



MAGNOLIA PUBLIC SCHOOLS

**Addendum # 2 to Request for Qualifications / Proposals
for Roof Replacement & Restoration at 18238 Sherman Way,
Reseda CA 91335**

Due Date:

June 2, 2023 by 5:00 PM

SECTION 07550
MODIFIED BITUMINOUS MEMBRANE ROOFING

PART 1 GENERAL

1.1 SECTION INCLUDES

- A. Self-Adhered 2 Ply Roofing (StressPly SA FR Mineral). (2.15)(3.7)

1.2 SCOPE OF WORK

1. Completely remove existing roofing system down to wood deck. Repair all damaged noted to wood deck and perimeter fascia on unit cost basis
2. Installed poliso insulation at a min 2" thickness tapered as necessary to eliminate all ponding conditions. Contractor is responsible to ensure there is no roof ponding
3. Replace all drains and drain baskets with new with drain baskets painted yellow
4. Install ½" Densdeck Prime coverboard per ASCE 7-16 and Garland engineered wind uplift calcs
5. Prime coverboard with SA Primer applied at a rate of 0.5 gallons per 100 SF
6. Install one ply HPR SA FR Base sheet (Self Adhered)
7. Install one ply Stressply SA FR Mineral Cap sheet (Self Adhered)
8. Apply Pyramic Plus LO on roof applied at 2 gallons per 100 SF
9. Replace/install all coping, flashings and metal trim with new using R-Mer 22GA Kynar coated flat sheet in color approved by the district from manufacturer's list of standard and designer colors per ANSI/SPRI ES-1 detailing provided by Garland
10. All curbs to meet a minimum of 6-8" height
11. Termination bar to be applied on all flashings set in butyl tape and sealed with Tuff Stuff sealant

1.3 REFERENCES

- A. ASTM D 41 - Standard Specification for Asphalt Primer Used in Roofing, Dampproofing, and Waterproofing.
- B. ASTM D 312 - Standard Specification for Asphalt used in Roofing.
- C. ASTM D 451 - Standard Test Method for Sieve Analysis of Granular Mineral Surfacing for Asphalt Roofing Products.
- D. ASTM D 1970 - Specification for Sheet Materials, Self-Adhering Polymer Modified Bituminous, Used as Steep Roofing Underlayment for Ice Dam Protection.
- E. ASTM D 1079 Standard Terminology Relating to Roofing, Waterproofing and Bituminous Materials.
- F. ASTM D 1227 Standard Specification for Emulsified Asphalt Used as a Protective Coating for Roofing.
- G. ASTM D 1863 Standard Specification for Mineral Aggregate Used as a Protective Coating for Roofing.
- H. ASTM D 2178 Standard Specification for Asphalt Glass Felt Used in Roofing and Waterproofing.
- I. ASTM D 2824 Standard Specification for Aluminum-Pigmented Asphalt Roof Coating.
- J. ASTM D 4586 Standard Specification for Asphalt Roof Cement, Asbestos-Free.

- K. ASTM D 4601 Standard Specification for Asphalt Coated Glass Fiber Base Sheet Used in Roofing.
- L. ASTM D 5147 Standard Test Method for Sampling and Testing Modified Bituminous Sheet Materials.
- M. ASTM D 6162 Standard Specification for Styrene Butadiene Styrene (SBS) Modified Bituminous Sheet Materials Using a Combination of Polyester and Glass Fiber Reinforcements.
- N. ASTM D 6163 Standard Specification for Styrene Butadiene Styrene (SBS) Modified Bituminous Sheet Materials Using Glass Fiber Reinforcements.
- O. ASTM D 6164 - Standard Specification for Styrene Butadiene Styrene (SBS) Modified Bituminous Sheet Materials Using Polyester Reinforcements.
- P. ASTM D 6754 - Standard Specification for Ketone Ethylene Ester (KEE) Sheet Roofing.
- Q. ASTM D 6757 - Standard Specification for Underlayment Felt Containing Inorganic Fibers Used in Steep-Slope Roofing.
- R. ASTM E 108 - Standard Test Methods for Fire Test of Roof Coverings
- S. Factory Mutual Research (FM): Roof Assembly Classifications.
- T. National Roofing Contractors Association (NRCA): Roofing and Waterproofing Manual.
- U. Sheet Metal and Air Conditioning Contractors National Association, Inc. (SMACNA) - Architectural Sheet Metal Manual.
- V. Underwriters Laboratories, Inc. (UL): Fire Hazard Classifications.
- W. Warnock Hersey (WH): Fire Hazard Classifications.
- X. ANSI-SPRI ES-1 Wind Design Standard for Edge Systems used with Low Slope Roofing Systems.
- Y. ASCE 7, Minimum Design Loads for Buildings and Other Structures
- Z. UL - Fire Resistance Directory.
- AA. FM Approvals - Roof Coverings and/or RoofNav assembly database.
- BB. Miami-Dade Building Code Compliance - N.O.A. (Notice of Acceptance).
- CC. California Title 24 Energy Efficient Standards.

1.4 DESIGN / PERFORMANCE REQUIREMENTS

- A. Perform work in accordance with all federal, state and local codes.
- B. Exterior Fire Test Exposure: Roof system shall achieve a UL, FM or WH Class rating for roof slopes indicated on the Drawings as follows:
 1. Factory Mutual Class A Rating.
 2. Underwriters Laboratory Class A Rating.
 3. Warnock Hersey Class A Rating.
- C. Design Requirements:
 1. Uniform Wind Uplift Load Capacity

- a. Installed roof system shall withstand negative (uplift) design wind loading pressures complying with the following criteria.
 - 1) Design Code: ASCE 7, Method 2 for Components and Cladding.
- 2. Live Load: 20 psf, or not to exceed original building design.
- 3. Dead Load:
 - a. Installation of new roofing materials shall not exceed the dead load capacity of the existing roof structure.
- 4. Cool Roof Rating Council:
 - a. CRRC Directory CRRC
- 5. International Code Council Evaluation Service (ICC-ES):
 - a. Membrane Systems
 - b. Roofing Underlayments
- 6. Underwriters Laboratories:
 - a. Certification
- 7. Warnock Hersey
 - a. ITS Directory of Listed Products
- 8. FM Approvals:
 - a. RoofNav Website

1.5 SUBMITTALS

- A. 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 instructions.
- B. Shop Drawings: Submit shop drawings including installation details of roofing, flashing, fastening, insulation and vapor barrier, including notation of roof slopes and fastening patterns of insulation and base modified bitumen membrane, prior to job start.
- C. Design Pressure Calculations: Submit design pressure calculations for the roof area in accordance with ASCE 7 and local Building Code requirements. Include a roof system attachment analysis report, certifying the system's compliance with applicable wind load requirements before Work begins.
- D. Verification Samples: For each modified bituminous membrane ply product specified, two samples, minimum size 6 inches (150 mm) square, representing actual product, color, and patterns.
- E. Manufacturer's Certificates: Provide to certify products meet or exceed specified requirements.
- F. Test Reports: Submit test reports, prepared by an independent testing agency, for all modified bituminous sheet roofing, indicating compliance with ASTM D5147. Testing must be performed at 77 deg. F. Tests at 0 deg. F will not be considered.
- G. Closeout Submittals: Provide manufacturer's maintenance instructions that include recommendations for periodic inspection and maintenance of all completed roofing work. Provide product warranty executed by the manufacturer. Assist Owner in preparation and submittal of roof installation acceptance certification as may be necessary in connection with fire and extended coverage insurance on roofing and associated work.

1.6 QUALITY ASSURANCE

- A. Perform Work in accordance with NRCA Roofing and Waterproofing Manual.
- B. Manufacturer Qualifications: Company specializing in manufacturing products specified with

documented ISO 9001 certification and minimum of twelve years of documented experience and must not have been in Chapter 11 bankruptcy during the last five years.

- C. Installer Qualifications: Company specializing in performing Work of this section with minimum five years documented experience and a certified Pre-Approved Garland Contractor.
- D. Installer's Field Supervision: Maintain a full-time Supervisor/Foreman on job site during all phases of roofing work while roofing work is in progress.
- E. Product Certification: Provide manufacturer's certification that materials are manufactured in the United States and conform to requirements specified herein, are chemically and physically compatible with each other, and are suitable for inclusion within the total roof system specified herein.
- F. Source Limitations: Obtain all components of roof system from a single manufacturer. Secondary products that are required shall be recommended and approved in writing by the roofing system Manufacturer. Upon request of the Architect or Owner, submit Manufacturer's written approval of secondary components in list form, signed by an authorized agent of the Manufacturer.

1.7 PRE-INSTALLATION MEETINGS

- A. Convene minimum two weeks prior to commencing Work of this section.
- B. Review installation procedures and coordination required with related Work.
- C. Inspect and make notes of job conditions prior to installation:
 - 1. Record minutes of the conference and provide copies to all parties present.
 - 2. Identify all outstanding issues in writing designating the responsible party for follow-up action and the timetable for completion.
 - 3. Installation of roofing system shall not begin until all outstanding issues are resolved to the satisfaction of the Architect.

1.8 DELIVERY, STORAGE, AND HANDLING

- A. Deliver and store products in manufacturer's unopened packaging with labels intact until ready for installation.
- B. Store all roofing materials in a dry place, on pallets or raised platforms, out of direct exposure to the elements until time of application. Store materials at least 4 inches above ground level and covered with "breathable" tarpaulins.
- C. Stored in accordance with the instructions of the manufacturer prior to their application or installation. Store roll goods on end on a clean flat surface except store KEE-Stone FB 60 rolls flat on a clean flat surface. No wet or damaged materials will be used in the application.
- D. Store at room temperature wherever possible, until immediately prior to installing the roll. During winter, store materials in a heated location with a 50 degree F (10 degree C) minimum temperature, removed only as needed for immediate use. Keep materials away from open flame or welding sparks.
- E. Avoid stockpiling of materials on roofs without first obtaining acceptance from the Architect/Engineer.
- F. Adhesive storage shall be between the range of above 50 degree F (10 degree C) and below 80 degree F (27 degree C). Area of storage shall be constructed for flammable storage.

1.9 COORDINATION

- A. Coordinate Work with installing associated metal flashings as work of this section proceeds.

1.10 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.

1.11 WARRANTY

- A. Upon completion of the work, provide the Manufacturer's written and signed NDL Warranty, warranting that, if a leak develops in the roof during the term of this warranty, due either to defective material or defective workmanship by the installing contractor, the manufacturer shall provide the Owner, at the Manufacturer's expense, with the labor and material necessary to return the defective area to a watertight condition.
 - 1. Warranty Period:
 - a. 30 years from date of acceptance.

PART 2 PRODUCTS

2.1 MANUFACTURERS

- A. Basis of Design: Garland Company, Inc. (The); 3800 E. 91st St., Cleveland, OH 44105. ASD. Toll Free: 800-321-9336. Phone: 216-641-7500. Fax: 216-641-0633. Web Site: www.garlandco.com.
- B. Or Equal
- C. The Products specified are intended and the Standard of Quality for the products required for this project. If other products are proposed the bidder must disclose in the bid the manufacturer and the products that they intend to use on the Project. If no manufacturer and products are listed, the bid may be accepted only with the use of products specified.
 - 1. Bidder will not be allowed to change materials after the bid opening date.
 - 2. If alternate products are included in the bid, the products must be equal to or exceed the products specified. Supporting technical data shall be submitted to the Architect/ Owner for approval prior to acceptance.
 - 3. In making a request for substitution, the Bidder/Roofing Contractor represents that it has:
 - a. Personally investigated the proposed product or method, and determined that it is equal or superior in all respects to that specified.
 - b. Will provide the same guarantee for substitution as for the product and method specified.
 - c. Will coordinate installation of accepted substitution in work, making such changes as may be required for work to be completed in all respects.
 - d. Will waive all claims for additional cost related to substitution, which consequently become apparent.
 - e. Cost data is complete and includes all related cost under his/her contract or other contracts, which may be affected by the substitution.
 - f. Will reimburse the Owner for all redesign cost by the Architect for accommodation of the substitution.
 - 4. Architect/ Owner reserves the right to be the final authority on the acceptance or rejection of any or all bids, proposed alternate roofing systems or materials that has met ALL specified requirement criteria.
 - 5. Failure to submit substitution package, or any portion thereof requested, will result in immediate disqualification and consideration for that particular contractors request for

manufacturer substitution.

2.2 SELF ADHERED ROOF SYSTEM

- A. Insulation: tapered polyiso providing adequate slope to the drains/water shedding edges
- B. Mechanically attached coverboard: ½” Densdeck Prime Coverboard fastened to the deck per wind uplift calculations.
 - 1. GP Densdeck Prime. Apply SA Primer at 0.5 gallons per 100 SF
- C. Base (Ply) Sheet: One ply bonded to the prepared substrate with self-adhesive.
 - 1. HPR SA FR Base Sheet:
- D. Modified Cap (Ply) Sheet: One ply bonded to the prepared substrate with self-adhesive.
 - 1. StressPly SA FR Mineral:
- E. Interply Adhesive: Use over approved cover boards or wood decks for base sheet only
 - 1. SA Primer:
- F. Flashing Base Ply: One ply bonded to the prepared substrate.
 - 1. HPR SA FR Base Sheet:
- G. Flashing Cap (Ply) Sheet: One ply bonded to the prepared substrate.
 - 1. StressPly SA FR Mineral:
- H. Flashing Ply Adhesive:
 - 1. Weatherking Flashing Adhesive:
- I. Surfacing:
 - 1. Surface Coatings
 - a. Pyramic Plus LO: Applied at 2 gallons per 100 SF
 - b. Solex: Provide over Base Coat applied at 0.5 gallons per 100 SF

PART 3 EXECUTION

3.1 EXAMINATION

- A. Do not begin installation until substrates have been properly prepared.
- B. Inspect and approve the deck condition, slopes and fastener backing if applicable, parapet walls, expansion joints, roof drains, stack vents, vent outlets, nailers and surfaces and elements.
- C. Verify that work penetrating the roof deck, or which may otherwise affect the roofing, has been properly completed.
- D. If substrate preparation and other conditions are the responsibility of another installer, notify Architect of unsatisfactory preparation before proceeding.

3.2 PREPARATION

- A. General: Clean surfaces thoroughly prior to installation.
 - 1. Prepare surfaces using the methods recommended by the manufacturer for achieving the best result for the substrate under the project conditions.
 - 2. Fill substrate surface voids that are greater than 1/4 inch wide with an acceptable fill material.
 - 3. Roof surface to receive roofing system shall be smooth, clean, free from loose gravel, dirt and debris, dry and structurally sound.

4. Wherever necessary, all surfaces to receive roofing materials shall be power broom and vacuumed to remove debris and loose matter prior to starting work.
 5. Do not apply roofing during inclement weather. Do not apply roofing membrane to damp, frozen, dirty, or dusty surfaces.
 6. Fasteners and plates for fastening components mechanically to the substrate shall provide a minimum pull-out capacity of 300 lbs. (136 k) per fastener. Base or ply sheets attached with cap nails require a minimum pullout capacity of 40 lb. per nail.
 7. Prime decks where required, in accordance with requirements and recommendations of the primer and deck manufacturer.
- B. Deck Preparation for Self-Adhered Roof System: Insulation shall be installed as specified. Sweep or blow away any dust, dirt or sand particles that could interfere with adhesion to approved substrate Georgia Pacific (GP) DensDeck Prime, DensDeck DuraGuard, or USG Securrock and prime with self-adhering primer at the specified coverage rate.

3.3 INSTALLATION - GENERAL

- A. Install modified bitumen membranes and flashings in accordance with manufacturer's instructions and with the recommendations provided by the National Roofing Contractors Association's Roofing & Waterproofing Manual, the Asphalt Roofing Manufacturers Association, and applicable codes.
- B. General: Avoid installation of modified bitumen membranes at temperatures lower than 40-45 degrees F. When work at such temperatures unavoidable use the following precautions:
1. Take extra care during cold weather installation and when ambient temperatures are affected by wind or humidity, to ensure adequate bonding is achieved between the surfaces to be joined. Use extra care at material seam welds and where adhesion of the applied product to the appropriately prepared substrate as the substrate can be affected by such temperature constraints as well.
 2. Unrolling of cold materials, under low ambient conditions must be avoided to prevent the likelihood of unnecessary stress cracking. Rolls must be at least 40 degrees F at the time of application. If the membrane roll becomes stiff or difficult to install, it must be replaced with roll from a heated storage area.
- C. Commence installation of the roofing system at the lowest point of the roof (or roof area), working up the slope toward the highest point. Lap sheets shingle fashion so as to constantly shed water
- D. All slopes greater than 2:12 require back-nailing to prevent slippage of the ply sheets. Use ring or spiral-shank 1 inch cap nails, or screws and plates at a rate of 1 fastener per ply (including the membrane) at each insulation stop. Place insulation stops at 16 ft o.c. for slopes less than 3:12 and 4 feet o.c. for slopes greater than 3:12. On non-insulated systems, nail each ply directly into the deck at the rate specified above. When slope exceeds 2:12, install all plies parallel to the slope (strapping) to facilitate backnailing. Install 4 additional fasteners at the upper edge of the membrane when strapping the plies.

3.4 INSTALLATION SELF ADHERED ROOF SYSTEM

- A. Base Ply: Prior to installation sweep or blow away any dust, dirt or sand particles, on the surface that could interfere with adhesion.
1. Prime the roof cover board at the recommended coverage rate with SA Primer at a rate of 0.50 gal per 100 sq.ft. Allow the primer to dry before installing the base sheet but it should be tacky for the base sheet application.
 2. Start HPR SA FR Base Sheet application at the low point of the roof with appropriate roll width to offset side laps 18 inches (457 mm) from side laps of base sheet. Install flush to roof edge if over base sheet, otherwise turn the HPR SA FR Base Sheet over the fascia minimum 2 inches (50 mm) and nail 9 inches (230 mm) o.c. At perimeter

- flashing extend the HPR SA FR Base Sheet up a minimum of 8 inches (203 mm). Design so that side laps are against the flow of water.
3. Fold membrane back halfway lengthwise to remove the split release film. Press membrane securely into place, and repeat with the opposite half of the membrane. Use a heavy, weighted roller over entire surface of the HPR SA FR Base Sheet membrane to secure membrane. Work outwards to eliminate voids. When working with full rolls on large roofs, leave the membrane in position and remove the split release film from underneath the membrane.
 4. Overlap side laps of subsequent HPR SA FR Base Sheet membrane lengths 4 inches (100 mm) and end laps 8 inches (203 mm). Offset (stagger) end laps minimum 3 feet (0.9 m). Cut end laps at opposing diagonal corners at a 45 degree angle approximately 3 inches (76 mm) from the corners to minimize "T"- seams. Apply a bead or small trowel dab (quarter size) of Flashing Bond or Garla-Flex at the edge of the angled cut to avoid a capillary.
 5. Use of a hand-held hot air gun at joint area prior to rolling membrane to maximize adhesion. Apply a bead of Flashing Bond or Garla-Flex, at all HPR SA FR Base Sheet side and end laps to eliminate a capillary.
 6. Use a heavy, weighted roller over the entire surface of HPR SA FR Base Sheet to secure it in place and prevent voids, working outward from center of sheet.
 7. Repeat the above steps to properly build 1 to 2 plies, as specified, of HPR SA FR Base Sheet.
 8. Don't leave the installed HPR SA FR Base Sheet exposed to the weather; cover with StressPly SA FR Mineral cap sheet the same day.
- B. Modified Cap Ply(s): Prior to installation sweep or blow away any dust, dirt or sand particles, on the HPR SA FR Base Sheet that could interfere with adhesion.
1. Install StressPly SA FR Mineral starting at the low point of the roof with an appropriate roll width to offset sidelaps from the underlying membrane a minimum of 18 inches (457 mm). Work with manageable lengths for proper handling. Position with salvage edge release strip at high side of roof. Install in shingle fashion, with no laps against the flow of water.
 2. Once positioned, lift and fold back lengthwise the lower half of the membrane, remove the split release film, and press firmly into place. Repeat with the other (high side of the roof) half of the membrane. Follow the same layout and split release film procedures as for HPR SA FR Base Sheet, but overlap sidelaps 4 inches (100 mm) and endlaps 8 inches (203 mm).
 3. Use a heavy, weighted roller over the entire surface of the StressPly SA FR Mineral sheet to secure it in place and prevent voids, working outward from the center of the sheet.
 4. As subsequent membrane lengths are installed, remove the selvage edge release strip just prior to overlapping to keep the adhesive area protected and clean. Cut endlaps at opposing diagonal corners at a 45 degree angle approximately 4 inches (100 mm) from the corners to minimize "T" seams. Use Flashing Bond or Garla-Flex trowel grade, over the full 8 inch (200 mm) width of each endlap prior to overlapping. Apply a uniform 1/8 to 1/4 inch (3 to 6 mm) troweling of the Flashing Bond or Garla-Flex the full width of the endlaps to the underlying membrane; then install the overlapping sheet.
 5. Always apply Flashing Bond or Garla-Flex the width of any overlap when applying the StressPly SA FR Mineral cap over another mineral surface such as the StressPly SA FR Mineral endlap.
 6. Install HPR SA FR Base Sheet and StressPly SA FR Mineral at vertical and other flashing over the already installed StressPly SA FR Mineral field plies.
- C. Fibrous Cant Strips: Provide non-combustible perlite or glass fiber cant strips at all wall/curb detail treatments where angle changes are greater than 45 degrees. Cant may be set in approved cold adhesives in accordance with Garland's recommendations.

- D. Wood Blocking, Nailers and Cant Strips: Provide wood blocking, nailers and cant strips as specified in Section 06114 and in accordance with Garland's recommendations.
- E. Metal Work: Provide metal flashings, counter flashings, parapet coping caps and thru-wall flashings as specified in Section 07620 or Section 07710. Install in accordance with in accordance with Garland's recommendations.
- F. Termination Bar: Provide metal termination bar or approved top edge securement at the terminus of all flashing sheets at walls and curbs. Fasten the bar a minimum of 8 inches (203 mm) o/c to achieve constant compression. Provide suitable, sealant at the top edge if required.
- G. Flashing Base Ply: At all vertical and other flashing details, install HPR SA FR Base Sheet and StressPly SA FR Mineral over the already installed StressPly SA FR Mineral field plies.
 1. Prime the horizontal surface with SA Primer at a rate of 0.5 gal per 100 sq.ft. and allowed to dry.
 2. Over installed StressPly SA FR Mineral field plies apply a 3 foot (0.9 m) wide HPR SA FR Base Sheet extending a minimum of 10 inches (254 mm) onto the field of the roof. Apply a uniform 1/8 to 1/4 inch (3 to 6 mm) thick troweling of Flashing Bond or Garla-Flex, on to the existing StressPly SA FR Mineral field cap.
 3. If adhesion is not sufficient on the laps apply Flashing Bond or Garla-Flex at a 1/8 to 1/4 inch (3-6 mm) thick to fully seal laps before application of StressPly SA FR Mineral.
 4. Before installing StressPly SA FR Mineral flashing ply to mineral surfaced field ply, apply Flashing Bond or Garla-Flex, wherever the membrane overlaps onto mineral surfacing. Proceed with StressPly SA FR Mineral cap sheet installation. Apply a 3 foot (0.9 m) wide StressPly SA FR mineral extending a minimum of 10 inches (254 mm) onto the field of the roof, being sure to cover the base ply.
 5. Once the membrane has had a chance to bond, check all laps and joints for full adhesion. If the membrane can be lifted at any area it is not properly adhered. Use a seam probing tool to check for small voids at laps. If necessary, use appropriate hand-held hot air welding tool and seam roller to seal small un-bonded areas.
- H. Surface Coatings: Apply roof coatings in strict conformance with the manufacturer's recommended procedures.
- I. Flashing Cap Ply: Apply as specified for Flashing Base Ply in strict conformance with the manufacturer's recommended procedures.

3.5 CLEANING

- A. Clean-up and remove daily from the site all wrappings, empty containers, paper, loose particles and other debris resulting from these operations.
- B. Remove asphalt markings from finished surfaces.
- C. Repair or replace defaced or disfigured finishes caused by Work of this section.

3.6 PROTECTION

- A. Provide traffic ways, erect barriers, fences, guards, rails, enclosures, chutes and the like to protect personnel, roofs and structures, vehicles and utilities.
- B. Protect exposed surfaces of finished walls with tarps to prevent damage.
- C. Plywood for traffic ways required for material movement over existing roofs shall be not less than 5/8 inch (16 mm) thick.

- D. In addition to the plywood listed above, an underlayment of minimum 1/2 inch (13 mm) recover board is required on new roofing.
- E. Special permission shall be obtained from the Manufacturer before any traffic shall be permitted over new roofing.

3.7 FIELD QUALITY CONTROL

- A. Inspection: Provide manufacturer's field observations at start-up and at intervals of approximately 30 percent, 60 percent and 90 percent completion. Provide a final inspection upon completion of the Work.
 - 1. Warranty shall be issued upon manufacturer's acceptance of the installation.
 - 2. Field observations shall be performed by a Sales Representative employed full-time by the manufacturer and whose primary job description is to assist, inspect and approve membrane installations for the manufacturer.
 - 3. Provide observation reports from the Sales Representative indicating procedures followed, weather conditions and any discrepancies found during inspection.
 - 4. Provide a final report from the Sales Representative, certifying that the roofing system has been satisfactorily installed according to the project specifications, approved details and good general roofing practice.

3.8 SCHEDULES

- A. Flashing Ply Adhesive:
 - 1. Weatherking Flashing Adhesive: Brush grade flashing adhesive.
 - a. Non-Volatile Content ASTM D 4479 70 min.
 - b. Density ASTM D 1475 8.6 lbs./gal. (1kg/l)
 - c. Flash Point ASTM D 93 100 deg. F (37 deg. C)
- B. Surfacing:
 - 1. Flashing Cap (Ply) Sheet:
 - a. StressPly SA FR Mineral: 140 mil SBS (Styrene-Butadiene-Styrene) mineral surfaced self-adhered, rubber modified roofing membrane reinforced with a fiberglass and polyester composite scrim. ASTM D 6162, Type III Grade G
 - 1) Tensile Strength, ASTM D 5147
 - a) 2 in/min. @ 73.4 +/- 3.6 deg. F MD 310 lbf/in XD 310 lbf/in
 - b) 50 mm/min. @ 23 +/- 2 deg. C MD 54.25 kN/m XD 54.25 kN/m
 - 2) Tear Strength, ASTM D 5147
 - a) 2 in/min. @ 73.4 +/- 3.6 deg. F MD 500 lbf XD 500 lbf
 - b) 50 mm/min. @ 23 +/- 2 deg. C MD 2224 N XD 2224 N
 - 3) Elongation at Maximum Tensile, ASTM D 5147
 - a) 2 in/min. @ 73.4 +/- 3.6 deg. F MD 3.5% XD 3.5%
 - b) 50 mm/min. @ 23 +/- 2 deg. C MD 3.5% XD 3.5%
 - 4) Low Temperature Flexibility, ASTM D 5147, Passes -15 deg. F (-26 deg. C)
 - 2. Surface Coatings:
 - a. Base Coatings:
 - 1) Pyramic Plus LO Base Coat: Gray water based acrylic urethane base coating.
 - a) Weight/Gallon 11.7 lbs./gal. (1.40 g/cm³)
 - b) Non-Volatile % (ASTM D 1644) 63 min
 - b. Surfacing:
 - 1) Pyramic Plus LO: White elastomeric roof coating, Energy Star approved acrylic roof coating:
 - a) Weight/Gallon 11.7 lbs./gal. (1.40 g/cm³)
 - b) Non-Volatile % (ASTM D 1644) 63 min
 - c) Reflectance 83%

- 2) Solex (Pyramic Plus LO Base Coat): White elastomeric roof coating, Kynar based roof coating:
 - a) Weight/Gallon 10.47 lbs./gal. (1.43 g/cm³)
 - b) Non-Volatile % (ASTM D 1644) 47.7 min
 - c) Reflectance 90%

END OF SECTION