD-280-3: 3 inch
 - c. RD-280-4: 4 inch
3. Options
 - a. -6 Vandal Proof Dome
 - b. -R 2 inch external water dam.

AA. One Piece Cast Iron Side Outlet Drain - RD280-SO

1. Construction:
 - a. Cast iron roof drain with deck flange, drain body, flashing clamp with integral gravel guard, self locking cast iron dome, and no hub outlet.
2. Pipe Size:
 - a. RD-280-SO-2: 2 inch
 - b. RD-280-SO-3: 3 inch
 - c. RD-280-SO-4: 4 inch
3. Options

- a. -L Vandal Proof Dome
- b. -R 2 inch external water dam.

BB. Extra Large Area Dual Overflow Cast Iron Roof Drain - RD700

- 1. Construction:
 - a. Epoxy coated cast iron dual outlet roof drain / overflow combination with flashing clamp with integral gravel stop, 4 inch high internal overflow standpipe, secured ductile iron dome, and no hub outlets.
- 2. Pipe Size:
 - a. RD-700-3: 3 inch
 - b. RD-700-4: 4 inch
 - c. RD-700-6: 6 inch
- 3. Options
 - a. -B Sump Receiver
 - b. -D Underdeck Clamp
 - c. -F Adjustable Extension Flange
 - d. -L Vandal Proof Dome
 - e. -W2 2 inch Overflow
 - f. -13 Galvanized body and clamp

CC. Nickel Bronze Downspout Nozzle - RD940

- 1. Construction:
 - a. Cast nickel bronze downspout nozzle with anchor flange, countersunk mounting holes, and threaded IPS threaded (standard), no hub, or push on connections.
- 2. IPS Threaded Connection Pipe Size:
 - a. RD-942: 2 inch
 - b. RD-943: 3 inch
 - c. RD-944: 4 inch

- d. RD-946: 6 inch
- e. RD-948: 8 inch
- 3. No Hub Connection Pipe Size:
 - a. RD-942-NH: 2 inch
 - b. RD-943-NH: 3 inch
 - c. RD-944-NH: 4 inch
 - d. RD-945-NH: 5 inch
 - e. RD-946-NH: 6 inch
 - f. RD-948-NH: 8 inch
 - g. RD-9410-NH: 10inch
 - h. RD-9412-NH: 12 inch
- 4. Push-On Connection Pipe Size:
 - a. RD-943-P: 3 inch
 - b. RD-944-P: 4 inch
 - c. RD-946-P: 6 inch
- 5. Options
 - a. -83 Stainless Steel Bird Screen

DD. Small Body Cast Iron Drain - RD200

- 1. Construction:
 - a. Epoxy coated cast iron roof drain with flashing clamp with integral gravel stop, self locking polyethylene dome, and no hub (standard) outlet.
- 2. Pipe Size:
 - a. RD-200-2: 2 inch
 - b. RD-200-3: 3 inch
 - c. RD-200-4: 4 inch
 - d.
- 3. Outlet Type:

- a. NH No Hub)
 - b. P Push On
 - c. T Threaded Outlet
 - d. X Inside Caulk
4. Options
- a. -13 Galvanized Body and Clamp
 - b. -B Sump Receiver
 - c. -D Underdeck Clamp
 - d. -F Adjustable Extension Flange
 - e. -GSS Stainless Steel Ballast Guard
 - f. -K Ductile Iron Dome
 - g. -K80 Aluminum Dome
 - h. -L Vandal Proof Dome
 - i. -R 2 inch External Water Dam
 - j. -SO Side Outlet
 - k. -W Adjustable Internal Water Dam
5. Optional Body Material
- a. -60 PVC Body with Socket Outlet
 - b. -61 ABS Body with Socket Outlet

EE. DURA Plastic Drain

1. Construction:
 - a. Thermoplastic rubber
 - b. Highly resistant to ultraviolet rays and other atmospheric conditions
 - c. Compatible with Bur, Modified and EPDM membranes
2. Size: 12-1/4 inch by 12-1/4 inch by 9-3/4 inch deep
3. Style: Dura Retrofit Anti-Backup Roof Drains.

- a. Roof Drain Optional Accessories:
 - 1) DUA 10 Perforated Ring w/Strainer Dome
 - 2) DUA 20 Basket Strainer for Dura Anti-Backup for 3 inch and 5 inch openings
 - 3) DUA 30 Basket Strainer for 6 inch Dura Drain
- 4. Style: Dura Scupper Drains
 - a. SCP 44C (canted) Length 12 inch Opening 4 foot by 4 inch c/w SAG (canted grate).
 - b. SCP 44NC (no cant) Length 16-3/4 Opening 4 foot by 4 inch. Grate not available
 - c. Scupper Drain Optional Accessories:
 - 1) SA-ES4 Elbow for 4 inch by 4 inch square openings
 - 2) SA-ER3 Elbow for 4 inch square to 3 inch round openings
 - 3) SA-ER4 Elbow for 4 inch square to 4 inch round openings
 - 4) SA-SR4 Straight reducer for 4 inch square to 4 inch round openings
 - 5) SA-DB/GR Drain box with cover - Gray
 - 6) SA-DB/BRN Drain box with cover - Brown
- 5. Style: Dura PB Pipe Boot: Flange has flexible 12 inch diameter ribbed collar for secure flashing.

2.3 ROOF VENTS AND VENT FLASHING

- A. Commercial SOL-A- VENT
 - 1. Construction: Solar power Nicad battery with hermetically sealed motor to keep out moisture.
 - 2. Model: MS 8 inches H by 8-3/4 inch base outside diameter by 12-5/8 inch flange outside diameter.
 - a. - A, Plain aluminum.
 - b. - A, Plain aluminum with asphalt coated flange
 - c. - P ,PVC style: base and cap, white PVC.

- d. - C, Chrome cap on aluminum or PVC vent body.
- 3. Model: MS-LP (Low Profile) 5-1/4 inches H by 8-3/4 inch base outside diameter by 15 inch flange outside diameter.

B. HIGH SECURITY Aluminum Roof Flashing

- 1. Construction:
 - a. Heavy Duty .051 inch aluminum.
 - b. Locked on cap secures plumbing vent stacks
 - c. Aluminum vent stack base
- 2. Size:
 - a. Base opening: 7 inches.
 - b. Base Flange overall diameter: 15-1/4 inches
 - c. Cap Diameter: 5-3/4 inches
 - d. Vent Outlet Diameter 4-3/4 inches
 - e. Height: 15-1/4 inches.
 - f. Maximum Hub Height over Roof Level: 5-1/4 inches
 - g. Flashing Width: 4 inches

C. INSULVENT Aluminum Vent

- 1. Construction:
 - a. Spun heavy gauge aluminum
 - b. Cap design shields against entry of wind-blown rain or snow
 - c. Flange may be coated with PVC, TPO or Asphalt priming
- 2. Type:
 - a. One way vent
 - b. Two way vent
- 3. Options
 - a. PVC coated flange

- b. TPO coated flange
 - c. Foam insert to prevent moisture from condensing on the inside of the standpipe
4. Size:
- a. Base opening: 4 inches.
 - b. Base opening with insulation insert: 3 inches
 - c. Base Flange overall diameter: 10-3/4 inches
 - d. Cap Height: 2-1/2 inches
 - e. Vent Outlet Diameter 4 inches
 - f. Height: 8-1/2 inches.
5. Recommended Spacing: 1 per 1,000 SF.

D. LARGE CAPACITY (LC) Vent

1. Construction:
- a. Spun heavy gauge aluminum
 - b. Cap design shields against entry of wind-blown rain or snow
 - c. Flange may be coated with PVC, TPO or Asphalt priming
2. Type:
- a. One way vent
 - b. Two way vent
3. Options
- a. PVC coated flange
 - b. TPO coated flange
 - c. Foam insert to prevent moisture from condensing on the inside of the standpipe
4. LC Vent Size:
- a. Base opening: 8 inches.
 - b. Base opening with insulation insert: 6 inches
 - c. Base Flange overall diameter: 13 inches

- d. Vent Outlet Diameter 8-1/2 inches
 - e. Height: 7-3/4 inches.
5. Recommended Spacing: 1 per 1,000 SF.

E. MEDIUM CAPACITY (MC) Vent

- 1. Construction:
 - a. Spun heavy gauge aluminum
 - b. Cap design shields against entry of wind-blown rain or snow
 - c. Flange may be coated with PVC, TPO or Asphalt priming
- 2. Type:
 - a. One way vent
 - b. Two way vent
- 3. Options
 - a. PVC coated flange
 - b. TPO coated flange
 - c. Foam insert to prevent moisture from condensing on the inside of the standpipe
- 4. MC Vent Size:
 - a. Base opening: 6-1/2 inches.
 - b. Base opening with insulation insert: 5-3/8 inches
 - c. Base Flange overall diameter: 10 inches
 - d. Vent Outlet Diameter 6-1/2 inches
 - e. Height: 9-1/2 inches.
- 5. Recommended Spacing: 1 per 1,500 SF.

F. ROOFNEK Aluminum Base Standpipe

- 1. Construction:
 - a. Aluminum base standpipe

- b. Solvent welded PVC hooded outlet
 - c. 3 cable openings plus 3 additional knockouts
2. Size:
- a. Overall Height: 22-3/4 inches
 - b. Flange Diameter: 11-3/4 inches
 - c. Opening Above Deck: 20-3/4 inches
 - d. Flashing Width: 4 inches

G. EXTRA LARGE CAPACITY (XLC) Vent

1. Construction:
- a. Spun heavy gauge aluminum
 - b. Cap design shields against entry of wind-blown rain or snow
 - c. Flange may be coated with PVC, TPO or Asphalt priming
2. Type:
- a. One way vent
 - b. Two way vent
3. Options
- a. PVC coated flange
 - b. TPO coated flange
 - c. Foam insert to prevent moisture from condensing on the inside of the standpipe
4. XLC Vent Size:
- a. Base opening: 12-1/2 inches.
 - b. Base Flange overall diameter: 17-1/4 inches
 - c. Vent Outlet Diameter 8-1/2 inches
 - d. Height: 7-3/4 inches.
5. Recommended Spacing: 1 per 2,000 SF.

H. PREVENT PVC Vent

1. Construction:
 - a. SUPER Heavy duty PVC plastic U.V. stabilized to reduce deterioration or fading from the sun
 - b. Meets 1-150 or 1-300 National Venting Code in combination with inlet vents
 - c. Special insect resistant wire screen standard
 - d. White Finish
2. Type:
 - a. One way vent
 - b. Two way vent
3. Vent Size:
 - a. Base opening: 10-1/4 inches.
 - b. Base Flange overall diameter: 14-3/4 inches
 - c. Vent Outlet Diameter 13-1/2 inches
 - d. Height: 9 inches.
 - e. Venting Area: 144 sq.in. free area.

I. Vandal Resistant Epoxy Coated Vent Cap – RD-680

1. Construction:
 - a. Vandal resistant epoxy coated cast Iron vent cap
 - b. Vandal resistant galvanized cast Iron vent cap
2. Model/Size:
 - a. RD-680-VC-2134 (51), 2 inch Pipe Size
 - b. RD-680-VC-2134 (76), 3 inch Pipe Size
 - c. RD-680-VC-2134 (102), 4 inch Pipe Size
 - d. RD-680-VC-2134 (152) 6 inch Pipe Size
 - e. RD-680-VC-2134 (203) 8 inch Pipe Size

J. EX-FLOW/M -105 Plastic Vent

1. Construction:
 - a. High-density polyethylene (black) for BUR and Modified bitumen applications
 - b. U.V. stabilized PVC (white) for PVC membrane and polyurethane foam applications
2. Type:
 - a. One way vent
 - b. Two way vent
3. Vent Size:
 - a. Base opening: 5-1/4 inches.
 - b. Base Flange overall diameter: 10-1/2 inches
 - c. Vent Outlet Diameter 13-1/2 inches
 - d. Height: 8 inches.
 - e. Venting Area: 144 sq.in. free area.

K. Retro-fit Adjustable Drain Guards

1. Construction:
 - a. Cast aluminum construction
 - b. Fits drain outlets between 3 inches to 12 inches
2. Drain guard diameter
 - a. 5 inch for small drains
 - b. 8" for normal drains
 - c. 10 inch low profile (2 inches tall)
 - d. 10 inch for normal drains
 - e. 13-1/4 inch for large drain openings
 - f. 18 inch for extra-large drain openings

L. Aluminum Retro Ring and Dome:

1. Construction:
 - a. Replacement for broken or missing roof drain rings and domes
 - b. Low profile 5 inch overall height
 - c. Bolt down security
 - d. Cast aluminum construction
 - e. Cast Iron construction
2. Type/Size: 3 or 4 bolt patterns ranging from 6-1/4 inches to 11-3/4 inches

M. DEKTITES Roof Flashing

1. Construction:
 - a. Black EPDM: Withstands constant temperatures at the roofline of minus 50 degrees C (minus 122 degrees F) to 115 degrees C (239 degrees F) and up to 150 degrees C (302 degrees F) intermittently.
 - b. Black Grey EPDM: Withstands constant temperatures at the roofline of minus 50 degrees C (minus 122 degrees F) to 115 degrees C (239 degrees F) and up to 150 degrees C (302 degrees F) intermittently.
 - c. Red Silicone: Withstands constant temperatures at the roofline of minus 50 degrees C (minus 122 degrees F) to 200 degrees C (392 degrees F) and up to 250 degrees C (485 degrees F) intermittently.
2. Size:
 - a. DFE 0-35: Pipe Size: 0 to 1 inch, Base: 39 inches, Pitch: 0-60 degrees
 - b. DFE 5-55: Pipe Size: 1/4 to 2-1/8 inch, Base: 54 inches, Pitch: 0-45 degrees
 - c. DFE 5-120: Pipe Size: 1/4 to 4-3/4 inch, Base: 85-3/4 inches, Pitch: 0-45 degrees
 - d. DFE 50-70: Pipe Size: 2 to 2-3/4 inch, Base: 69-1/2 inches, Pitch: 0-45 degrees
 - e. DFE 110-170: Pipe Size: 4-1/2 to 6-3/4 inch, Base: 111-3/4 inches, Pitch: 0-45 degrees

- f. DFE 160-220: Pipe Size: 6-1/4 to 8-3/4 inch, Base: 143-1/2 inches, Pitch: 0-45 degrees
- g. DFE 160-300: Pipe Size: 6-1/4 to 11-3/4 inch, Base: 178-1/2 inches, Pitch: 0-45 degrees
- h. DFE 290-440: Pipe Size: 11-1/2 to 17-3/8 inch, Base: 228-1/2 inches, Pitch: 0-45 degrees

N. DEKTITES Retro Roof Flashing

1. Construction:

- a. Black EPDM: Withstands constant temperatures at the roofline of minus 50 degrees C (minus 122 degrees F) to 115 degrees C (239 degrees F) and up to 150 degrees C (302 degrees F) intermittently.
- b. Black Grey EPDM: Withstands constant temperatures at the roofline of minus 50 degrees C (minus 122 degrees F) to 115 degrees C (239 degrees F) and up to 150 degrees C (302 degrees F) intermittently.
- c. Red Silicone: Withstands constant temperatures at the roofline of minus 50 degrees C (minus 122 degrees F) to 200 degrees C (392 degrees F) and up to 250 degrees C (485 degrees F) intermittently.

2. Size:

- a. RF 801/EPDM: Pipe Size: 3/4 to 2-3/4 inch, Base: 6-1/3 inches, Pitch: 0-40 degrees
- b. RF 802/EPDM: Pipe Size: 2 to 2-7/8 inch, Base: 10-3/4 inches, Pitch: 0-40 degrees
- c. RF 803/EPDM: Pipe Size: 3-1/2 to 2-7/8 inch, Base: 14-1/2 inches, Pitch: 0-40 degrees
- d. RFS-4/EPDM: Pipe Size: 9-1/4 to 16-3/4 inch, Base: 30 by 26-3/4 inches, Pitch: 0-40 degrees
- e. RF 901/Silicone: Pipe Size: 3/4 to 2-3/4 inch, Base: 6-1/3 inches, Pitch: 0-40 degrees
- f. RF 902/Silicone: Pipe Size: 2 to 2-7/8 inch, Base: 10-3/4 inches, Pitch: 0-40 degrees
- g. RF 903/Silicone: Pipe Size: 3-1/2 to 2-7/8 inch, Base: 14-1/2 inches, Pitch: 0-40 degrees

- h. RFS-24/Silicone: Pipe Size: 9-1/4 to 16-3/4 inch, Base: 30 by 26-3/4 inches, Pitch: 0-40 degrees

O. MARA-FLEX Roof Flashing

1. Construction:

- a. Made of heavy duty material to provide reliable long life performance
- b. Rippled portion offers an accordion action to accommodate variable applications
- c. Designed to fit all pitches of roof

2. Size:

- a. Model 225: Pipe Size: 2 inch, Base: 12 inch by 12 inch, 2.5 lbs. Flashing
- b. Model 240: Pipe Size: 2 inch, Base: 12 inch by 12 inch, 4 lbs. Flashing
- c. Model 325: Pipe Size: 3 inch, Base: 12 inch by 12 inch, 2.5 lbs. Flashing
- d. Model 340: Pipe Size: 3 inch, Base: 12 inch by 12 inch, 4 lbs. Flashing
- e. Model 425: Pipe Size: 4 inch, Base: 12 inch by 12 inch, 2.5 lbs. Flashing
- f. Model 440: Pipe Size: 4 inch, Base: 12 inch by 12 inch, 4 lbs. Flashing
- g. Model 525: Pipe Size: 5 inch, Base: 12 inch by 12 inch, 2.5 lbs. Flashing

P. MARABOOT Aluminum Roof Penetration System

1. Construction:

- a. Mara-Boot Aluminum base with grooves for EPDM cap.
- b. EPDM cap made for maximum resistance to weathering, ozone, U.V. and extreme hot and cold temperatures

- c. Caps mechanically seal to dual beads on the Mara-boot aluminum base and grooves on the inside of the EPDM cap
 - d. Provides permanent, water-tight and maintenance free applications for penetrating roofs
- 2. EPDM Cap: Each cap accommodates (2) 1/4 inch, 1-1/2 inch, 2 inch pipe sizes or (2) 3/8 inch, 1/2 inch, 3/4 inch and 1 inch pipes sizes
 - 3. Mara-Boot Aluminum base has a 8 inch diameter with a 6 inch stack height and a 14 inch diameter bottom flange

Q. Snow Guards

- 1. Construction:
 - a. Made of high strength polycarbonate
 - b. Tested to withstand minus 40 degrees
 - c. U.V. resistance
 - d. Pre-spotted holes for proper installation

PART 3 EXECUTION

3.1 EXAMINATION

- A. Do not begin installation until substrates have been properly prepared.
- B. If substrate preparation is the responsibility of another installer, notify Architect of unsatisfactory preparation before proceeding.

3.2 PREPARATION

- A. Clean surfaces thoroughly prior to installation.

- B. Inspect and mating pipe for form and cleanliness.
- C. Prepare surfaces using the methods recommended by the manufacturer for achieving the best result for the substrate under the project conditions.

3.3 INSTALLATION

- A. Install in accordance with manufacturer's instructions.
- B. Roof Drains
 - 1. Install in the locations indicated.
 - 2. Maintain integrity of waterproof membranes where penetrated.
 - 3. Flashing collar or flange: Install between drain and roofing materials.
- C. Roof Vents and penetration flashings
 - 1. Install in the locations indicated.
 - 2. Maintain integrity of waterproof membranes where penetrated.
 - 3. Flashing collar or flange: Install between drain and roofing materials.

3.4 PROTECTION

- A. Protect installed products until completion of project.
- B. Protect drains for duration of construction period from traffic, dirt, and debris.
- C. Touch-up, repair or replace damaged products before Substantial Completion.

END OF SECTION

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