

SECTION 07530 – FULLY ADHERED EPDM ROOFING SYSTEM

PART 1 - GENERAL

0.1 RELATED DOCUMENTS

- A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division 1 Specification Sections, apply to this Section.

0.2 NATIONAL ACCOUNT

- A. CVS/Pharmacy has entered into a national account agreement with Carlisle/Versico for furnishing the roofing system specified in this section. Complete installation shall be by the Contractor. For pricing quotations, placing orders, and further information, call Carlisle/Versico at (800) 479-6832.
- B. CVS/Pharmacy has entered into a national account agreement with Firestone Building Products Co. for furnishing the roofing system specified in this section. Complete installation shall be by the Contractor. For pricing quotations, placing orders, and further information, call Firestone Building Products Co. at (317) 816-3206.

0.3 GENERAL NOTES

- A. Preceding job start up, contractor shall decide to his satisfaction that all specifications contained herein are workable.
- B. Contractor will perform all work by competent, trained, and properly equipped personnel in strict accordance with good roofing practices and applicable industry standards.
- C. Contractor will observe all published safety prevention policies and practices relating to application of roofing system and related work. All federal, state, and local codes shall be followed.
- D. Contractor will follow application, safety, etc. information as published in the most current edition of the Firestone RubberGard EPDM Roofing System Technical Specifications.
- E. Questions concerning this specification should be directed to Firestone Technical Services Department or Mark Munley, National Accounts Manager at 1 800.428.4442.

0.4 WORK INCLUDED

- A. Work under this section covers the installation of a new Fully Adhered EPDM roofing system for CVS. In addition, contractor shall include all related items of work as noted herein or indicated on the drawings or otherwise required to complete the specified elements of work and provide the necessary warranties for this work.
- B. Contractor will dispose of all materials properly. Any material removal shall comply with state and local codes and requirements and shall be disposed of in a legal manner.

0.5 SECTION INCLUDES

- A. Substrate preparation.
- B. Wood nailer installation.
- C. Membrane installation.
- D. Membrane flashing installation.
- E. Walkway pads.

0.6 DEFINITIONS

- A. Roofing Terminology: Refer to ASTM D1079 for definition of terms related to roofing work not otherwise defined in the section
- B. Firestone: Firestone Building Products Co., Headquarters, 525 Congressional Blvd., Carmel, IN 46032-5607
- C. American Society for Testing and Materials (ASTM): 1916 Race Street, Philadelphia, PA 19103

0.7 SYSTEM DESCRIPTION

- A. Non-Reinforced elastomeric sheet roofing, that is adhered to acceptable substrate with system manufacture's bonding adhesive.

0.8 PERFORMANCE REQUIREMENTS

- A. General: Install sheet membrane roofing and base flashing that are watertight; will not permit the passage of liquid water; and will withstand wind loads, thermally induced movement, and exposure to weather without failure.
- B. Material Compatibility: Provide roofing materials that are compatible with one another under conditions of service and application required, as demonstrated by roofing system manufacturer based on testing and field experience.

- C. FM Listing: Provide sheet membrane, base flashings, and component materials that meet requirements of FM 4450 and FM 4470 as part of a roofing system and that are listed in FM's "Approval Guide" for Class 1 or noncombustible construction, as applicable. Identify materials with FM markings.
 - 1. Roofing system shall comply with the following:
 - a. Fire/Windstorm Classification: Class 1A-90.

0.9 QUALITY ASSURANCE

- A. Manufacturer:
 - 1. Company specializing in manufacturing the roofing membrane specified in this Section with ten years of manufacturing experience.
 - 2. System supplier must have ISO 9002 certification.
 - 3. Manufacturer must be able to provide the project with the membrane and Isocyanurate insulation that is produced in their facilities.
- B. Applicator:
 - 1. Shall be a Firestone Red Shield Licensed Contractor.
 - 2. Shall have at least five years experience in installing specified system.
- C. Fire-Test-Response Characteristics: Provide roofing materials with the fire-test-response characteristics indicated as determined by testing identical products per test method indicated below by UL, FM, or another testing and inspecting agency acceptable to authorities having jurisdiction. Identify materials with appropriate markings of applicable testing and inspecting agency.
 - 1. Exterior Fire-Test Exposure: Class A; ASTM E 108, for application and slopes indicated.
 - 2. Fire-Resistance Ratings: ASTM E 119, for fire-resistance-rated roof assemblies of which roofing materials are a part.
- D. Preliminary Roofing Conference: Before starting roof deck construction, conduct conference at Project site. Meet with the same participants and review the same items listed for the preinstallation conference. In addition, review status of submittals and coordination of work related to roof construction. Notify participants at least 5 working days before conference.
- E. Preinstallation Conference: Before installing roofing system, conduct conference at Project site to comply with requirements of Division 1 Section "Project Meetings." Notify participants at least 5 working days before conference.
 - 1. Meet with Owner; Architect; Owner's insurer, if applicable; testing and inspecting agency representative; roofing Installer; roofing system manufacturer's representative; deck Installer; and installers whose work interfaces with or affects roofing, including installers of roof accessories and roof-mounted equipment.

2. Review methods and procedures related to roofing installation, including manufacturer's written instructions.
3. Examine deck substrate conditions and finishes for compliance with requirements, including flatness and fastening.
4. Review loading limitations of deck during and after roofing.
5. Review flashings, special roofing details, roof drainage, roof penetrations, equipment curbs, and condition of other construction that will affect roofing.
6. Review governing regulations and requirements for insurance, certificates, and inspection and testing, if applicable.
7. Review temporary protection requirements for roofing system during and after installation.
8. Review roof observation and repair procedures after roofing installation.
9. Document proceedings, including corrective measures or actions required, and furnish copy of record to each participant.

0.10 REGULATORY REQUIREMENTS

- A. Conform to applicable local building code requirements.

0.11 QUALITY INSPECTION/OBSERVATION

- A. Inspection by Manufacturer: Provide a final inspection of the roofing system by a Technical Representative employed by roofing system manufacturer.
 1. Technical Representative shall not perform any sales functions.
 2. Contractor shall complete any necessary repairs required for issuance of warranty.

0.12 DELIVERY, STORAGE AND HANDLING

- A. Deliver products in manufacturer's original containers dry, undamaged, seals and labels intact and legible.
- B. Store all materials clear of ground and moisture with weather protective covering.
- C. Keep all combustible materials away from **ALL** ignition sources.
- D. Store liquid materials in their original undamaged containers in a clean, dry, protected location and within the temperature range required by roofing system manufacturer. Protect stored liquid material from direct sunlight.
 1. Discard and legally dispose of liquid material that cannot be applied within its stated shelf life.
- E. Protect roof insulation materials from physical damage and from deterioration by sunlight, moisture, soiling, and other sources. Store in a dry location. Comply with insulation manufacturer's written instructions for handling, storing, and protecting during installation.

- F. Handle and store roofing materials and place equipment in a manner to avoid permanent deflection of deck.

0.13 ENVIRONMENTAL REQUIREMENTS

- A. Install roofing membrane only when surfaces are clean, dry, smooth and free of snow or ice.
- B. Do not apply roofing membrane during inclement weather or when ambient conditions will not allow proper application. Consult Firestone Technical Specifications on cold weather application.

0.14 WARRANTY

- A. Type/Term:
 - 1. Provide 15 year Firestone Red Shield Roofing System Limited Warranty. Warranty shall include membrane, roof insulation, and all other products supplied by Firestone Building Products.
 - 2. Provide a separate Firestone ISO 95+ Insulation Warranty. Warranty term shall coincide with Red Shield Warranty.
- B. Coverage:
 - 1. Red Shield Warranty:
 - a. Limit of liability: No Dollar Limitation
 - b. Scope of coverage: Repair any leak in the Firestone EPDM Roofing System caused by the ordinary wear and tear of the elements, manufacturing defect in Firestone brand materials, and the workmanship used to install these materials.
 - 2. Insulation Warranty:
 - a. Limit of liability: No Dollar Limitation
 - b. Scope of coverage:

PART 2 - PRODUCTS

0.1 NAILERS FOR FLANGES AND ROOF ACCESSORIES

- A. Description: Structural Grade No. 2 or better Southern Pine, Douglas Fir, or Exterior Grade plywood. All wood shall be pressure treated for rot resistance.
 - 1. Nailer width: Minimum 3 1/2 in. (nominal) wide or as wide as the nailing flange of each roof accessory.
 - 2. Nailer thickness: Thickness of roof insulation.

B. Reference Standards:

1. Southern Pines: PS 20; SPIB Grading Rules.
2. Western Woods: PS 20; WWPA Grading Rules.
3. Plywood: PS 1; APA Grade Stamps.
4. Pressure preservative treatment: AWPB LP2.

0.2 MANUFACTURERS – MEMBRANE MATERIALS

- A. Firestone Adhered single-ply membrane system: Non-Reinforced elastomeric sheet roofing, that is adhered to acceptable substrate with manufacturers bonding adhesive.
- B. Approved Equals: Carlisle Syntec System: Carlisle Corp.

0.3 ELASTOMERIC SHEET ROOFING AND FLASHING MEMBRANE

- A. Description: Non-reinforced, cured, synthetic single-ply membrane composed of Ethylene Propylene Diene Terpolymer (EPDM) conforming to the following physical properties:
 1. Membrane Type: .060 Standard

Property:	Specification:
Specific Gravity	1.15 +/- 0.05
Tensile Strength, Minimum, psi (MPa)	1305 (9)
Elongation, Minimum, %	300
Tear Resistance, lbf / in (kN / M)	150 (26.3)
Ozone Resistance, 166 hours @ 100 pphm @ 104°F with 50% extension	No Cracks
Heat Aging, 28 days @ 240°F	
Tensile Strength, Minimum psi (MPa)	1205 (8.3)
Elongation, Minimum %	200
Brittleness Point, max., °F, °C	-49 (-45)
Water Absorption, change in weight after immersion in water for 166 hours @ 158°F, %	+8, -2
Tolerance On Nominal Thickness, %	+/- 10
Water Vapor Permeability, Perm-Mils	2.0

B. Reference Standards:

1. ASTM D4637-96: Standard Specification for EPDM Sheet used in single-ply roof membrane
2. ASTM D297: Methods for Rubber Products, Chemical Analysis.
3. ASTM D412, Die C: Test Methods for Rubber Properties in Tension.
4. ASTM D471: Test Methods for Rubber Property, Effect of Liquids.
5. ASTM D573: Test Method for Rubber, Deterioration in an Air Oven.
6. ASTM D624, Die C: Test Method for rubber property-Tear Resistance
7. ASTM D746: Test Method for Brittleness Temperature of Plastics and Elastomers by Impact.
8. ASTM D751: (Grab Method) Method of Testing Coated Fabrics.
9. ASTM D816: (Modified) Methods of Testing Rubber Cements.
10. ASTM D1149: Test Method for Rubber Deterioration, Surface Ozone Cracking in a Chamber.
11. ASTM D2240: Test Method for Rubber Property - Durometer Hardness.
12. ASTM E96: Test Methods for Water Vapor Transmission of Materials.

C. Product/Producer:

1. RubberGard EPDM membrane by Firestone.

0.4 ELASTOMERIC SHEET ROOFING SYSTEM COMPONENTS

A. Roof Flashing:

1. Description: Semi-cured 45 mil EPDM membrane laminated to 35 mil EPDM tape adhesive
2. Product/Producer:
 - a. QuickSeam Flashing by Firestone.

B. Elastomeric Uncured Flashing

1. Description: Non-reinforced, self curing, synthetic, single-ply flashing composed of Ethylene Propylene Diene Terpolymer (EPDM) conforming to the following physical properties as indicated by ASTM D4811-90 standard specification for Non-vulcanized rubber sheet used as roof flashing.
 - a. Nominal Thickness: .060 inch

Property:	Specification:
Thickness	0.055
Green Strength Modulus 100% @ 75°F(psi)	25-250
Elongation, (Ultimate), %	400
modulus 100% @ 122°F(psi)	12

Elongation (Ultimate) %	200
Shelf Stability: Modulus 100% at 75°F(psi)	250
Elongation, min, %	400
Vulcanizability: Tensile strength, min, (psi)	406
Elongation, min, %	400
Tensile Set: min, %	80
Dimensional Stability, max, %	+/- 10
Weatherability , no cracks or crazing	pass
Water Vapor Permeability, Perm-Mils	2.0

b. Reference Standards:

- 1) ASTM D412: Test Methods for Rubber Properties in Tension
- 2) ASTM D471: Test Methods for Rubber Property-Effect of liquids
- 3) ASTM D573: Test Methods for Rubber-Deterioration in Air oven
- 4) ASTM D624: Test Methods for Rubber Property-Tear Resistance
- 5) ASTM D1149: Test Method for Rubber Deterioration-Surface Ozone Cracking in a chamber
- 6) ASTM D1204: Test Method for Linear Dimensional Changes on a Non-rigid Thermoplastic Sheeting or Film at Elevated Temperatures
- 7) ASTM D2137: Test Methods for Rubber Property-Brittleness Point of Flexible Polymers and Coated Fabrics

2. Product/Producer:

- a. EPDM FormFlash flashing membrane by Firestone.

C. Lap Splice Tape:

1. Description: 35 mil EPDM-based, formulated for compatibility with EPDM membrane and high-solids primer.
2. Product/Producer:
 - a. QuickSeam Splice Tape by Firestone.

D. Adhesive Primer:

1. Description: High-solids, butyl based primer formulated for compatibility with EPDM membrane & tape adhesive.
2. Product/Producer:
 - a. QuickPrime by Firestone.

E. Batten Covers:

1. Description: Cured 60 mil EPDM membrane laminated to 35 mil EPDM tape adhesive.
2. Product/Producer:
 - a. QuickSeam Batten Cover by Firestone.

F. Splice Adhesive:

1. Description: Butyl-based, formulated for compatibility with EPDM membrane.
2. Product/Producer:
 - a. RubberGard Splice Adhesive by Firestone.

G. Bonding Adhesive:

1. Description: Neoprene-based, formulated for compatibility with EPDM membrane & a wide variety of substrate materials, including masonry, wood, and insulation facings.
2. Product/Producer:
 - a. RubberGard Bonding Adhesive by Firestone.

H. Pourable Sealer:

1. Description: 2-Part urethane , 2-color for reliable mixing.

I. Seam Plates, Batten Strips and Insulation Plates:

1. Description: Steel with a Galvalume coating.
2. Reference Standard: Corrosion-resistant to meet FM-4470 criteria.

J. Termination Bar:

1. Description: 1.3" X 0.10" thick aluminum bar with integral caulk ledge.
2. Product/Producer:
 - a. RubberGard Bonding Adhesive by Firestone.

K. Roof Walkway Pads:

1. Description: EPDM Walkway Pads, 0.30" X 30" X 30" with EPDM tape adhesive strips laminated to the bottom.
2. Product/Producer:
 - a. QuickSeam Walkway Pads by Firestone.

0.5 INSULATION MATERIALS

- A. General: Provide preformed roof insulation boards that comply with requirements, selected from manufacturer's standard sizes and of thicknesses indicated.
 - 1. Provide preformed, tapered insulation boards where indicated for sloping to drain. Fabricate with the following taper:
 - a. 1/4 inch per 12 inches, unless otherwise indicated.
 - 2. Provide preformed saddles, crickets, tapered edge strips, and other insulation shapes where indicated for sloping to drain. Fabricate to slopes indicated.
- B. Polyisocyanurate Board Insulation: Rigid, cellular polyisocyanurate thermal insulation with core formed by using HCFCs as blowing agents to comply with ASTM C 1289, classified by facer type as follows:
 - 1. Facer Type: Type II, felt or glass-fiber mat on both major surfaces.
 - 2. Provide minimum R-value of 25, as determined by the long term thermal resistance (LTTR) method.

0.6 INSULATION ACCESSORIES

- A. General: Furnish roof insulation accessories recommended by insulation manufacturer for intended use and compatible with sheet roofing material.
- B. Fasteners: Factory-coated steel fasteners and metal or plastic plates meeting corrosion-resistance provisions of FM 4470, designed for fastening roof insulation to substrate, and acceptable to roofing system manufacturer.
- C. Protection Mat: Woven or nonwoven polypropylene, polyolefin, or polyester fabric mat, water permeable and resistant to ultraviolet degradation, type and weight as recommended by roofing system manufacturer for application.

0.7 WALKWAYS

- A. Walkway Pads: Factory-formed, nonporous, heavy-duty, solid-rubber, slip-resisting, surface-textured walkway pads, approximately 3/14 inch thick, and acceptable to roofing system manufacturer.

PART 3 - EXECUTION

0.1 EXAMINATION

- A. Examine roof deck to determine that it is sufficiently rigid to support roofers and their mechanical equipment and that deflection will not strain or rupture roof components or deform deck.

- B. Verify that surfaces and site conditions are ready to receive work. Correct defects in the substrate before commencing with roofing work.
- C. Examine roof substrate to verify that it is properly sloped to drains.
- D. Start work with sealants and adhesives at 60° - 80° F.
- E. Fumes from adhesive solvents may be drawn into the building during installation through rooftop intakes. Appropriate measures must be taken to assure that fumes from adhesive solvents are not drawn into the building through air intakes.
- F. The surface must be clean, dry, smooth, free of sharp edges, fins, loose or foreign materials, oil, grease and other materials which may damage the membrane. All roughened surfaces which could cause damage shall be properly repaired before proceeding.
- G. All surface voids of the immediate substrate greater than 1/4" wide must be properly filled with an acceptable insulation or suitable fill material.

0.2 PROTECTION OF OTHER WORK

- A. Protect metal, glass, plastic, and painted surfaces from adhesives and sealants.
- B. Protect neighboring work, property, cars, and persons from spills and overspray from adhesives, sealants and coatings.
- C. Protect finished areas of the roofing system from roofing related work traffic and traffic by other trades.

0.3 MATERIAL STORAGE AND HANDLING

- A. Keep all adhesives, sealants, primers and cleaning materials away from all sources of ignition.
- B. Consult container labels and Material Safety Data Sheets (MSDS) for specific safety instructions.

0.4 WOOD NAILER LOCATION AND INSTALLATION

- A. Total wood nailer height shall match the total thickness of insulation being used and shall be installed with a 1/8" gap between each length and at each change of direction.
- B. Wood nailers shall be firmly fastened to the deck. Mechanically fasten wood nailers to resist a force of 200 lbs. per lineal foot.

0.5 INSULATION INSTALLATION

- A. Coordinate installing roofing system components so insulation is not exposed to precipitation or left exposed at the end of the workday.
- B. Comply with roofing system manufacturer's written instructions for installing roof insulation.
- C. Install tapered insulation under area of roofing to conform to slopes indicated and to Shop Drawings.
- D. Install one or more layers of insulation under area of roofing to achieve required thickness. Where overall insulation thickness is 2 inches or greater, install required thickness in 2 or more layers with joints of each succeeding layer staggered from joints of previous layer a minimum of 6 inches in each direction.
- E. Trim surface of insulation where necessary at roof drains so completed surface is flush and does not restrict flow of water.
- F. Install insulation with long joints of insulation in a continuous straight line with end joints staggered between rows, abutting edges and ends between boards. Fill gaps exceeding 1/4 inch with insulation.
 - 1. Cut and fit insulation within 1/4 inch of nailers, projections, and penetrations.
- G. Attached Insulation: Install each layer of insulation and secure to deck using mechanical fasteners specifically designed and sized for fastening specified board-type roof insulation to deck type indicated.
 - 1. Fasten insulation according to the insulation and roofing system manufacturers' written instructions to meet specified wind-uplift requirements, but not less than 1 fastener for each 4 sq. ft. and at least 2 fasteners per board.

0.6 MEMBRANE PLACEMENT AND ATTACHMENT

- A. Beginning at the low point of the roof, place the Firestone RubberGard membrane without stretching over the acceptable substrate and allow to relax a minimum of 30 minutes before attachment or splicing.
- B. After making sure the sheet is placed in its final position, fold it back evenly onto itself so as to expose the underside.
- C. Sweep the mating surface of the membrane with a stiff broom to remove excess dusting agent (if any) or other contaminants from the mating surface.
- D. Apply Bonding Adhesive at about the same time to both the exposed underside of the sheet and the substrate to which it will be adhered so as to allow approximately the same drying time. Apply Bonding Adhesive so to provide an even and uniform film thickness. Do not apply bonding adhesive to areas that will be subsequently spliced.

- E. Allow Bonding Adhesive to flash off until tacky. Touch the Bonding Adhesive surface with a clean, dry finger to be certain that the adhesive does not stick or string. As you are touching the adhesive, pushing straight down to check for stringing, also push forward on the adhesive at an angle to ensure that the adhesive is ready throughout its thickness. If either motion exposes wet or stringy adhesive when the finger is lifted, then it is not ready for mating.
- F. Starting at the fold, roll the previously coated portion of the sheet into the coated substrate slowly and evenly so as to minimize wrinkles.
- G. Compress the bonded half of the sheet to the substrate with a stiff push broom.
- H. Fold the unadhered half of the membrane sheet back onto itself, and repeat the bonding procedure to complete the bonding of the sheet.

0.7 MEMBRANE LAP SPLICING

A. General

1. Position the sheet at the splice area by overlapping membrane 5 inches. Once the membrane is in place, mark the bottom sheet 1/2" to 3/4" from the edge of the top sheet every 4 to 6 feet. Tack the sheet back with Firestone QuickPrime at 5' centers and at factory splices or as necessary to hold back the membrane at the splicing area.
2. Remove excess amounts of dusting agent on the sheet and at factory splices using a stiff push broom. Stir Firestone QuickPrime thoroughly before and during use. Dip the QuickScrubber into the bucket of QuickPrime, keeping the QuickScrubber flat. Apply the QuickPrime using long back and forth type strokes with pressure along the length of the splicing area until surfaces become a dark gray in color. Apply QuickPrime to both surfaces at the same time to allow the same flash off time. Change the scrub pad each 200 feet of 3 inch field splice, or when the pad will no longer hold the proper amount of QuickPrime. Additional scrubbing is required at areas that may have become contaminated or have excess amounts of dusting agent, and at all factory splices.
3. Position the QuickSeam Splice Tape on the bottom sheet, aligning the edge of the release paper with the markings. Immediately roll the splice tape with a 3"-4" wide silicone or silicone sleeved steel hand roller or a short nap 3" paint roller.
4. When the QuickSeam Splice Tape has been installed for the entire splice length allow the top sheet to rest on top of the tape's paper backing. Trim the top sheet as necessary to assure that 1/8"-1/2" of the QuickSeam Splice Tape will be exposed on the finished splice.
5. To remove the paper backing from the tape, first roll back the RubberGard membrane sheet, then peel the paper backing off the QuickSeam Splice Tape by pulling against the weight of the bottom sheet at approximately a 45 degree angle to the tape and parallel with the roof surface. Allow the top sheet to fall freely onto the exposed QuickSeam Splice Tape. Broom the entire length of the splice as the release paper is being removed.
6. Roll the splice using a 1-1/2"-2" wide silicone or silicone sleeved steel hand roller, first across the splice, and then along the entire length of the splice.

0.8 MEMBRANE SECUREMENT

- A. Secure membrane at all locations where the membrane terminates or goes through an angle change greater than 2" in 12" except for round pipe penetrations less than 18" in diameter and square penetrations less than 4" square.
- B. Mechanically fasten Reinforced Perimeter Fastening Strips per Firestone recommendations.

0.9 FLASHING – PENETRATIONS

- A. General:
 - 1. Flash all penetrations passing through the membrane.
 - 2. The flashing seal must be made directly to the penetration.
- B. Pipes, Round Supports, etc.
 - 1. Flash with Firestone Pre-Molded EPDM Pipe Flashings where practical.
 - 2. Flash using FormFlash when Pre-Molded EPDM Pipe Flashing is not practical.
- C. Structural Steel Tubing: Use a field fabricated pipe flashing detail provided that the minimum corner radius is greater than 1/4" and the longest side of the tube does not exceed 12". When the tube exceeds 12" use a standard curb detail.
- D. Roof Drains
 - 1. Provide a clean even finish on the mating surfaces between the clamping ring and the drain bowl.
 - 2. Taper insulation around the drain to provide a smooth transition from the roof surface to the drain. Use pre-manufactured tapered insulation with facer or suitable bonding surface to achieve slope. Slope shall not exceed Firestone recommendations.
 - 3. Position the RubberGard membrane, then cut a hole for the roof drain to allow 1/2" -3/4" of membrane extending inside the clamping ring past the drain bolts.
 - 4. Make round holes in the RubberGard membrane to align with clamping bolts. Do not cut the membrane back to the bolt holes.
 - 5. Place Water Block Seal on top of drain bowl where the clamping ring seats below the membrane
 - 6. Install the roof drain clamping ring and clamping bolts. Tighten the clamping bolts to achieve constant compression.
- E. Pipe Clusters and Unusual Shaped Penetrations
 - 1. Fabricate penetration pockets to allow a minimum clearance of 1" between the penetration and all sides.
 - 2. Secure penetration pockets per Firestone Details
 - 3. Fill penetration pockets with Pourable Sealer, so as to shed water. Pourable Sealer shall be a minimum of 2" deep.

- F. Hot Pipes: Protect the rubber components from direct contact with steam or heat sources when the in-service temperature is in excess of 180° F. In all such cases flash to an intermediate insulated "cool" sleeve per Firestone details.
 - G. Flexible Penetrations
 - 1. Provide a weathertight gooseneck set in Water Block Seal and secured to the deck.
 - 2. Flash in accordance with Firestone Details
 - H. Scuppers
 - 1. Set welded watertight scupper in Water Block Seal and secure to the structure.
 - 2. Flash in accordance with Firestone Details.
 - I. Expansion Joints
 - 1. Install as shown on roof drawings in accordance with Firestone details.
- 0.10 FLASHING - WALLS, PARAPETS, MECHANICAL EQUIPMENT CURBS, SKYLIGHTS, ETC.
- A. General: Using the longest pieces practical, flash all walls, parapets, curbs, etc., a minimum of 8" high per Firestone Details.
 - B. Evaluate Substrate: Evaluate the substrate and overlay per Firestone specifications as necessary.
 - C. Complete the splice between flashing and the main roof sheet with Splice Adhesive before adhering flashing to the vertical surface. Provide lap splices in accordance with Firestone Details.
 - D. Apply Bonding Adhesive at about the same time to both the flashing and the surface to which it is being bonded so as to allow approximately the same flash off time. Apply Bonding Adhesive in a uniform coating.
 - E. Allow Bonding Adhesive to flash off until tacky. Touch the Bonding Adhesive surface with a clean, dry finger to be certain that the adhesive does not stick or string. While touching the adhesive, pushing straight down to check for stringing, also push forward on the adhesive at an angle to ensure that the adhesive is ready throughout its thickness. If either motion exposes wet or stringy adhesive when the finger is lifted, then it is not ready for mating. Flash off time will vary depending on ambient air conditions.
 - F. Roll the flashing into the adhesive evenly and carefully so as to minimize wrinkles.
 - G. Ensure proper contact of flashing by brooming in place.
 - H. Provide termination directly to the vertical substrate as shown on roof drawings.
 - I. Install T-Joint covers at field and flashing splice intersections as required by Firestone.

- J. Install intermediate flashing attachment as required by Firestone Specifications and Details.

0.11 FLASHING - ROOF EDGE METALS

- A. Apply QuickPrime to the metal edging and membrane as described in Firestone Specifications.
- B. Place the roll of QuickSeam Flashing on the roof a few feet ahead of the application starting point, positioned so that it unrolls from the top of the roll. Remove approximately 2'-3' of release paper and apply to the metal flange and RubberGard membrane. Lap adjacent rolls of QuickSeam Flashing a minimum of one inch.
- C. With a 2"-3" wide silicone or silicone sleeved steel hand roller, roll the QuickSeam Flashing ensure proper adhesion. Additional attention must be given to factory splice intersections and to any change in plane.
- D. Apply 6" length of QuickSeam Flashing, a QuickSeam Joint Cover, or 6"x6" FormFlash to the inside edge of the QuickSeam Flashing at all overlaps.
- E. Apply 6" length of QuickSeam Flashing, a QuickSeam Joint Cover, or 6"x6" FormFlash at all intersections between the QuickSeam Flashing and field fabricated splices.
- F. Where QuickSeam Flashing will not completely cover the metal flange, an additional piece of QuickSeam Flashing must be applied to the metal edge laps . Apply Seam Edge Treatment at the intersections of the flashing sections.
- G. When the roof slope is greater than 1 in 12, apply Seam Edge Treatment along the back edge of the QuickSeam Flashing.

0.12 TEMPORARY CLOSURE

- A. Temporary closures which ensure that moisture does not damage any completed section of the new roofing system are the responsibility of the applicator. Completion of flashings, terminations, and temporary closures shall be completed as required to provide a watertight condition.

0.13 ROOF WALKWAYS

- A. Install walkways at all access points to the roof and around all rooftop equipment that may require maintenance and as shown on roof drawings.
- B. Layout Firestone RubberGard Walkway Pads so that the flat surface is over the completed RubberGard membrane, spacing each pad a minimum of 1" and a maximum of 3" from each other to allow for drainage. Walkway pads may not be used within 10' of any roof edge or perimeter. These areas will require the installation of concrete pavers.

- C. If the installation of Firestone RubberGard Walkway Pads over field fabricated splices or within 6" of a splice edge cannot be avoided, flash in the splice using QuickSeam Flashing prior to installing the walkway pad. The QuickSeam Flashing shall extend beyond the walkway pad a minimum of 6" on either side.
- D. Remove the release paper. Turn the walkpad over and place it in the QuickPrime.
- E. Walk on the pad to press in place assuring proper adhesion.
- F. If loose laid pavers are used for walkways. Adhere a layer of RubberGard membrane beneath them to isolate them from the roofing membrane. Protection layers must extend a minimum of 2" beyond the paving stone.

0.14 SHEET METAL WORK

- A. Install Firestone sheet metal as shown on roof drawings.
- B. Follow current industry guidelines for installation or Firestone requirements, whichever is more stringent.

0.15 FIELD QUALITY CONTROL

- A. Field inspection and testing will be performed as required by the manufacturer
- B. Correct identified defects or irregularities.

0.16 CLEAN-UP

- A. Protect sheet membrane roofing from damage and wear during remainder of construction period. When remaining construction will not affect or endanger roofing, inspect roofing for deterioration and damage, describing its nature and extent in a written report, with copies to Architect and Owner.
- B. Clean all contaminants from building and surrounding areas.
- C. Remove trash, debris, equipment from project site and surrounding areas.
- D. Repair or replace damaged building components or surrounding areas to the satisfaction of the building owner.

END OF SECTION 07530

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