

**SECTION 07500
PVC ROOFING AND FLASHING**

PART 1 GENERAL

1.01 DESCRIPTION OF WORK

A. Fully adhered PVC sheet roofing, tapered and flat roof insulation, elastomeric flashing, wood nailers, tapered edge strips, roof drains and plumbing.

1.02 CODES, REGULATIONS AND STANDARDS

A. Contractor Responsibility: The Contractor shall assume full responsibility and liability for compliance with all applicable Federal, State and local codes, regulations and standards pertaining to work practices, hauling, disposal, protection of workers and visitors to the site, and persons occupying areas adjacent to the site. This includes modification of procedures to comply with changes to codes, regulations and standards which occur during the work of this contract. The Contractor is responsible for providing medical examinations and maintaining medical records of personnel as required by the applicable Federal, State and local regulations. The Contractor shall hold the Owner and Owner's Representatives harmless for failure to comply with any applicable work, hauling, disposal, safety, health or other regulations on the part of himself, his employees or his subcontractors.

1.03 QUALITY ASSURANCE

A. Roofing contractor to be approved in writing by the membrane manufacturer. Contractor shall be able to substantiate that he has been trained by the membrane manufacturer.

B. Roofing and flashing workmanship to comply with industry standards. The National Roofing Contractors Association's (NRCA) **ROOFING AND WATERPROOFING MANUAL** along with **ARCHITECTURAL SHEET METAL MANUAL** as published by Sheet Metal and Air Conditioning Contractors National Association, Inc. (SMACNA) will be used to establish industry standards.

1.04 SUBMITTALS

A. Sample twenty (20) year watertight warranty for the PVC membrane.

Warranty shall include wind speeds up to 72 miles per hour. The standard 55 MPH is not acceptable for this job.

B. Manufacturer's details of the proposed fascia system along with standard color chart.

C. Sample twenty (20) year material warranty for the PVC membrane.

1.05 PRODUCT DELIVERY, STORAGE AND HANDLING

A. Deliver materials in their original, unopened containers, clearly labeled with manufacturer's name. All material to be stored in waterproof trailers or sheds, up on raised platforms and under lock and key until use. Do not use materials damaged in handling or storage. Replace damaged material with new material. Store adhesives between 60 and 80 degrees F. Should they be exposed to lower temperatures, restore to room temperature for three to five days prior to use.

1.06 WARRANTY

A. A twenty (20) year watertight warranty and twenty (20) year material warranty shall be

issued by the PVC membrane manufacturer. **Warranty shall include wind speed up to 72 MPH.**

B. The roofing contractor shall furnish the Owner with his personal two (2) year watertight warranty.

PART 2 PRODUCTS

2.01 ROOF INSULATION

A. Tapered roof insulation to be polyisocyanurate closed-cell foam core with manufacturer's standard facing laminated to both sides, complying with FS HH-I-1972/2, Class 1. Use 1/4" per foot tapered isocyanurate as per the tapered layout. The minimum thickness at the drains to be 4.0" and will taper at the rate of 1/4" per foot to a maximum thickness of 12.0". Use 1/2" per foot tapered isocyanurate to form crickets between the drains.

B. Over all foam insulation, install one layer of 7/16" APA rated oriented strand board (OSB).

C. Tapered edge strips to be 1-1/2" by 18" fiberboard. Use tapered edge strips at the drains to create an additional sump for the drains.

2.02 MEMBRANE ROOF SYSTEM

A. Membrane roofing to be fully adhered, 0.060", gray, reinforced, PVC sheet roofing by Carlisle, Sarnafil, Duro-Last or approved equal. Roof membrane to be fully adhered to the 7/16" OSB.

B. Use the PVC membrane for flashing of curbs and walls per the manufacturer's standard details.

C. Adhesives, sealants, thinner, cleaner and accessories to be furnished by the membrane manufacturer.

2.03 ROOF DRAINS AND PLUMBING

A. New overflow roof drains shall be Zurn Z 164 furnished with cast iron domes and "Top-Set" deck plates.

2.04 METAL FLASHING

A. Edge strip to be formed using a PVC coated 24 gauge, G90 galvanized steel. Concealed clips to be formed using 24 gauge G90 galvanized steel.

2.05 WOOD NAILERS AND BLOCKING

A. All wood nailers and blocking shall be #2 or better kiln dried spruce, fir or pine. Plywood to be exterior type.

2.06 FASTENERS

A. Use annular-ring hot dipped galvanized nails to secure the new edge strip.

B. Use fasteners recommended by the membrane manufacturer to secure anchor bars and termination bars.

C. Wood nailers to be secured using annular-ring hot dipped galvanized nails, galvanized dry-wall screws, #14-10 Heavy Duty Roofing Fasteners, carriage bolts or expansion anchors.

D. Fasteners used to secure roof insulation to the steel deck to be #14-10 Heavy Duty Roofing Fasteners with CR-10 coating, a minimum shank diameter of 0.170" and a thread diameter of

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0.125". Pressure plates to be 3" diameter Galvalume plates. Screws and plates to be manufactured by Olympic Fasteners or approved equal. Length, size and accessories to be as required by the PVC membrane manufacturer selected.

PART 3 EXECUTION

3.01 PREPARATION OF SURFACES

A. Surfaces on which the roofing system is to be applied shall be clean, smooth, dry, free of fins, rot, sharp edges, loose and foreign materials, oil and grease.

3.02 ROOF INSULATION

A. Insulation shall be tightly butted with joints not more than 1/8" in width. Stagger joints with those in layer below. OSB to be installed with a 1/16"-1/8" gap at all joints.

B. Fasten insulation to the roof deck with the appropriate screws and plates. Fastener quantity and layout must meet the requirements of the PVC manufacturer to obtain their 72 MPH wind speed warranty.

C. Stagger joints in one direction for each course. For multiple layers, stagger joints in both directions between courses leaving no gaps, allowing a complete thermal envelope to be formed.

D. Provide tapered units to suit drainage pattern indicated.

E. Do not install more insulation in a day than can be covered with membrane before end of day or before start of inclement weather.

3.03 ROOF MEMBRANE

A. Adhere PVC membrane to the 7/16" OSB in strict accordance with the manufacturer's specifications.

3.04 FLASHING - - WALLS, PARAPETS, CURBS AND VENTS

A. Use the longest pieces of material which are practical. All flashing and terminations shall be done in accordance with the applicable manufacturer's details.

B. Install termination bars at the top of all base flashing, fastening a minimum of 6" on center.

3.05 EDGE STRIPS

A. Bottom edge of PVC clad edge strips to be secured with continuous cleats.

3.06 ROOF DRAINS AND PLUMBING

A. Install new roof drains in accordance with the manufacturer's instructions. Review installation procedure with job-site inspector prior to installing drains.

3.07 WOOD NAILERS AND BLOCKING

A. Securely fasten new wood nailers to structural members so as to resist a force of 200 pounds per lineal foot in any direction.

3.08 TEMPORARY WATER CUT-OFF

A. Temporary water cut-offs are to be constructed at the end of each working day to protect the insulation, roofing, building and building interior from damage due to wind, snow and rain.

B. Temporary water cut-offs are to be detailed by the contractor and approved by the

manufacturer and Owner.

3.09 CLEAN UP

- A. Site clean-up shall be complete and to the satisfaction of the Owner.
- B. All roofs, building, landscape and parking areas shall be cleaned of all trash, debris and dirt caused by or associated with this work.
- C. Any areas stained, dirtied, discolored or otherwise damaged due to this work shall be cleaned, restored and replaced as required.
- D. All debris shall be removed from the premises promptly and the construction area left clean daily.

3.10 INSPECTION AND TESTING

THE OWNER RESERVES THE RIGHT TO INSPECT AND TEST ALL CONSTRUCTION OPERATIONS AND MATERIALS.

- A. Any defect or noncompliance discovered by inspection shall be reported to the contractor who shall promptly remove any defective material from the site.
- B. The Owner reserves the right to inspect the work or parts of it as he chooses. His failure to inspect the work in progress shall not relieve the contractor of the responsibility for properly executing the contracted work, nor shall it impair the Owner's right to reject deficiencies he may subsequently discover.

PART 4 JOB CONDITIONS

- A. Roofing to be applied in dry weather.
- B. Completed roof areas shall not be trafficked. The work shall be coordinated to prevent this situation by working toward the roof edges.
- C. This project is subject to compliance with all requirements of the Occupational Safety and Health Administration (OSHA). All work on this project must meet the requirements of all applicable state and local codes, laws and ordinances.

END OF SECTION