ROOFINGPROJECTS-COM

ROOF REPLACEMENT SPECIFICATION

Cinemark #355
455 S Bibb Ave, Eagle Pass, TX 78852

Roof Section: A

PART 1 GENERAL

1.1 SUMMARY

A. Scope of Work:

1. Work specified herein shall be provided only to the extent and as applicable to the work included in this specification. The building is classified as a Risk Category III structure and lies in the 115 MPH wind speed area as defined by ASCE Standards.
2. The existing roof system is as follows: Single-Ply membrane over 3.5 inches of isocyanurate insulation followed by a steel deck. Contractor is responsible to verify core information prior to submitting their bid.
3. Remove existing membrane and all flashings. Sweep the surface of all loose dirt and debris.
4. Tear off designated wet/damaged insulation roof areas identified during the course of the work. **Contractor to include 1000 square feet of wet insulation area removal and infill in the base bid.** Fill in removed insulation areas to match the height of the existing adjacent roof area. A unit price line item on the bid form will address any additional wet or damaged insulation removal and infill identified during the course of the work. If any additional wet or damaged insulation is encountered during the course of the project, the cost for removing and infill will be based on the unit price provided on the bid form by the contractor and billed against the contingency allowance included in the contract as noted below. If less wet area is removed, the remaining square footage value will be credited back to the owner using the unit price provided on the bid form. All removal areas are to be documented by the contractor through markup drawing and photos confirming the conditions. Property management and Roofingprojects.com to be notified and made aware of the conditions immediately as they are encountered.
5. Install new roof system over existing roof membrane: a FM approved mechanically attached .060 mil reinforced TPO Fleece Backed single ply membrane directly over the existing cover board to FM 1-115 wind uplift resistance guidelines. All membrane fasteners shall be attached through the insulation material into the steel roof deck. 60 mil bare backed flashings may be used at wall and curb flashings.
6. Install specified FM approved sheet metal flashings and accessories that meet the stated wind uplift guidelines – include all clips, sealants, fasteners, and connections to make watertight.
7. Perimeter flashing details shall be addressed as noted on the plan drawing and as indicated in the detail drawings.
8. Install tapered insulation cricket between drains as shown and noted on the roof plan drawing
9. Cut out existing insulation to install 4’ x 4’ tapered insulation sumps around all roof drains.
10. Remove all existing drain strainers and clamping collars and replace with new cast iron units. Roof drain body and piping to remain. A line item on the bid form will address drain bowl replacement or drain insert installation if required.
11. Provide a manufacturer’s 20 Year Labor and Material, NO Dollar Limit (NDL) watertightness warranty including a 2-year contractor warranty. Contractor to provide at Pre-Construction meeting the Warranty Reference Number assigned when the contractor registers the project with the Material Manufacturer providing the Long-term Warranty.
12.

13. All required municipal permits, project fees and applicable taxes are to be included in the contractor's base bid price.
14. All contractor payment applications are to be submitted to Roofingprojects.com for approval and certification to Cinemark for payment on standard AIA forms. Contractors are to include copies of itemized material supplier invoices and release of liens with all payment applications.
15. NOTE: Due to the volatility of the roofing industry pricing Owner shall issue a "change order" to the contract price if the contractor submits documentation in the form of a "listing of materials and associated pricing" that was used in preparing the contractor's quote at time of the bid. This documentation is to be submitted to all parties at the time that the contractor executes the "Service Agreement". Once final pricing is received by the Contractor from the Manufacturer (normally 30 days prior to shipment of the materials) contractor shall immediately request a change order for any increase in costs so as to not delay the project completion. Owner shall then issue a change order to the Contractor in a timely fashion but prior to the materials being released for shipment by the Manufacturer. Contractor shall not be held liable for any delays to the project due to obtaining materials for the project. Note: If the stated material order pricing form for the project materials is not submitted by the contractor at the time of the "Service Agreement" execution date then a material price increase change order may not be granted. There will be no exceptions to this requirement.

B. Section Includes:

1. Roofing Membrane and Insulation Removal.
2. TPO Membrane Roofing Systems.
3. Waterproofing Membrane.
4. Flashing Membrane.
5. Roof Insulation.

a. Polyisocyanurate Insulation (For Insulation Fill & Drain Crickets)

C. Acceptable Manufacturer's (Roof Recovery):

- Carlisle-Syntec, Inc.
- Holcim-Elevate Building Products, Inc.
- Johns Manville

1.2 REFERENCES

A American Society for Testing and Materials:
1. ASTM C 208 - Cellulosic Fiber Insulating Board.
2. ASTM C 1289 - Faced Rigid Cellular Polyisocyanurate Thermal Insulation Board.
3 ASTM C 1303 - Standard Test Method For Estimating The Long-Term Change In The Thermal Resistance Of Un-faced Rigid Closed-Cell Plastic Foams By Slicing And Scaling Under Controlled Laboratory Conditions

B FM Global Research Corporation (FM):

1. FM Loss Prevention Data Sheet 1-28 – Wind Design
2. FM Loss Prevention Data Sheet 1-29 - Mechanically Attached Single-Ply Membrane Roof Coverings. Roof Deck Securement and above deck Roof Componets.
3. FM Standard 4470 – Single Ply, Polymer-Modified Sheet, Built-up Roof (BUR) and Liquid Applied Roof Assemblies for use in Class 1 and Noncombustible Roof Deck Construction.
4. FM Loss Prevention Data Sheet 1-49 – Perimeter Flashing.

c Underwriters Laboratories, Inc. (UL):
5. UL - Roofing Materials and Systems Directory.
6. UL 790 - Standard Tests for Fire Resistance of Roof Covering Materials.
7. UL 1256 - Standard Fire Test of Roof Deck Construction.

1.3 SYSTEM DESCRIPTION

A. Single Ply Membrane Roofing System: Single ply 60 mil fleece backed reinforced for mechanically attached membrane roofing system. Provide a bid for at least one of the following Membrane Roofing System types:

1. FM Approved Mechanically Attached Single Ply TPO (thermoplastic polyolefin) Membrane Roofing System from Carlisle-Syntec, Inc.

2. FM Approved Mechanically Attached Single Ply TPO (thermoplastic polyolefin) Membrane Roofing System from Holcim-Elevate Building Products, Inc

3. FM Approved Mechanically Attached Single Ply TPO (thermoplastic polyolefin) Membrane Roof System from Johns Manville

B. Insulation of the following type: (tapered crickets & wet removals infill)

1. FM Approved Polyisocyanurate Insulation Board Mechanically Attached to the Steel Deck for the listed Assemblies in Section 1.3 A. “SYSTEM DESCRIPTION”.

C. Flashing and Waterproofing Membranes: FM Approved 60 mil-reinforced TPO membrane, fully adhered, as defined herein and indicated on the drawings.

1.4 SUBMITTALS

A. Submittals after Award of Contract: After award of project, submit the following submittals to Cinemark Theaters Construction Representative. Submittals shall be available at all times to the Owners Representative.

1. MSDS sheets for products to be used on site.
2. Product Data sheets for accepted system showing compliance with the specified physical properties.
3. Shop Drawing showing:
   a. Fastener patterns to meet uplift requirements.
   b. Details required for completion but not shown on attached drawings.
   c. Techniques for end of workday tie offs.
4. List of any sub-contractors being used under primary roofing contractor’s contract.
5. Required Building Permits
6. Copies of required State Licenses
7. Preconstruction Damage Report – Form to be provided after award of contract.
8. Construction Schedule
9. Certificates of Insurance
10. Copy of Certified Applicator Statement from system manufacturer (If Requested).
    a. Job names, size, scope, letters from owner contact, present owner contact name and phone number to verify logistical and system experience (If Requested).

1.5 QUALITY ASSURANCE

A. General

1. Standards: Comply with the latest additions of standards as listed below:

   a. The NRCA Roofing and Waterproofing Manual, Latest Edition, National Roofing Contractors Association.
   b. The Membrane Material Manufacturer's current published specifications, application instructions, and technical bulletins.
   c. Annual Book of ASTM Standards, Latest Revision – ASTM International.

2. Qualifications of Roofing Contractor: All bidders shall be licensed Roofing Contractors and shall be certified by the Material Membrane Manufacturer to install the roofing system outlined in the Scope of Work and meet the requirements further outlined in Section 1.5 B. 1. "System Experience".

3. Qualification of Workers: Use the necessary quantity of skilled laborers who are completely trained and versed in the necessary trades, and are thoroughly instructed in the various scopes of work required to complete this project as specified. Lack of skill or inadequate instruction of laborers to the scope of work required for this project will not be an excuse for accepting or rejecting the work performed.

4. Sub-Contracting of Roof System Installation: The Roofing Contractor (under contract) will not sub-contract the installation of major roofing system components to an individual or firm that is not a full time employee of the contracted Roofing Contractor. Major roofing system components are considered as the following:

   a. Insulation
   b. Roof Membrane
   c. Flashings
   d. Roof Walk Pads

5. Code Compliance: Bids must be in compliance with all applicable local and state codes. Contractor will be required to secure any and all permits required by local and state jurisdictions in order to conduct this project as specified. All costs for required permits must be included in contractor's base bid price.

6. Employee Conduct: All employees and sub contracted employees must conduct themselves professionally at all times while on theater property. Cinemark Theaters will have a ZERO tolerance policy for employee interaction with theater customers. There will be no drinking of alcoholic beverages on theater property. In addition, there will be no smoking allowed on the roof during the course of the project. Violation of the above-mentioned items will be grounds for that employee to be banned from future work.

7. Vendor Minimum Insurance Requirements:
   The Certificate must:
   * Certificate holder should be Cinemark, Inc. and it subsidiaries
   * All dollar amounts must be listed in US Currency.
   + Provide at least 30 days notice of cancellation.
   * Insurance carrier must be rated A- VII or above by the A.M. Best.

   COMMERCIAL GENERAL LIABILITY (CGL) (Occurrence Form):
   $2,000,000 General Aggregate
   $2,000,000 Products and Completed Operations Aggregate
   $2,000,000 Each Occurrence

   The General Liability policy must include Cinemark, Inc. as an additional insured.
   The General Liability policy must include a waiver of subrogation in favor of Cinemark, Inc.
   The above $2,000,000 requirements can be achieved through a combination of general liability and excess liability. The excess liability must follow form the primary liability policy and include

Cinemark, Inc as an additional insured.
WORKERS COMPENSATION / EMPLOYERS LIABILITY
$1,000,000 By Accident – Per Accident
$1,000,000 By Disease – Policy Limit
$1,000,000 By Disease - Each Employee

B. Qualifications of Applicator:

1. System Experience:

a. Contractor shall have been trained by and shall be an authorized installer or licensed contractor for the roofing system manufacturer, as defined by the roof system manufacturer, for five (5) years prior to the bid date.
b. Contractor shall have installed a minimum of fifteen (15) projects using the specified roofing system.
c. Contractor shall have been in business a minimum of ten (10) years performing work under the current registered name.

C. Regulatory Requirements for Roof Assembly: Comply with FM Global System Approval Guide Underwriters Laboratories, Inc. Roofing Materials, Building Code, Energy Code and Systems Directories as specified:

1. FM Global: Provide roofing assembly meeting FM Class 1 – 135-A requirements for fire resistance and wind uplift in accordance with FM Loss Prevention Data Sheet 1-7, 1-28, 1-29, & 1-49.
2. Underwriters Laboratory: UL Class A External Fire Rating
3. International Building Code

D. Pre-installation Conference:

1. RoofingProjects.com shall convene a pre-installation conference at the site, prior to commencing work of this Section. Require attendance of parties directly affecting work of this Section, including, but not limited to, the Owner's representative, Roofing Applicator and job foreman, and Roofing Manufacturer's Representative.
2. RoofingProjects.com shall record discussions of conference and decisions and agreements or disagreements) reached, and furnish copy of record to each party attending. Review foreseeable methods and procedures related to roofing work, including the following:
   a. Tour, inspect and discuss condition of substrate, roof drains, curbs, penetrations and other preparatory work.
   b. Review required submittals.
   c. Review and finalize construction schedule related to roofing work and verify availability of materials, installer's personnel, equipment, and facilities needed to make progress and avoid delays.
   d. Review required inspections, testing, certifying, and material usage accounting procedures.
   e. Review weather and forecasted weather conditions, and procedures for coping with unfavorable conditions, including possibility of temporary roofing (if not a mandatory requirement).

E. Manufacturer’s Site Inspections:

1. Provide site inspection and reports by the manufacturer's representative at the following periods:
   a .Prior to 50% of roof installation.
   b. Final Inspection: Two weeks prior to Final Payment.
2. Prepare certificate of acceptance of completed roof installation by the Manufacturer.

1.6 DELIVERY, STORAGE, AND HANDLING

A Contractor shall make arrangements for delivery of materials in manufacturer's original unopened containers, dry, undamaged, seals and labels intact.

B. Contractor shall store materials in weather-protected environment, clear of ground and moisture. Storage requirements for insulation are as follows:
1. Cut or remove plastic shipping wrap from insulation.
2. Cover with tarpaulin, shield from moistures and ultraviolet rays.
3. Elevate minimum of 4 inches above substrate.
4. Secure to resist high winds.
5. Distribute insulation stored on roof deck to prevent concentrated loads. Place over main structural components.
6. Do not install wet insulation. Insulation shall be thoroughly dry prior to installation.

C. Store cements, primers, and caulks in heated area above 40 degrees F during cold weather and in are below 60 degrees F in warm weather.

D. Protect adjacent materials and surfaces against damage from roofing work. Do not store materials on completed roofing.

1.7 ENVIRONMENTAL REQUIREMENTS

A. Follow industry standards for environment requirements including, but not limited to, the following:

1. Do not apply roofing membrane during inclement weather. When air temperature is expected to fall below 40 degrees F, follow specified Cold Weather Application Procedures as specified herein.
2. Do not apply finished roofing system to wet, damp or frozen surfaces or when precipitation is occurring.
3. Do not expose materials vulnerable to water or sun damage in quantities greater than can be weatherproofed during same day.

1.8 SEQUENCING AND SCHEDULING

A. Contractor shall coordinate the Work with installation of associated metal counterflashings specified under other sections as the Work of this Section proceeds.

1.9 WARRANTY

A. Material Manufacturer: Provide a warranty to the Building Owner naming Cinemark Theaters and the Project Address and roof size - commencing at date of roof final acceptance by the RoofingProjects.com, Cinemark Theaters and Material Manufacturer, that includes the cost of labor and materials for loss of weather tightness without financial limit for a period of 20 years.

B. Contractor Warranty: All work performed by the Roofing Contractor shall be guaranteed, in writing, for a period of Two (2) Years from the date of roof final acceptance by the RoofingProjects.com, Cinemark Theaters and Material Manufacturer.

PART 2 PRODUCTS

2.1 MANUFACTURERS

A. Acceptable Manufacturers: Subject to compliance with specification requirements herein, manufacturers listed below are considered acceptable to Cinemark Theaters that provide the 20 year warranty (as specified in Section 1.9 Warranty) and roofing systems or products that meet the performance criteria listed in Section 2.2 MEMBRANE PERFORMANCE CRITERIA

B. Acceptable Manufacturer's:

- Carlisle-Syntec, Inc.
- Holcim-Elevate Building Products, Inc.
- Johns Manville

2.2. MEMBRANE PERFORMANCE CRITERIA

A. TPO: Membranes composed of a top and bottom film formulated with an ultra-violet resistant thermoplastic polyolefin with a polyester reinforcement, 60 mil thickness, fleece backed, white. Membrane sheets not to exceed 8 feet unless approved by roof RoofingProjects.com – final width to be determined by Manufacturer based on deck type, building elevation and FM Requirements and may be smaller than 8 feet in width.

2.3 FLASHING MEMBRANE

A. Flashing Membrane: Reinforced and non-reinforced membrane and pressure-sensitive or heat welded flashings by Roofing System manufacturer, minimum 60 mils, specifically designed for use in flashing at perimeters and wall, and around projections through roofing system.

2.4 WATERPROOFING MEMBRANE

A. Waterproofing Membrane: Membrane waterproofing formed into uniform, flexible sheets by Roofing System manufacturer. Reinforced, 60 mils nominal thickness.

B. Waterproofing Flashing: Reinforced and non-reinforced membrane and pressure-sensitive or heat welded flashings by Roofing System manufacturer, minimum 60 mils, specifically designed for use in flashing at perimeters and wall, and around projections through roofing system.

2.5 ROOF FASTENERS

A Tapered Edge Strip

1. Factory cut wood fiber board – ASTM C 208-95

B FM Approved Fasteners for Steel Deck

1. Steel Decks: Insulation mechanical fasteners for metal decks shall be factory coated for corrosion resistance. The fastener shall conform meet or exceed Factory Mutual Standard 4470 and when subjected to 30 Kesternich cycles, show less than 15% red rust.

2.6 ROOF PENETRATION FLASHING AND SEALS

A. Molded Pipe Flashing: Pre-molded flexible pipe flashing as recommended and supplied by the roofing manufacturer.

B. Pitch Boxes: Manufacturer's coated metal products. Note: Use of Pitch Boxes must first be approved by RoofingProjects-com and will only be allowed when the alternative does not provide the likelihood of a longer term watertight seal.

C. Pitch Box Pourable Sealer: Manufacturer's two-part pourable urethane sealer.

2.7 SHEET METAL FLASHING

A All sheet metal flashings will be .040 Aluminum or 24 Guage Steel. All metal shall be Kynar Coated for with Manufacturer's 20 Year Warranty on the finish. Shop Fabricated Metal Components will adhere to SMACNA Standards and ANSI/SPRI standards and be ES-1 Rated.

2.8 ACCESSORIES

A. Provide new manufacturer's system accessories as required for a complete and warranted Roofing System. Use of each accessory item indicates its acceptance by the material manufacture providing the long-term warranty. Roofing contractor is responsible for using accessory items that are approved by FM Global and acceptable by the manufacturer of the primary roofing material.

2.9 PIPE & CONDUIT SUPPORTS

A. Pre- manufactured pipe support as per contractors' choice. Remove any existing wood blocking pipe supports and replace with pre-manufactured pipe supports installed at 10'-0" max. on center along pipe and clamped to pipe to maintain position. Existing pre-manufactured pipe supports with clamp secured to pipe in good condition may be re-used.

PART 3 EXECUTION

3.01 GENERAL REQUIREMENTS

A. Due to multiple roof system options the installation guidelines listed may include more than one alternative. Finished installation must be and acceptable to the Material Manufacturer of the proposed primary roof membrane material for issuance of the specified long-term warranty.

B. SAFETY

1. Contractor shall follow all current OSHA and roofing industry requirements and standards for procedures followed during the roof replacement project.

2. Daily clean-up of work, staging and personnel areas is required.

3. Barricades: Barricades must be put in place prior to the start of the work that requires them. Proper barricades must be in place to encompass the entire swing radius of the crane to ensure and prevent the possibility of the public or employees being harmed by the crane or its operations.

4. Fire extinguishers must be present on the job site at all times – number of fire extinguishers should be sufficient so that any point is within 100 feet of a fire extinguisher.

5. Cranes and Hoists: Contractor must know and work within the load capacity, limitations and specifications provided by the equipment manufacturer.

6. Public Access: Unauthorized persons are not allowed to enter the roof at any time.

7. Fumes: Notify theater Management when there is the possibility that fumes and/or dust can be drawn into the building through air intake ducts so that steps can be taken to cover or shut down the unit.

3.02 EXAMINATION

A. Verify substrate surfaces are dry and free of water, snow, and ice.

B. Beginning installation means acceptance of substrate and pre-installation conference has been held with agreements reached.

3.03 PREPARATION

A. Provide covers and other means of protection as necessary to protect building surfaces against damage during roofing work.

B. Where Work shall continue over newly finished roof membrane, protect surfaces from damage.

C. Prior to tear off, verify that all pipe vents, vent stacks, steel supports are attached to the building structure. Be sure these items are removed or secured to the building structure prior to the start of roof system removal.

D. Block all drains within the tear off and removal section of the roof prior to beginning tear off – remove plug at the end of work for that day or in the onset of inclement weather.

3.04 RECOVER OF EXISTING ROOF

A. Remove any wet/damaged insulation discovered during the course of the project. Fill in with new insulation to the height of the new roof system.

B. Remove the existing membrane and flashings. Contractor shall inspect the existing coverboard and insulation to identify any unsuitable conditions. Surfaces shall be swept clean of all dirt and debris. and prepared for application of new materials as satisfactory with the manufacturer.

C. Rusted or damaged steel decking shall be reviewed by Owner Management and or RoofingProjects.com and the Roofing Contractor - a consensus decision will be made to either replace the decking or rehabilitate the rusted deck surface by wire brushing the surface rust to bare metal and painting the deck with approved rust inhibitor paint.
Unit prices for both metal deck replacement and rehabilitation of the metal deck are requested on the bid form.

F. Install tapered insulation cricket and drain sumps as noted on the roof plan drawing.

G. NOTE: Roofing Contractor is to verify that all drain / leader lines are fee from debris and are free flowing prior to beginning this project. Any drains that are discovered to be blocked or suspect as free flowing shall be brought to the attention of the owner's representative prior to beginning work. Any drains discovered to be blocked or non-free flowing after the start of the project will be the contractors' responsibility to correct at their cost.

3.05 ROOFING MEMBRANE APPLICATION

A. When approved by the Owner, the manufacturer's recommended methods of installation (unless superseded by this specification) will become the basis for inspecting and the accepting or rejection of the actual installation procedures used on this work.

B. Surface Conditions

1. Surfaces scheduled to receive roofing are to be free of any standing water, frost, snow or loose debris.

2. Substrate is to be smooth, free of sharp projections and free of obvious depressions.

3. All necessary metal fittings are to be in place before roofing.

4. **All required nailers shall be securely installed prior to roofing & any additional nailers needed to achieve the proper height for roofing shall be included in the contractor's base bid price – this excludes any rotted or damaged nailers that are unsuitable for the new roof system installation. Unit prices are requested on the bid form to identify lineal foot prices for wood nailer replacement.**

C. Installation - General

1. Perform all related work specified elsewhere necessary for the installation of the specified membrane system.

2. Ensure that fasteners do not penetrate conduit or other miscellaneous items on bottom side of the deck.

3. Increased fasteners in the field of the roof will not reflect the FM uplift requirements at perimeters and corners. Manufacturer to use their standard formula on half sheets and increased fasteners to meet the FM uplift requirements guidelines per building elevation. (see scope of work for FM uplift requirements by zone)

D. Cold Weather Application Procedures: When air temperature is expected to fall below 40 degrees F, follow Cold Weather Application Procedures as follows:

1. Store materials in heated storage units prior to installation. Rotate adhesive, cement, and sealant containers to maintain their temperature above 40 degrees F.

2. Allow membrane to relax until no wrinkles are visible and restrict work to sunny days

3. Allow adequate time for solvents in cements to flash off. Check dryness of applied cements before sealing joints.

4. Verify that frost, dew, and other forms of moisture have evaporated prior to covering insulation with membrane to prevent entrapment of moisture within finished roof system.

3.08 INSTALLATION OF MECHANICALLY ATTACHED ROOFING MEMBRANE (TPO)

A. Place membrane so that wrinkles and buckles are not formed. Any wrinkles or buckles must be removed from the sheet prior to permanent attachment. Roof membrane shall be mechanically fastened immediately after it is rolled out, followed by welding to adjacent sheets.

B. Membrane seams must run perpendicular to the ribs of the steel decking below.

C. Overlap roofing membrane a minimum of 5 inches for side laps and 3 inches for end laps.

D. Install membrane so that side laps run across the roof slope lapped towards drainage points.

E. All exposed sheet corners shall be rounded by a minimum of 1 inch.

F. Use full width rolls in the field of the roof and half width rolls in the perimeter and corner region of the roof and mechanically fastened in the side lap area to the roof deck.

G. Membrane laps shall be heat welded together. All welds shall be continuous, without voids or partial welds. Welds shall be free of burns or scorch marks.

H. Weld shall be a minimum of 1 ½ inch in width for automatic machine welding and a minimum of 2 inches for hand welding.

I. All cut edges of the reinforced roof membrane must be sealed with manufacturers edge sealant.

J. The membrane shall be mechanically fastened in the side lap area to the roof deck with screws and plates to meet FM guidelines.

K. Metal plates must be placed within ¼ inch – ½ inch from the membrane edge. Plates shall not be placed less than ¼ inch from the membrane edge.

L. In the corner regions, additional fasteners shall be installed through the perimeter membrane to form a grid pattern, with an 8 inch wide manufacturer's reinforced membrane flashing strip welded over the additional fasteners.

M. Additional membrane attachment is required at the base of all walls and curbs – use of screws and plates or termination bar is acceptable. Refer to individual manufacturers guidelines for preferred attachment method.

N. Install fasteners so that the plate or termination bar is drawn down tightly to the membrane surface – no movement or wrinkling of the sheet is allowed. Install fasteners with no lean or tilt.

3.09 SEAM APPLICATION (TPO)

A. General

1. **Seaming area is to be absolutely clean and free of moisture traces, dust, dirt, or debris.**

2. All field seams must be installed in strict accordance with the manufacturer's requirements.

3. Any areas where the reinforced membrane edge has been cut shall be sealed with manufacturer's seam sealant.

B. Quality Control of Membrane Seams

1. All seams shall be checked for integrity with a blunt ended probe. Any openings or "fishmouths" shall be repaired with a hand held hot air tool fitted with a narrow nozzle tip with a roller.

2. Several times each day the seam welding machine shall be tested for proper calibration. Typically this will occur at the start of work and at a minimum after the mid-day break. A test seam will be welded for inspection by the onsite roof inspector. These test samples

will be numbered and marked with dates and times of the test weld.

3.10 FLASHINGS

A. General

1. All flashing must be in accordance with manufacturer's details and be 100% prelaminated tape backed, including prelaminated corners. Flashings are to extend a minimum of 6 inches onto the roof membrane and 8 inches up the vertical surface.

2 All surfaces to receive base flashing must be dry and smooth. In areas where a minimum of 75% adhesion of the base flashing to the substrate cannot be achieved, a suitable covering must be installed over the base substrate. Follow manufacturer's guidelines for membrane and adhesive product selection when complete removal of all asphalt residue from previous roof system cannot be achieved.

3. All parapet wall flashing membrane (including sloped portions) shall be fully adhered to the wall substrate following manufacturer's specification.

4. Intermittent fastening of the flashing membrane at parapet wall heights exceeding 3 feet must be figured if required by manufacturer.

B. ***Premolded flashing corners, pipe boots, and accessories must be used wherever practical.***

C. This Contractor shall be responsible for providing and installing all sheet metal counterflashing, coping metals, gutters, etc.

D Apply flexible flashings to seal membrane to vertical elements using manufacturer's standard peel and stick or heat welded flashings.

E Reinforced Flashing Membrane: Where conditions permit, flash penetrations and walls with reinforced flashing membrane.

F Uncured Flashing: Limit use of uncured flashing to overlay vertical seams as required at angle changes, to flash inside and outside corners, scuppers, and other penetrations or unusually shaped walls as approved by the manufacturer.

G. Seal flashings and flanges of items penetrating membrane.

H. Gas Pipe Supports and Isolation Pads: Inspect wood block pipe supports and replace as required and as shown on the drawings. Install new isolation pads at each pipe support.

I Walkway Pads: Layout pattern shall provide membrane protection at all service doors of the roof top equipment Secure pads to roofing membrane by weld or adhesive to prevent displacement in maximum anticipated design wind velocity. A lineal foot price for walk pads is available on the bid form for any additional walk pads to be determined at a later date.

3.11 PERIMETER MEMBRANE SECUREMENT

A. The membrane is to be secured at the roof perimeter, curbs, walls, all projections, and at changes in plane greater than 15 degrees.

B. Membrane securement shall consist of one of the following as approved by the manufacturer:

1. Manufacturer's termination bar – anchor every 12 inches to maintain constant compression.

2. Manufacturer's approved metal details

C. Membrane securement shall be in accordance with FM 1-29.

D. Base Tie-Ins: All base tie-ins that are required by the manufacturer's specifications shall be performed with the manufacturer's reinforced securement, strip method of perimeter securement with seam tape factory laminated.

3.12 FLASHING DETAILS

A. GENERAL

1. Flashing Details by Number as shown in the Detail Drawing Link and metal types and gauge are identified in the Estimator Assistant Link.

B. FLASHING DETAIL DRAWINGS

1. See Detail Drawing Link under the Project Links for each project.

3.13 WATER CUTOFFS AND WEATHER PROTECTION

A. Install water cut-offs at end of day's operation to seal insulation and edge of roof membrane from moisture entry. If inclement weather appears imminent during roofing application, cease operations and protect deck, insulation, flashings, penetrations, and membrane from moisture infiltration with water cutoffs. Insulation and roofing materials not so protected prior to inclement weather will be considered damaged and will be cause for rejection.

B Remove water cut-offs and other temporary weather protections prior to continuing roofing work. Remove materials that have been subject to moisture damage and return deck to a clean, dry condition before proceeding with roofing operations. Remove damaged materials from job site.

C The water cut-offs and weather protection shall not be considered a part of the final roof system

3.15 PROJECT CLOSE OUT

A. Project Completion

1. When the project is considered completed by the Roofing Contractor, the contractor will do the following:

a. Notify Cinemark Property Representative and Roofing Projects.com in writing that the Project is considered completed and that it has been inspected by the Material Manufacturer for warranty purposes. Letter shall list any punch list items generated by the Manufacturer's Inspection and that these items have been corrected to the Manufacturer's satisfaction.

b. Provide RoofingProjects.com with all inspection reports to include the Material Manufacturer's final inspection report.

c. Assure surfaces of new work and surrounding ground areas are clean and free of excess construction material and all debris.

B. Final Completion Inspection

1. When the Roofing Contractor, and Material Manufacturer have indicated that the project is complete then a final inspection with RoofingProjects.com, Cinemark Property Representative and the Roofing Contractor will take place.

2. All defects noted and non-compliances with the Specifications or the unfulfilled recommendations of the Material Manufacturer shall be itemized in a punch list. These items must be corrected immediately by the Applicator to the satisfaction of the Cinemark Property Representative and RoofingProjects.com. and the Material Manufacturer prior to demobilization.

C. Final Payment

1. The following documents shall be submitted to Roofingprojects.com and accepted prior to final payment being made:
    a. Manufacturer's final inspection report.
    b. Confirmation that any punch list items identified on the manufacturers and Roofingprojects.com final inspection reports have been resolved.
    c. Contractor and manufacturers warranties as referenced in this specification.
    d. Contractor release of liens indicating that all entities involved with the project have been paid in full including but not limited to labor, materials, fees, taxes, etc.

END OF SPECIFICATION