SECTION 07 51 13

BUILT-UP ASPHALT ROOFING

GENERAL

1.1 SECTION INCLUDES

A. Furnish and install built-up asphalt roofing system where shown on the drawings, as specified herein, and as needed for a complete and proper installation.
   1. Roofing system installation shall provide leak-free, pond-free roofing.
   2. Furnish and install embedded lead and sheet metal flashings.

1.2 RELATED REQUIREMENTS

A. Documents affecting work of this section include, but are not necessarily limited to, General Conditions, Supplementary Conditions, and Sections in Division 1 of these Specifications.

1.3 SYSTEM DESCRIPTION, BASIS OF DESIGN

A. Roofing System: Mineral–surface built-up roofing.
   1. Subject to compliance with requirements provide Johns-Manville Spec 4GIC or approved equal.
   2. Sheathing paper, rigid insulation, cover board, 3-plies Type VI, and CA Title 24 approved cap sheet.

B. Flashing System:
   1. Base Flashing:
      a. One base sheet, two plies of flashing sheet and CA Title 24 approved cap sheet
   2. Strip-in:
      a. Gravel Stop Flange: Three plies ply sheet, feathered
      b. Other Flanges: Two plies ply sheet, feathered

C. All products and materials must be applied in accordance with material manufacturers written instructions and these specifications. This specification will take precedence over manufacturer’s instructions if the requirements of this specification are more stringent. A single manufacturer must furnish all felts, and rolled goods unless otherwise pre-approved.

D. All materials, including but not limited to felts, mastics, adhesives, and solvent-based products must be free of asbestos.
1.4 SYSTEM PERFORMANCE

A. Wind Uplift Performance: Provide assembly, including insulation and components, meeting wind uplift resistance for field, perimeter and corners in accordance with California Building Code.

B. Roofing System Design:
   1. Tested by a qualified testing agency to uplift pressures required by the California Building Code.
   2. Edge securement shall be tested by a qualified testing agency for resistance in accordance with ANSI/SPRI ES-1.

C. Fire Resistance: UL Class A.

1.5 ADMINISTRATIVE REQUIREMENTS

A. Preinstallation Conference: One week prior to starting the application of the roofing system and insulation, coordinate pre-roofing conference with Stanford University, Architect, Roofing Consultant, manufacturer’s representative, General Contractor, Roofing Contractor, and other subcontractors involved with the Work of this Section to ensure:
   1. A clear understanding of Contract Documents.
   2. On-site inspection and acceptance of the roofing substrate and pertinent structural details relating to the roofing system.
   3. Coordination of the work of the various trades involved in providing the roofing system and other components secured to the roofing.

B. The Contractor shall attend the conference with personnel directly responsible for the installation of roofing and insulation, flashing and sheet metal work, plumbing, and the roofing materials manufacturer. Conflicts shall be resolved and confirmed in writing.

C. Provide all shop drawings, manufacturers’ literature and submittals for approval a minimum of seven (7) days prior to preinstallation conference.

1.6 SUBMITTALS

A. Note to Specifier: Insert submittal procedures Section number and title below.

B. Comply with pertinent provisions of Section 01 33 00 Submittal Procedures.

C. Within 15 calendar days after the Contractor has received the Owner's Notice to Proceed, submit:
   1. Materials list of items proposed to be provided under this Section;
2. Manufacturer’s specifications and other data needed to prove compliance with the specified requirements;
3. Shop Drawings in sufficient detail to show fabrication, installation, anchorage, and interface of the work of this Section with the work of adjacent trades.

D. Manufacturer’s recommended installation procedures which, when approved by the Architect and Stanford University, will become the basis for accepting or rejecting actual installation procedures used on the Work.

E. Product Data: For each type of product indicated.

F. Shop Drawings: Submit manufacturer's shop drawings indicating insulation layout, cross section of assembly, and minimum board dimensions on 24”x36” drawings sheets.
   1. Submit drawings indicating slope, ridges and valleys to achieve positive drainage at slopes indicated.

G. Samples:
   1. Each roll product proposed for use – 6” square sample.
   2. Gravel – 1 lb.
   3. Sealants – 1 tube.
   4. Rigid insulation board.
   5. Cover board.

A. Delegated-Design Submittal: For built-up asphalt roofing indicated to comply with performance requirements and design criteria, including analysis data signed and sealed by the qualified professional engineer in the state of California responsible for their preparation.

B. Certificates: Signed by manufacturer certifying that installer is a factory authorized certified applicator in good standing with the manufacturer and is qualified to perform the specified work and able to receive the required warranty.

C. Certifications: Installer work history data of successful warranted installations similar to that of this Project.

D. Warranty/Guarantee: Upon completion, submit 4 copies of manufacturer’s material warranty and contractor’s system guarantee.

1.7 QUALITY ASSURANCE

A. Installer Qualifications: Company specializing in applying bituminous roofing with minimum five (5) years documented experience and accepted by primary roofing manufacturer as a certified applicator for warranty term specified.
B. Work of this Section to conform to NRCA Roofing and Waterproofing Manual, roofing manufacturer’s written instructions, and this specification. The more stringent requirement(s) will take precedence where any requirements between instructions differ.

C. Materials: For each type of material required for the Work of this Section, provide materials which are the products of one manufacturer. For products indicated that are not manufactured by the roofing manufacturer, provide products approved by the roofing manufacturer.

D. Upon request, Contractor shall submit a list of a minimum ten (10) projects of similar size and type of construction located in Santa Clara, San Mateo, San Francisco, Alameda and Contra Costa Counties.

1.8 REGULATORY REQUIREMENTS

A. Conform to Uniform Building Code for roof assembly and fire hazard requirements.

B. Conform to applicable City, County, State, and Federal requirements.

C. Conform to the requirements of the following regulatory agencies:
   1. Bay Area Air Quality Management District
   2. OSHA
   3. EPA
   4. Local City and County Authorities

D. The Contractor shall be responsible for obtaining all necessary permits for installation of new roofing. Coordinate the required government inspections with the local authorities.

1.9 DELIVERY, STORAGE, AND HANDLING

A. Deliver the materials to the job site in the manufacturer’s unopened containers with all labels intact and legible at time of use.

B. Store and handle materials in accordance with the manufacturer’s published requirements, Contract Documents and in accordance with the Owners requirements. The more stringent requirements shall apply.

C. Maintain the products in a dry condition during delivery, storage, handling, installation, and concealment.

D. Protect from damage from sunlight, weather, excessive temperatures and construction operations.

E. Remove damaged material from the site and dispose of in accordance with applicable regulations.
F. Sequence deliveries to avoid delays, but minimize on-site storage.

G. Store products in weather protected environment, clear of ground and moisture. Cover rolled goods and insulation with breathable type covering such as tarpaulin. Visqueen or other non-breathable plastic wraps are not acceptable.

H. Stand roll materials on end.

I. Do not overload roof. Load goods so as not to cause structural damage or failure, or create a safety hazard.

1.10 PROJECT REQUIREMENTS

A. Perform work only when existing and forecasted weather conditions are within the limits established by the manufacturer of the materials and products used.

B. Proceed with installation only when substrate construction and preparation work is complete and in condition to receive waterproofing.

C. Do not apply roofing membrane to damp surfaces.

1.11 WARRANTY

A. Manufacturer Warranty: Submit a written warranty, without monetary limitation, signed by roofing system manufacturer agreeing to promptly repair leaks in the roof membrane and base flashings resulting from defects in materials or workmanship for the following warranty period.
   1. Warranty Period: 20 years from the date of Substantial Completion.
   2. The Manufacturer shall make periodic site visits as required to ensure the issuance of the specified warranty.

B. Installer Warranty: Provide five (5) year contractor warranty starting from the date of final acceptance of all roofs by Owner. Provisions of the warranty must cover defects in workmanship and materials; and all corrective actions necessary to repair damage to the roof membrane and materials caused by roof leaks, or improper application.
   1. Must cover damage to building and contents resulting from failure to resist penetration of water during construction

PRODUCTS

2.1 GENERAL

A. Only submitted and approved materials shall be utilized.

B. No products used on this project shall contain asbestos.
2.2 MANUFACTURER
   A. Manufacturer: Subject to compliance provide products by Johns Manville or approved equal.

2.3 PLY SHEET
   A. Glas Ply Premier from Johns-Manville
   B. ASTM D2178 Type VI

2.4 MINERAL SURFACED CAP SHEET
   A. GlasKap CR from Johns-Manville
   B. ASTM D3909

2.5 BASE FLASHING BASE PLY
   A. Perma Ply 28 from Johns-Manville
   B. ASTM D4601

2.6 BASE FLASHING REINFORCING PLY
   A. Glastite Flexible from Johns-Manville
   B. ASTM – None

2.7 BASE FLASHING SURFACING PLY
   A. Glaskap CR from Johns-Manville
   B. ASTM D3909

2.8 STRIPPING PLY SHEET
   A. Glas Ply Premier from Johns-Manville
   B. ASTM D2178 Type VI

2.9 THREE COURSE FABRIC
   A. Fiberglass Fabric Mesh

2.10 PRIMER
   A. Primer from Johns-Manville
   B. ASTM D41
2.11 PLASTIC CEMENT
   A. Bestile Industrial Roof Cement from Johns-Manville
   B. ASTM D4586 Type II

2.12 MODIFIED FLASHING CEMENT
   A. MBR Utility Cement from Johns-Manville
   B. ASTM – None

2.13 TWO-PART MODIFIED FLASHING CEMENT
   A. MBR Flashing Cement from Johns-Manville
   B. ASTM – None

2.14 ROOF INSULATION
   A. General: Provide preformed roof insulation boards that comply with requirements and referenced standards, selected from manufacturer's standard sizes and of thicknesses indicated.

   B. Polyisocyanurate Board Insulation: ASTM C 1289, Type II.
      1. Basis of Design: Subject to compliance with requirements, provide ENRGY 3 by Johns Manville or approved equal.
      2. Provide insulation package with R Value of [insert R Value].
      3. Provide insulation package with minimum thickness [insert thickness].
         a. Refer to installation requirements for additional thickness requirements.

2.15 TAPERED INSULATION
   A. Tapered Insulation: ASTM C 1289, provide factory-tapered insulation boards fabricated to slope of [1/4 inch per 12 inches] <insert slope>, unless otherwise indicated. Crickets shall be fabricated to slope of [1/2 inch per 12 inches] <Insert slope>, unless otherwise indicated.
      1. Basis of Design: Subject to compliance with requirements, provide Tapered ENRGY 3 by Johns Manville or approved equal.

2.16 COVER BOARD
   A. Perlite Board: ASTM C 728; composed of expanded perlite, cellulosic fibers, binders and waterproofing agents with top surface seal-coated.
      1. Basis of Design: Subject to compliance with requirements, provide 3/4 inch Fesco Board by Johns Manville or approved equal.
2.17 INSULATION ACCESSORIES

A. General: Roof insulation accessories recommended by insulation manufacturer for intended use and compatible with membrane roofing.

B. Provide factory preformed saddles, crickets, tapered edge strips, and other insulation shapes where indicated for sloping to drain. Fabricate to slopes indicated.

2.18 FASTENERS

A. Manufacturer: Fasteners shall be by Maze or approved equal.

B. Fasteners shall be approved by roofing manufacturer.

C. Base ply fasteners shall be industry-standard hot dipped galvanized annular ring-shanked 1 inch cap nails. Length shall be at a minimum enough for 1-1/4 inch embedment into substrate or 3/4 inch penetration beyond underside of substrate.

D. Fasteners for Nailing Metal Flanges into Wood: Hot dipped galvanized annular ring-shanked nails with 3/8 inch head. Length shall be at a minimum enough for 1-1/4 inch embedment into substrate or 3/4 inch penetration beyond underside of substrate.

E. Fasteners for Nailing Base Flashing into Wood: Industry-standard hot dipped galvanized annular ring-shanked 1 inch cap nails. Length shall be at a minimum enough for 1-1/4 inch embedment into substrate or 3/4 inch penetration beyond underside of substrate.

F. Base Flashing into Concrete: Hot dipped galvanized concrete nails through tin caps.

2.19 ASPHALT

A. Subject to compliance, provide Perma Mop as manufactured by Trumble Asphalt or approved equal. The following results must be provided by an independent testing laboratory accredited by ICBO.

B. Asphalt shall meet the following criteria:

<table>
<thead>
<tr>
<th>Property</th>
<th>ASTM</th>
<th>Minimum Requirement</th>
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<tr>
<td>Weatherability</td>
<td>D-529</td>
<td>Min. 175 weathering cycles</td>
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<tr>
<td>Softening Point</td>
<td>D-36</td>
<td>215-225 (F)</td>
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<tr>
<td>Flash Point</td>
<td>D-92</td>
<td>540-600 (F)</td>
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<td>115F 45-60</td>
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<tr>
<td>Solubility in Trichloroethylene</td>
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<td>360 (F)</td>
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75 centiposie     385 (F)

2.20 CANTS
   A. Fescant Plus from Johns Manville.
   B. Perlite cant, ASTM C 728.

2.21 CERAMIC GRANULES
   A. #11 ceramic granules by 3M.
   B. Color to be selected by Owner.

2.22 COATING
   A. Manufacturer’s approved coating for installation over base flashing for the specified warranty.

2.23 WALK PADS
   A. 3/4” Reinforced 3’ x 4’ panels.
   B. Comply with ASTM D517 and ASTM E108.
   C. Provide AP5140 Deck Top as manufactured by APOC.

2.24 ACCESSORIES
   A. Accessory Products: Provide accessory products indicated in the Contract Documents and as required by the manufacturer for a complete and watertight installation.

EXECUTION

3.1 EXAMINATION
   A. Examine the areas and conditions under which Work of this Section will be performed. Correct conditions detrimental to timely and proper completion of the Work. Do not proceed until unsatisfactory conditions are corrected.
   B. Verify that substrate is free of depressions, waves, or projections and is properly sloped to drain. Bring any unacceptable conditions to the attention of the Owner and Architect.
   C. Beginning of installation means installer accepts existing substrate.
3.2 PREPARATION OF SUBSTRATES

A. Refer to manufacturer’s literature for requirements for preparation of substrates. Remove debris. Use repair materials and methods which are acceptable to roofing manufacturer.

3.3 PROTECTION

A. Protect building surfaces against damage from roofing work.
B. Protect grounds and landscaping against damage from roofing work.
C. Prevent debris and dust from spreading due to windy conditions.
D. Clean up debris on a daily basis. Keep grounds and landscaping clean at all times.
E. The contractor shall be responsible for all damages to interior finishes, equipment and property during construction due to failure to install proper dust, debris and moisture protection.
F. Furnish and install preliminary roofing as temporary weather protection, at Owner’s option, when and where directed by the Owner.

3.4 INSTALLATION

A. Comply with Contract Documents and manufacturer's written instructions and recommendations.
B. Coordinate as required with other trades to assure proper and adequate provision in the work of those trades for interface with the Work of this Section.
C. Install roofing where shown on the Drawings, and in strict accordance with the manufacturer’s recommendations as approved by the Architect and Stanford University.
D. Install roofing assembly to comply with requirements of the Contract Documents including, but not limited to, wind uplift requirements.

3.5 INSULATION INSTALLATION

A. Coordinate installation of roof 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 installation of roof insulation.
C. Provide wood nailers matching the thickness of the insulation boards to secure sheet metal flashing flanges.
D. Mechanically attach insulation to structural deck to meet manufacturer’s requirements and California Building Code wind uplift requirements. Fasten through insulation and structural substrate with screw and plate type fasteners, minimum spacing to be one fastener per every four square feet. If fastening pattern set by manufacturer or necessary to meet wind uplift requirements exceeds those of this Section, the more stringent fastening requirements are to be followed. Fastening pattern to be increased in corners and perimeters per wind uplift requirements.
   1. Ensure that fasteners do not penetrate conduit or miscellaneous piping below the existing decking.

E. Install one or more layers of insulation under area of roofing to achieve required thickness. Where overall thickness is 2 inches or greater, install 2 or more layers with joints of each succeeding layer staggered from joints of previous layer a minimum of 6 inches in each direction.
   1. Hot mopping of subsequent layers of insulation (if required) is permitted. If hot mopping insulation, boards shall be 4’-0” x 4’-0”.

F. Install tapered insulation under area of roofing to conform to slopes indicated.

G. Install insulation boards with long joints in a continuous straight line with end joints staggered between rows, abutting edges and ends between boards.
   1. No insulation board shall be cut to less than 1 square foot in size.
   2. Stagger insulation joints minimum 12 inches in each direction between insulation.
   3. Closely cut each board to tightly fit around all roof penetration blocking.
   4. Fit each insulation board snugly against adjacent boards so that no gap larger than 1/4 inch exists. Fill gaps exceeding 1/4 inch with like material.
   5. Carefully inspect the installation to ensure that each board fits flush with adjacent insulation boards.
   6. Insulation boards with broken corners or that display cupping or warping shall not be used.
   7. Replace boards that are not completely secured.
   8. Hot Mopped Insulation: Step in insulation board to ensure complete adhesion to the underlying asphalt and insulation.

H. Trim surface of insulation boards where necessary at roof drains so completed surface is flush and does not restrict flow of water.

I. Install tapered edge strips at perimeter edges of roof that do not terminate at vertical surfaces.

J. Proceed with installation only after unsatisfactory conditions have been corrected.

3.6 INSULATION CRICKETS

A. Install crickets at the high side of all curbs or other obstacles twenty four inches or wider blocking positive drainage to roof drains or scuppers, in locations indicated on the roof plans, or as necessary to prevent ponding water between drains, at a parapet wall or behind mechanical equipment.
B. Layout each cricket to ensure positive roof drainage and no possibility of roof ponding.

C. Crickets shall smoothly transition between changes in slope.

D. Crickets must smoothly transition into roof area. Provide tapered edge strips to avoid voids at toe of crickets.

3.7 COVER BOARD INSTALLATION

A. Coordinate installing membrane roofing system components so cover board 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 cover board.

C. Install cover board in full mopping of hot asphalt. Equiviscous Temperature (345°F-395°F) at point of application; No more or less than 20°F from bitumen rating indicated on bitumen container label.

D. Install cover board with long joints in a continuous straight line with end joints staggered between rows, abutting edges and ends between boards.
   1. No cover board shall be cut to less than 1 square foot in size.
   2. Stagger joints minimum 12 inches in each direction between cover board.
   3. Closely cut each board to tightly fit around all roof penetration blocking.
   4. Fit each board snugly against adjacent boards so that no gap larger than 1/4 inch exists. Fill gaps exceeding 1/4 inch with like material.
   5. Carefully inspect the installation to ensure that each board fits flush with adjacent boards.
   6. Boards with broken corners or that display cupping or warping shall not be used.
   7. Replace boards that are not completely secured.
   8. Step in cover board to ensure complete adhesion to the underlying asphalt and insulation.
   9. Spud and remove any excess asphalt which has oozed on the surface of the insulation, at the joints.
  10. Asphalt shall be applied at the rate of 30 lbs. per square.

E. Trim surface of cover board where necessary at roof drains so completed surface is flush and does not restrict flow of water.
   1. Install tapered edge strips at perimeter edges of roof that do not terminate at vertical surfaces.

F. Install cover board to substrate in a solid mopping of hot roofing asphalt according to roofing system manufacturer’s instruction.

G. Proceed with installation only after unsatisfactory conditions have been corrected.
3.8 MEMBRANE APPLICATION

A. Equiviscous Temperature (345F-395F) at point of application; No more or less than 20F from bitumen rating indicated on bitumen container label.

B. Where mopping must be done up to an open eave or roof opening, contractor shall take steps to prevent asphalt over run.

C. Install an extra ply in all waterways directly over cover board insulation prior to field plies.

D. Ply Felts: Apply three plies of felts in a continuous operation in shingle fashion over the cover board with hot-moppings of bitumen as specified herein. Provide starter sheets of felt to maintain the specified number of plies of felt throughout the roofing. Provide end laps of not less than 5 inches and staggered a minimum of 36 inches. Apply felts at right angles to the roof slope so that the direction of flow of water is over and not against the laps. Extend felts approximately 2 inches above the tops of cant strips. Trim felts to a neat fit around vent pipes, and other projections through the roof. All plies must be broomed.
E. Hot Moppings of Plying Felts: Apply the felt immediately following the application of the hot asphalt. Working ahead with the asphalt is not permitted. Do not mop more than 6’ in front of the roll. When the felts come in contact with asphalt the asphalt shall be completely fluid with mop temperatures within the specified EVT range. After embedding felts in hot asphalt, immediately broom or squeegee felts to eliminate all trapped air and voids. Roofing membrane shall be free of all voids, wrinkles, buckles, kinks, and fishmouths. Cut deficiencies and repair with full number of plies affected. If setting rolls by hand, back roll and mop each time roll is stopped to eliminate void lines.

F. At slopes over 2:12 all sheets are to be strapped. Back nailing is to be in accordance with manufacturer’s recommendations.

G. Asphalt Mopping: Apply nominal 30 lb. of asphalt per 100 square feet of ply – no more or less than 25 – 40 lb. per square. Note: this requirement supersedes manufacturer’s acceptable requirements. On slopes exceeding ½” x 12”, apply nominal 22 lbs. asphalt, no more than 28 lbs. per square.

H. Install two plies membrane and bitumen glaze coat for cut-off at end of day’s operation. Remove cut-off before resuming roofing.

3.9 CAP SHEET SURFACING (WHERE APPLICABLE)

A. Cut cap sheet into maximum 12 foot lengths and allow to relax and flatten for one half hour.

B. Position the sheet upside down on top of previously installed sheet, leaving previous selvedge exposed.

C. When mopping area to receive cap sheet, mop approximately 2 inches onto backside of piece being installed.

D. Flop into place, and walk-in seam; dress-up overruns with loose granules.

E. If flopped cap sheet is not adhering to mopping either:
   1. Cut cap sheet into shorter lengths or
   2. Use two mops, to hasten embedment into the mopping.

3.10 FLASHING AND ACCESSORIES

A. Flashing: Provide built-up bituminous flashing in the angles formed where the roof deck abuts walls, curbs, pipes and other vertical surfaces and where necessary to make the work weathertight. Install flashing after plies of felt have been applied. Metal flashing collars, cap flashings and saddles are specified in Section 07 60 00 “Flashing and Sheet Metal”. Prime all metal flanges prior to installation.
B. Base Flashing: Install one layer of base sheet scatter nailed 8 inches on center, both directions, up vertical surface to heights shown on details. Terminate this layer at toe of cant. Install two layers of base flashing reinforcing plies, staggered out 2 and 4 inches past toe of cant respectively. Set into full mopping of hot asphalt. Install base flashing surface sheet in full mopping of hot asphalt, extend 2 inches past second reinforcing ply. Nail top of base flashing 6 inches on center. Base flashings shall be 24 inch max height. Three-course the top of base flashings with modified flashing cement and fiberglass fabric at the end of each day. Seal cap sheet laps with two-part modified flashing cement.

C. Three-course inside and outside corners of completed base flashings. Surface three-coat with a manufacturer-approved UV-stable coating.

D. Embedded Metal Flashing: Prime surface of metal to receive stripping plies. Allow primer to dry before proceeding. Set flanges of sheet metal (or lead) to be incorporated into the roofing system in a uniform bed of plastic roof cement not less than ¼” inch thick over finished membrane plies. Nail sheet metal flanges 3” on center staggered to wood substrates. Lead flashing does not require nailing. Apply two stripping plies over metal flange with hot asphalt. Extend felts 6 and 8 inches respectively, beyond the edges of the lead flanges and onto the roofing membrane. Sheet metal gravel stop requires three stripping plies, extending out 5”, 8” and 10”.

3.11 WALL FLASHINGS ABOVE 2 FEET HEIGHT

A. If walls are taller than 24 inches, an independent wall covering system shall be installed. Wall covering shall consist of one base sheet, one reinforcing ply and one cap sheet ply. Lap wall covering system 4 inches over base flashing.

3.12 WALK PADS

A. Install specified walk pads directly over membrane plies in 5 spots of modified flashing cement.

B. Apply ceramic granules to surface area contaminated with asphalt during installation to achieve a uniform surface texture.

C. Walk pads shall be installed around all HVAC units and other motorized rooftop equipment, where shown on the Drawings, and at minimum three sides at each hatch and other roof access locations.

D. Walk pads installed under pipe support blocks are to be installed loose over gravel surface. Walk pad is to extend 6” beyond the block in each direction.

3.13 FIELD QUALITY CONTROL

A. Field inspection and testing will be performed by a roofing inspector hired by the Owner.
B. Correct defect or irregularities as identified by the Architect, Owner or field inspector.

C. Roof test cuts containing voids (air pockets) in membrane greater than 1.5 inches in length, or overlaying voids, are unacceptable.

D. Holidays (lack of asphalt) visible to the naked eye will be considered unacceptable.

E. Interply asphalt less than 25 lbs. or greater than 40 lb. per 100 square feet is unacceptable.

F. The Owner reserves the right to obtain test cuts to determine conformance to specifications standards. The contractor is responsible for immediately patching the test cuts with 4 plies of Premier Ply in hot asphalt.

G. If any test fails to the criterion described above, additional test cuts will be obtained to determine the extent of the problem area. A minimum area of 20’ x 20’ centered over the deficient test cut will be repaired by mopping two additional plies with hot asphalt over it.

3.14 CLEANING

A. Remove bituminous markings from finished surfaces. Paint sections of wall stained with asphalt, after asphalt dripping have been removed.

B. In areas where finished surfaces are soiled by asphalt or any other source of soiling caused by Work of this Section consult manufacturer of surfaces for cleaning advice and conform to their documented instructions.

C. Repair or replace defaced or disfigured finished caused by work of this Section.

3.15 PROTECTION

A. Protect completed roofing from subsequent construction activities as recommended by manufacturer.

B. Where traffic must continue over finished roof installation, protect surfaces with plywood or walk pads.

END OF SECTION