

SECTION 07530

SINGLE PLY MEMBRANE ROOFING

1 PART 1 - GENERAL

1.1 RELATED DOCUMENTS

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

1.2 SUMMARY

- A. This Section includes single-ply membrane roofing systems, including roof insulation.
- B. Types of roofing systems specified in this section utilizing single ply roofing membranes include the following:
 - 1. Fully adhered systems.
- C. Single ply roofing membranes include the following:
 - 1. Ethylene propylene diene monomer (EPDM)
- D. Wood nailers, blocking, and other related items are specified in Division 6.

1.3 SUBMITTALS

- A. General: Submit the following in accordance with Conditions of Contract and Division 1 Specification Sections.
- B. Product data, installation instructions, and general recommendations from manufacturer of single ply membrane system for types of roofing required. Include data substantiating that materials comply with
- C. requirements.
- D. Shop drawings showing roof configuration, sheet layout, seam locations, details at perimeter, and special conditions.
- E. Pre-roofing Conference records.
- F. Test data for pullout resistance of fastening systems.

1.4 QUALITY ASSURANCE

- A. Manufacturer: Obtain primary flexible sheet roofing from a single manufacturer. Provide only secondary materials as recommended by manufacturer of primary materials.

- B. Installer: Engage an experienced Installer to apply single ply membrane roofing who has specialized in application of roofing systems similar to those required for this project. Installer must be acceptable to or licensed by manufacturer of primary roofing material.
- C. Work associated with single ply membrane roofing, including (but not limited to) insulation, flashing and counterflashing, expansion joints, and joint sealers, is to be performed by Installer of this work.
- D. Pre-Roofing Conference: Prior to installation of roofing and associated work, meet at project site, or other mutually agreed location, with Installer, roofing sheet manufacturer, installers of related work, and other entities concerned with roofing performance, including (where applicable) Owner's insurer, test agencies, governing authorities, Architect, and Owner. Record discussions and agreements and furnish copy to each participant. Provide at least 72 hours' advance notice to participants prior to convening pre-roofing conference.
- E. UL Listing: Provide labeled materials that have been tested and listed by UL in "Building Materials Directory" or by other nationally recognized testing laboratory for application indicated, with "Class A" rated materials/system for roof slopes shown.

1.5 PROJECT CONDITIONS

- A. Weather: Proceed with roofing work when existing and forecasted weather conditions permit work to be performed in accordance with manufacturers' recommendations and warranty requirements.
- B. Substrate Conditions: Do not begin roofing installation until substrates have been inspected and are determined to be in satisfactory condition.

1.6 WARRANTY

- A. Special Project Warranty: Submit two executed copies of 15-year "Roofing Warranty" on form acceptable to Owner, covering work of this section including roofing membrane, composition flashing, roof insulation, and roof accessories, signed and countersigned by Installer (Roofer) and Contractor.
- B. Manufacturer's Warranty: Submit executed copy of single ply membrane manufacturer's "Membrane System Warranty" agreement including flashing endorsement, signed by an authorized representative of manufacturer. Provide form that was published with product literature as of date of Contract Documents, for the following period of time:
 - 1. 15 years after date of Substantial Completion.

2 PART 2 - PRODUCTS

2.1 GENERAL

- A. Performance: Provide roofing materials recognized to be of generic type indicated and tested to show compliance with indicated performances, and are acceptable to manufacturer of primary membrane.

- B. Compatibility: Provide products that are recommended by manufacturers to be fully compatible with indicated substrates, or provide separation materials as required to eliminate contact between incompatible materials.

2.2 EPDM MEMBRANE

- A. General: Ethylene propylene diene monomers formed into uniform, non-reinforced flexible sheets, laminated to 0.055" thick non woven polyester fleece backing, complying with ASTM D 4637, Type III.
 - 1. Thickness: 60 mils, nominal.
 - 2. Exposed Face Color: Manufacturer's standard.
- B. Fully Adhered EPDM Membrane: Manufacturer's standard installation.
- C. Products: Subject to compliance with requirements, provide one of the following:
 - 1. SureSeal Fully Adhered Roofing System; Carlisle Syntec Systems.

2.3 AUXILIARY MATERIALS

- A. Sheet Seaming System: Manufacturer's standard materials for sealing lapped joints, including edge sealer to cover exposed spliced edges as recommended by membrane manufacturer.
- B. Cant Strips, Tapered Edge Strips, and Flashing Accessories: Types recommended by membrane manufacturer, including adhesive tapes, flashing cements, and sealants.
- C. Flashing Material: Manufacturer's standard system compatible with flexible sheet membrane.
- D. Mechanical Fasteners: Metal plates, caps, battens, accessory components, fastening devices, and adhesives to suit substrate and as recommended by membrane manufacturer.
- E. Membrane Adhesive: As recommended by membrane manufacturer for particular substrate and project conditions, formulated to withstand min. 55 mph wind speed.
- F. Roof Drains – Manufacturer's standard clamp type roof drain with strainer assembly as recommended by membrane manufacturer.

2.4 INSULATING MATERIALS

- A. General: Provide insulating materials to comply with requirements indicated for materials and compliance with referenced standards in sizes to fit applications indicated, selected from manufacturer's standard thicknesses, widths, and lengths.

2.5 AUXILIARY INSULATION MATERIALS

- A. Adhesive for Bonding Insulation: Type recommended by insulation manufacturer and complying with fire resistance requirements.
 - 1. Provide system tested and approved for I-60 wind uplift rating.
- B. Mastic Sealer: Type recommended by insulation manufacturer for bonding edge joints and filling voids.

3 PART 3 - EXECUTION

3.1 PREPARATION OF SUBSTRATE

- A. General: Comply with manufacturers' instructions for preparation of substrate to receive single ply membrane system.
- B. Verify that penetrations, expansion joints, and blocking are in place and secured and that roof drains are properly clamped into position.
- C. Clean substrate of dust, debris, and other substances detrimental to FSR system work. Remove sharp projections.
- D. Install flashings and accessory items as shown, and as recommended by manufacturer if not shown.
- E. Prime substrate where recommended by manufacturer of materials being installed.
- F. Prevent compounds from entering and clogging drains and conductors and from spilling or migrating onto surfaces of other work.

3.2 INSULATION INSTALLATION

- A. Stagger joints in one direction for each course. For multiple layers, stagger joints in both directions between courses with no gaps, to form a complete thermal envelope.
- B. Do not install more insulation each day than can be covered with membrane before end of day or before start of inclement weather.
- C. Secure roof insulation to substrate with adhesive as specified by manufacturer for wind class indicated, but in no case provide less anchorage than required by FM "Loss Prevention Data Sheet 1-28."

3.3 MEMBRANE INSTALLATION

- A. General: Start installation only in presence of manufacturer's technical representative, and install roofing system components in strict accordance with membrane manufacturer's specifications and shop drawings.
- B. Fully Adhered Membrane: Install as per manufacturer's recommended best practices and flashing details. Extend roof up adjacent vertical planes as per recommended best practices of manufacturer. Install membrane by unrolling over prepared substrate, lapping adjoining sheets as recommended by manufacturer, and bonding and sealing seams. Install adhesive as recommended by manufacturer. Install flashings and counterflashings as shown or recommended by manufacturer.
- C. Cut out and repair membrane defects at end of each day's work.
- D. Walkway Protection: Install protection pads at locations shown and where required for access to roof-mounted equipment. Place protection pads carefully to avoid damage to

membrane, laying over an additional layer of roof membrane material, loosely applied, for additional protection.

3.4 PROTECTION OF ROOFING

- A. Upon completion of roofing (including associated work), institute appropriate procedures for surveillance and protection of roofing during remainder of construction period. At end of construction period, or at a time when remaining construction will in no way affect or endanger roofing, make a final inspection of roofing with a representative of membrane manufacturer and prepare a written report to Owner, describing nature and extent of deterioration or damage found.

- B. Repair or replace (as required) deteriorated or defective work found at time of final inspection to a condition free of damage and deterioration at time of Substantial Completion and acceptable to membrane manufacturer in accordance with requirements of specified warranty. Conduct a re-inspection of roofing with a representative of membrane manufacturer when all repair work has been done to verify acceptability.

..END OF SECTION 07530