

SECTION 02060 - ROOFING DEMOLITION

PART 1 - GENERAL

1.01 DESCRIPTION

- A. Work included: Work under this section consists of furnishing of all labor, materials, equipment and services necessary for the complete demolition and proper disposal of existing roofing, drip edge, flashing and existing underlayment, for both existing membrane and asphalt shingle roofing, where shown on the drawings and as specified herein.
- B. Related work: Documents affecting work of this Section include, but are not necessarily limited to, General and Supplementary Conditions, and Sections of Division I of these specifications.
 - 1. Section 06100 - Rough Carpentry
 - 2. Section 07310 - Asphalt Roofing and Accessories
 - 3. Section 07312 - Slate Roofing
 - 4. Section 07532 - Fully Adhered EPDM Roofing

1.02 SCOPE OF WORK

- A. Strip off all of the existing asphalt roofing shingles, slate roofing shingles, single ply membrane roofing, nails, felt or membrane underlayment, metal drip edge, metal drip edge/fascia, existing ridge vents and other flashing on all buildings listed in the Summary of Work and legally dispose of all debris. Verify that the existing sheathing is in good condition, identifying for examination by the Architect all areas that show evidence of damaged sheathing. Should there be areas of sheathing or framing deterioration as determined by direct examination and in consultation with the Architect these areas will be replaced at a price listed in the schedule of Unit Prices.
- B. Gutters and downspouts are to be protected and returned to operating condition at the end of the Work. The Contractor will be required to replace any gutters or downspouts damaged during the project. Replacement gutters and downspouts shall be new.
- C. Patching and Repairs- Perform all necessary patching and repairs to the items scheduled to remain.

1.03 QUALITY ASSURANCE - Use skilled workers thoroughly trained and experienced in the necessary crafts and completely familiar with the specified requirements and methods needed for proper performance of the work of this Section.

- A. Requirements of Regulatory Agencies: Perform demolition work in accordance with applicable rules, regulations, codes, and ordinances of local, state and federal authorities, and in accordance with the requirements of public utility corporations having jurisdiction over the work.
- B. Obtain and pay for necessary permits, licenses and certificates and give notices as required during the performance of the demolition work.

PART 2 - MATERIALS (Not Used)

PART 3 - EXECUTION

3.01 PREPARATION AND PROTECTION

- A. The building will be occupied at all times during this contract.
- B. Provide, erect and maintain catch platforms, lights, barriers, weather protection, warning signs and other items as required for the protection of the workers engaged in demolition operations, public, adjacent construction and occupants of the building.
- C. Provide fire protection in accordance with local fire department requirements.
- D. Do not close or obstruct streets or sidewalks without the proper permit. Conduct operations with minimum traffic interference.
- E. Maintain at least one unobstructed means of egress at all times. The contract shall sequence the Work to insure this at all times.
- F. Protect public and private property adjacent to and on the job site, including landscaping, vents, utility lines, streets, sidewalks, light standards, hydrants, street signs, mail boxes and fire alarm boxes. Make repairs to the complete satisfaction of the owner of the damaged property.
- G. Make such explorations and probes as are necessary to ascertain any required protective measures before proceeding with demolition and removal work.
- H. Provide and maintain temporary protection of the existing structure designated to remain where demolition and removal work is being done, connections made, materials handled or equipment moved, including but not limited protecting areas where roofing has been re-moved and new work has not be made the existing weather tight.

3.02 DEMOLITION

- A. The building will be occupied at all times during this contract.
- B. Remove from the Owner's property and legally dispose of materials or items demolished and not designated to become the property of the Owner.
- C. Perform the work in a careful and orderly manner, with the least possible disturbances to the public.
- D. The Contractor shall have at least one person in charge of operations on the ground below all roofing removal operations. This person shall be cognizant of residents, building occupants and other persons in the work area and shall remove debris that may obstruct passage or otherwise present a danger to all.

END OF SECTION

SECTION 07532 - FULLY ADHERED EPDM ROOFING SYSTEM

PART 1 - GENERAL

1.01 DESCRIPTION

- A. General: Preceding job start up, contractor shall decide to his/her satisfaction that all specifications contained herein are workable.
 - 1. Contractor shall perform all work by competent, trained, and properly equipped personnel in strict accordance with good roofing practices and applicable industry standards.
 - 2. Contractor shall 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.
 - 3. Contractor shall follow application, safety, etc. information as published in the most current edition of the manufacturer's Technical Specification.
- B. Related work: Documents affecting work of this Section include, but are not necessarily limited to, General and Supplementary Conditions, and Sections of Division I of these specifications.
 - 1. Section 06100 - Rough Carpentry
 - 2. Section 07620 - Metal Flashings
 - 3. Section 07720 - Roof Accessories
 - 4. Section 07920 - Sealants
 - 5. Section 15420 - Drainage and Vent Systems

1.02 SCOPE OF WORK

- A. Strip off all of the existing membrane roofing, underlayment, metal drip edge/fascia, and other flashing on all buildings listed in the Summary of Work and legally dispose of all debris. Existing copper counter flashing embedded in existing masonry shall not be disturbed and shall be reused under this scope of work. Verify that the existing sheathing is in good condition, identifying for examination by the Architect all areas that show evidence of damaged sheathing. Should there be areas of sheathing or framing deterioration as determined by direct examination and in consultation with the Architect these areas will be replaced at a price listed in the schedule of Unit Prices.
- B. Provide and install fully adhered single ply EPDM roofing systems with their required accessories, where shown on the drawings, as specified herein, and as required to provide a complete installation. Provide and install 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, including substrate preparation, wood nailer installation, membrane installation and membrane flashing installation.
 - 1. Work under this section covers the demolition of existing single ply roofing and installation of a new fully adhered EPDM roofing system. Where the existing roofing is fully adhered, repair any damage to underlying substrates; where existing roofing is ballasted, remove and dispose of existing ballast (coordinate with Owner in the event owner desires to direct disposal of ballast to City-owned property). 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.
 - 2. All excess materials shall be disposed of properly. All material removal shall comply with state and local codes and requirements and shall be disposed of in accordance with all local, state and federal requirements.
- C. Where required by the drawings or owner's scope of work requirements, provide rigid insulation as specified in Part 2.

1.03 DEFINITIONS

- A. American Society for Testing and Materials (ASTM).
- B. Roofing Terminology: Refer to ASTM D1079 for definition of terms related to roofing work not otherwise defined in the section.

1.03 SYSTEM DESCRIPTION

- A. Non-reinforced elastomeric sheet roofing, fully adhered to insulation with system manufacturer's bonding adhesive.

1.04 SUBMITTALS

- A. In addition to the requirements of Section 01340, the roofing contractor shall submit the following items in one comprehensive package:
 - 1. Copies of specification.
 - 2. Samples of all materials to be used that are part of the roofing system.
 - 3. Proposed roofing system's printed product data.
 - 4. Specimen copies of proposed roofing system's warranty.
 - 5. Certificates of Compliance from insulation and roofing component manufacturers that all materials to be supplied comply with all pertinent industry standards.
 - 6. Submit copies of Technical Information Sheets (TIS) for primary products used including roof membrane, insulation adhesive, and flashing materials.
 - 7. Submit copy of job related details including flashings, base tie-ins, roof edges, terminations, penetrations, drains, and any other relevant details.
- B. Submit a "pre-Job Survey" to the manufacturer's technical department for approval prior to the job start to enable the Technical Department to approve and assign a project number to the job. This survey must be filled completely and accurately and must include a roof drawing showing all dimensions and roof penetrations.
 - 1. Contact the roofing system's manufacturer prior to project bid to coordinate any requirements related to the required warranty.

1.05 QUALITY ASSURANCE

- A. Use adequate numbers of skilled workers who are thoroughly trained and experienced in the necessary crafts and who are completely familiar with the specified requirements and methods needed to complete the work of this Section.
- B. Manufacturer:
 - 1. Company specializing in manufacturing the roofing membrane specified in this section with ten years of roof product manufacturing experience.
 - 2. Manufacturer must be able to provide the project with the membrane and polyisocyanurate insulation that is produced in its own facilities. Complete system of compatible components shall be from a single manufacturer.
 - 3. The installed roofing system shall be inspected by an authorized representative of the manufacturer, in accordance with the applicable inspection policies, but no less than a final inspection upon completion.
- C. Applicator:
 - 1. The single ply roofing system shall be installed by a subcontractor authorized and licensed by the manufacturer of the submitted product.
 - 2. Shall have at least five years experience in installing the specified or similar system.

3. It is the roofing contractor's responsibility to adhere to all applicable building codes (local and national) for roofing system installation requirements and limitations that are applicable at the time of bid.
- 1.06 REGULATORY REQUIREMENTS - Conform to applicable local and state building code requirements.
 - 1.07 QUALITY INSPECTION/OBSERVATION
 - A. Inspection by Manufacturer: Provide a final (minimum) 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.
 - 1.08 PRE-INSTALLATION CONFERENCE - Before start of roofing work, attend a conference to discuss the proper installation of materials. Attendees shall include all parties directly affecting work of this Section.
 - 1.09 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.
 - 1.10 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. Comply with manufacturer's Technical Specifications on cold weather application.
 - 1.11 WARRANTY
 - A. Type/Term:
 1. Provide 25 year Red Shield Medallion Roofing System Warranty. Warranty shall include membrane, roof insulation, and all other products supplied by roof system manufacturer and cover wind speeds up to 72 MPH.
 - B. Coverage:
 1. Red Shield Warranty:
 - a) Limit of liability: No Dollar Limitation.
 - b) Scope of coverage: Repair any leak in the EPDM Roofing System caused by the ordinary wear and tear of the elements, manufacturing defect in brand materials, and the workmanship used to install these materials, all at no cost to the Owner.

PART 2 - PRODUCTS

2.01 MANUFACTURER

- A. Single-ply membrane system, composed of non-reinforced elastomeric sheet roofing panels, and all required accessories, shall be manufactured by Firestone Building Products Co., 525 Congressional Blvd., Carmel, IN 46032-5607, or equivalent approved by the Owner.

1. For fully adhered installation, membrane shall be fully adhered to protection board which shall be fully adhered to the existing insulation.

2.02 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.

2.03 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 LSFR

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.

2.04 POLYISOCYANURATE ROOF INSULATION

- A. Description: Roof insulation consisting of closed cell polyisocyanurate foam core and a perforated black glass reinforced mat laminated to the face.
1. Nominal Thickness: 3"/sheet. Minimal thickness shall be 4.5" (5" including 1/2" of tapered insulation) at low points sloping up to perimeter edges; minimal average shall be as required to achieve minimum overall R-value of 38.
 2. Nominal Size: 48 in. x 96 in.
 3. Tapered products shall be furnished as required to accomplish minimum 1/8"/LF slope to drains.
 4. Product/Producer: ISO 95+ Polyisocyanurate Insulation by Firestone, or approved equivalent in accordance with Section 01000, Item 18.
- B. Reference Standards:
1. FS HH-I-1972/Gen.
 2. FS HH-I-1973/3.
 3. ASTM C 209 - Water Absorption.
 4. ASTM E 96 - Water Vapor Transmission of Materials.
 5. ASTM D 1621 - Compressive Strength.
 6. ASTM D 1622 - Density.
 7. ASTM D 2126 - Dimensional Stability.
 8. ASTM E 84 - Flame Spread

2.05 ELASTOMERIC SHEET ROOFING SYSTEM COMPONENTS

- A. Roof Flashing (Gravel Stops):
1. Description: Semi-cured 45 mil EPDM membrane laminated to 35 mil EPDM tape adhesive.
- B. Elastomeric Uncured Flashing: 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.
1. Nominal Thickness: .060 inch
- C. Lap Splice Tape: 6" 35 mil EPDM-based, formulated for compatibility with EPDM membrane and high-solids primer.
- D. Adhesive Primer: High-solids, butyl based primer formulated for compatibility with EPDM membrane & tape adhesive.
- E. Splice Adhesive: Butyl-based, formulated for compatibility with EPDM membrane.
- F. Bonding Adhesive: Neoprene-based, formulated for compatibility with EPDM membrane & a wide variety of substrate materials, including masonry, wood, and insulation facings.
- G. Pourable Sealer: 2-Part urethane , 2-color for reliable mixing.
- H. Seam Plates, Batten Strips and Insulation Plates: Steel with a Galvalume coating.
1. Reference Standard: Corrosion-resistant to meet FM-4470 criteria.

- I. Termination Bar: 1.3" X 0.10" thick aluminum bar with integral caulk ledge.

2.06 METAL GRAVEL STOP

- A. Edge Metal:
 1. Provide .040 aluminum with Kynar finish, Unaclad metal manufactured by Firestone Metal Products. Color shall be selected from standard color chart.

- 2.07 ACCESSORIES - Provide all other accessories, including 1/2" high density protection board (DENS-DECK or approved equivalent), etc. where required by the drawings, site conditions, or necessary to provide a complete warranted system.

PART 3 EXECUTION

3.01 EXAMINATION

- A. For re-roofing applications only: remove existing roof system components as specified.
- B. 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.
- C. All surface voids of the immediate substrate greater than 1/4" wide must be properly filled with an acceptable insulation or suitable fill material.

3.02 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.

3.03 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.

3.04 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.

3.05 ROOF INSULATION APPLICATION

- A. GENERAL
 1. Install only as much insulation as can be covered with the completed roofing system before the end of the day's work or before the onset of inclement weather.
 2. Lay roof insulation in courses parallel to roof edges.
 3. Miter roof insulation edges at ridge, valley and other similar non-planar conditions.

4. Mechanically fasten as per manufacturer's requirements.

- B. First layer: Neatly fit insulation to all penetrations, projections, and nailers. Insulation shall be fit tightly, with gaps not greater than 1/4". Seal all gaps with compatible spray foam insulation. Tapered insulation shall be installed around roof drains so as to provide proper slope for drainage.
- C. Second layer: Stagger second layer of insulation at 24" offset from first layer. Neatly fit insulation to all penetrations, projections, and nailers. Insulation shall be fit tightly, with gaps not greater than 1/4". Tapered insulation shall be installed around roof drains so as to provide proper slope for drainage.

3.06 MEMBRANE PLACEMENT AND ATTACHMENT

- A. Beginning at the low point of the roof, place the membrane without stretching over the acceptable substrate and allow to relax a minimum of 30 minutes before attachment or splicing. As ambient air temperatures decrease, the relax time will increase.
- 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.

3.07 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.

3.08 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 manufacturer's specifications and details.

3.09 FLASHING - PENETRATIONS

- A. General:
 1. At area of re-roofing, remove all existing flashings (i.e. lead, asphalt, mastic, etc.).
 2. Flash all penetrations passing through the membrane.
 3. The flashing seal must be made directly to the penetration.
- B. Pipes, Round Supports, etc.
 1. Flash with Pre-Molded EPDM Pipe Flashings where practical.
 2. Flash using FormFlash when Pre-Molded EPDM Pipe Flashing is not practical.
- C. Roof Drains:
 1. At area of re-roofing, remove all existing flashings, drain leads, roofing materials and cement from the existing drain in preparation for membrane and Water Block Seal. Furnish and install new drain inserts into existing drains.
 2. Provide a clean even finish on the mating surfaces between the clamping ring and the drain bowl.
 3. Taper insulation around the drain to provide a sump area 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 manufacturer's recommendations.
 4. 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.
 5. Make round holes in the RubberGard membrane to align with clamping bolts. Do not cut the membrane back to the bolt holes.
 6. Place Water Block Seal on top of drain bowl where the clamping ring seats below the membrane
 7. Install the roof drain clamping ring and clamping bolts. Tighten the clamping bolts to achieve constant compression.
- D. 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 manufacturer's details.

3. Fill penetration pockets with Pourable Sealer, so as to shed water. Pourable Sealer shall be a minimum of 2" deep.
- E. 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 manufacturer's details.
- F. Flexible Penetrations
 1. Provide a weathertight gooseneck set in Water Block Seal and secured to the deck.
 2. Flash in accordance with manufacturer's details.
- G. Scuppers
 1. Provide welded watertight scuppers.
 2. Set welded watertight scupper in Water Block Seal and secure to the structure.
 3. Flash in accordance with manufacturer's details.
- 3.10 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 manufacturer details.
 - B. Evaluate Substrate: Evaluate the substrate and overlay per manufacturer 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 manufacturer 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 per manufacturer specifications.
 - 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. After rolling FormFlash, peel off the release sheet and discard. FormFlash must be contoured to fit the substrate to which it is bonded to minimize bridging or gapping. Use a silicone or silicone sleeved steel roller for rolling in FormFlash. Ensure proper contact of flashing by brooming in place.
 - G. Provide termination directly to a vertical substrate as required by manufacturer's specifications and details.
 - H. Install T-Joint covers at field and flashing splice intersections as required by manufacturer's specifications and details.
 - I. Install intermediate flashing attachment as required by manufacturer's specifications and details.
- 3.11 FLASHING - GRAVEL STOPS OR ROOF EDGE METALS
 - A. Apply QuickPrime to the metal edging and membrane as described in manufacturer 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. Roll the QuickSeam Flashing to 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. If the roof edge includes a gravel stop and sealant is not applied between the laps in the metal edging, an additional piece of QuickSeam Flashing shall be applied over the metal lap to the top of the gravel stop, after the initial application of QuickSeam Flashing. SeamEdge Treatment shall be applied at the intersections of the two flashing sections.

3.12 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.

3.13 SHEET METAL WORK

- A. Install manufacturer supplied sheet metal as shown on roof drawings.
- B. All metalwork shall be fabricated and installed according to SMACNA and National Roofing Contractors Association (NRCA) guidelines.

3.14 FIELD QUALITY CONTROL

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

3.15 CLEAN-UP

- A. Clean all contaminants and remove trash, debris and equipment from building, project site and surrounding areas.
- B. Repair or replace damaged building components or surrounding areas to the satisfaction of the Owner.

END OF SECTION