Questions concerning this specification should be directed to All Weather Insulated Panels Technical Services Department at 1-888-970-AWIP (2947).

SECTION 053123 – STEEL ROOF DECKING

SECTION 074116 – INSULATED METAL ROOF PANELS

SECTION 075422 – POLYVINYL-CHLORIDE (PVC) MEMBRANE ROOFING

SECTION 075423 – THERMOPLASTIC POLYOLEFIN (TPO) MEMBRANE ROOFING

1. GENERAL
   * + 1. Section INCLUDES [SELECT ONE OF THE FOLLOWING]
          1. TPO/PVC Adhered membrane roofing system to OneDek®
          2. TPO/PVC Mechanically fastened membrane roofing system to OneDek®
       2. RELATed SECTIONS
          1. Division 05 Section "Steel Decking" for OneDek® steel roof deck.
          2. Division 06 Section "Miscellaneous Rough Carpentry" for wood nailers, cants, curbs, and blocking [and for wood-based, structural-use roof deck panels].
          3. Division 07 Section "Sheet Metal Flashing and Trim" for metal roof penetration flashings, flashings, and counter flashings and “Thermal and Moisture Protection” for insulation
          4. Division 22 Section "Storm Drainage Piping Specialties" for roof drains.
       3. REFERENCES
          1. Roofing Terminology: Refer to the following publications for definitions of roofing work related terms in this Section:

ASTM D 1079 “Terminology Relating to Roofing and Waterproofing.”

Glossary of NRCA's "The NRCA Roofing and Waterproofing Manual."

Roof Consultants Institute “Glossary of Roofing Terms.”

Sheet Metal Terminology and Techniques: SMACNA “Architectural Sheet Metal Manual.”

* + - 1. DESIGN CRITERIA
         1. General: Installed roof deck panels shall be metal faced foam core sandwich panels utilizing InnovaCELL™ Technology produced on a continuous process manufacturing line under strict quality control. Installed white single-ply roofing membrane system shall remain watertight. Two step roof deck system shall be designed to resist specified wind uplift pressures with a deflection not to exceed L/240, thermally induced movement, and exposure to weather without failure.
         2. Material Compatibility: Roofing materials shall be compatible with OneDek® under conditions of service and application required, as demonstrated by roofing system manufacturer based on testing and field experience.
         3. Membrane, Decking and Metal Panel Performance

ANSI/FM 4474 – Static Wind Uplift Resistance

ASTM C518/C1363: Thermal Transmission

ASTM E1680: Air Infiltration

ASTM E1646: Water Penetration

ASTM E72: Structural Strength

ASTM E84: Flame Spread (Insulated Foam Core)

ASTM E108: Spread of Flame (Roof Covering)

ASTM D751: Standard Test Methods ASTM D5884: Tearing Strength

ASTM D573: Properties Over Oven Aging

ASTM D3884: Abrasion Resistance

ASTM D1149: Ozone Resistance (Cracking)

ASTM D471: Water Absorption

ASTM D1204: Elevated (High) Temperature Dimensional Stability

ASTM D2136: Low Temperature Bending Test

UL 790: Fire Test of Roof Coverings

FTM 101C Method 2031: Puncture Resistance

* + - * 1. Wind Uplift Performance: Roofing system shall be identical to systems that have been successfully tested by a qualified testing and inspecting agency to resist wind uplift pressure calculated in accordance with ASCE 7.
      1. SUBMITTALS
         1. Product Data: Manufacturer’s data sheets for each product to be provided.
         2. Detail Drawings: Provide roofing system plans, elevations, sections, details, and details of attachment to other Work, including:

Design Information

OneDek® Fastening schedule

Insulated metal roof deck, **[RD1] [RD1-M]** attachment to steel support

AWIP roof membrane attachment to insulated metal roof deck

Base flashings, cants, and membrane terminations.

Samples: Provide for each product specified.

* + - * 1. Installer Certificates: Signed by roofing system manufacturer certifying that Installer is approved, authorized, or licensed by manufacturer to install roofing system.
        2. Maintenance Data: Refer to AWIP’s latest published documents on www.awipanels.com.
        3. Warranty: Provide manufacturer’s current Warranty specimen.
      1. QUALITY ASSURANCE
         1. Installer Qualifications: Qualified firm that is approved, authorized, or licensed by roofing system manufacturer to install manufacturer's product and that is eligible to receive the specified manufacturer's Warranty.
         2. Manufacturer Qualifications: Qualified manufacturer that has tests and approvals for roofing system identical to that used for this Project.

Approved manufactured listed in this Section with minimum ten years experience in manufacturing of insulated metal panels.

Approved manufacturer certified to ISO 37301 (Compliance), ISO 9001 (Quality), ISO 14001 (Environmental), ISO 45001 (Occupational Health and Safety), IAS 473 (Cold Form Steel Components)

* + - * 1. Testing Agency Qualifications: An independent testing agency with the experience and capability to conduct the testing indicated, as documented according to ASTM E329, IAS Accreditation or equal.

Retain test report and moisture survey subparagraphs below for all re-roof and re-cover applications.

* + - * 1. Source Limitations: Obtain all components, including insulated metal roof deck panels, roofing membranes, fasteners, deck plates, edge metals used in the OneDek® system from a single source roofing manufacturer Warrantying the roofing system.
        2. Fire-Test-Response Characteristics: Provide roofing materials with the fire-test-response characteristics indicated as determined by testing identical products per test method below and as outlined in Part 2 as acceptable to authorities having jurisdiction. Materials shall be identified with appropriate markings of applicable testing and inspecting agency.

Exterior Fire-Test Exposure: Class  A; ASTM E 108 or UL 790, for application and roof slopes indicated.

* + - * 1. Substitutions: This specification is written with the OneDek® Assembly inclusive of Approved roof membrane, RD1 or RD1-M insulated roof deck with InnovaCELL™ Technology, and accessories required to install an Approved roof assembly as the basis of acceptable design, quality and performance.
      1. DELIVERY, STORAGE, AND HANDLING
         1. Deliver OneDek® system and roofing materials in original containers with seals unbroken and labeled with manufacturer's name, product brand name and type, date of manufacture, and directions for storage.
         2. Store liquid materials in their original undamaged containers in a clean, dry, protected location and within the temperature range required by roofing system manufacturer.
         3. Protect roof insulation materials from physical damage and from deterioration by sunlight, moisture, soiling, and other sources. Comply with insulation manufacturer's written instructions for handling, storing, and protecting during installation.
         4. Handle and store roofing materials and place equipment in a manner to avoid permanent deflection of deck.
      2. PROJECT CONDITIONS
         1. Weather Limitations: Proceed with installation only when current and forecasted weather conditions permit roofing system to be installed in accordance with manufacturer's written instructions and Warranty requirements.
      3. Warranty
         1. Provide manufacturer's OneDek® system Warranty equal to AWIP 's [No Dollar Limit Roofing System Warranty] [No Dollar Limit Roofing Edge to Edge System Warranty] [Material Only Warranty].

Retain options in subparagraph below based on those used on Project. Verify availability of manufacturer's total-system warranty and components included.

Single-Source roof Warranty includes OneDek®insulated roof panel system, roofing membrane, base flashings, roofing membrane accessories, edge metals, roof insulation, fasteners, walkway products and other single-source components of roofing system provided by the manufacturer.

Single-Source full building Warranty includes the above OneDek® single-source roof assembly, including edge metals and insulated metal wall panel assembly, as well as wall-to-roof transitions provided by manufacturer. Windows, penetrations, and openings are excluded from this warranty.

Insert correct Warranty term. Contact All Weather Insulated Panels Technical Department to verify.

Warranty Period: [**20**] [**25**] [**30**] years from date of Substantial Completion.

* + - * 1. Installer’s Warranty: Submit roofing Installer's Warranty, including all components of roofing system for the following Warranty period:

Warranty Period: [**Two**] Years from date of Substantial Completion.

* + - * 1. Existing Warranties: Warranties on existing building elements should not be affected by scope of work.

Installer is responsible for coordinating with building owner’s representative to verify compliance.

1. PRODUCTS

Specifier to select either PVC or TPO

* + - 1. *Manufacturer*

Basis of Design Manufacturer: All Weather Insulated Panels, 929 Aldridge Rd, Vacaville, CA 95688, Telephone: 888-970-AWIP, Email: sales@awipanels.com; Website: [www.awipanels.com](http://www.awipanels.com)

* + - 1. Performance requirements
         1. General: Provide insulated roof deck and roof membrane assembly meeting performance requirements as determined by specification
         2. Structural Performance: Provide insulated roof deck and roof membrane assembly capable of withstanding positive and negative loads and stresses.

Wind Loads: Determine wind loads based on applicable building code, wind speed, importance factor, risk category, exposure category and internal pressure coefficient.

Deflection Limits: Withstand inward and outward wind-load design pressures in accordance with applicable building code with maximum deflection of L/240 (exterior roof)

The insulated roof deck shall be tested to ASTM E1592 Structural Test or ASTM E72 Transverse Load Test

The insulated roof deck and roof membrane assembly shall be tested to FM 4474 Wind Uplift Test with a vacuum load to evaluate the attachment of the roof membrane assembly to the deck.

The panels, roof membrane, and full assembly shall be FM Approved as a Class 1 Roof Construction in accordance with FM 4470 and FM 4471.

The insulated roof deck system shall be tested to AISI S907 for determine shear strength and stiffness for steel diaphragms.

* + - * 1. Thermal Performance: Provide insulated roof deck assemblies meeting specified insulation value as determined by ASTM C518 steady state thermal transmission

Nominal R-value of 8.0 [hr·ft2·°F/Btu] per inch thickness at 75°F mean temperature and 8.5 [hr·ft2·°F/Btu] per inch at 35°F mean temperature.

Nominal K-factor of 0.125 [Btu/hr·ft2·°F] per inch thickness at 75°F mean temperature and 0.117 [Btu/hr·ft2·°F] per inch at 35°F mean temperature

* + - * 1. Fire Performance Characteristics: Provide metal panel systems with the following fire-test characteristics determined by applicable test standard

Exterior Fire Exposure / Spread of Flame: The insulated roof deck and roof membrane assembly shall be tested per ASTM E108 or UL 790 for application and roof slope. The assembly shall meet a Class A rating

ASTM E108 or UL 790 testing shall include the exact build of the insulated roof deck, roof membrane, tapered insulation, adhesives, and mechanical fasteners in the test.

A listing for Class A certification is required.

Surface-Burning Characteristics: The insulated roof deck foam core shall be tested per ASTM E84. The core shall have:

Flame Spread Index: 25 or less

Smoke Developed Index: 450 or less

Room Test: Provide insulated roof deck systems with testing for interior room fire growth.

The insulated roof deck system shall be tested and approved to NFPA 286 or UL 1715 for interior room fire growth.

The insulated roof deck system shall have a FM Approvals Class 1 rating for interior finish / roof / ceiling construction in accordance to the full scale FM 4880 test program.

Smoke Sensitive Structures: The panels shall be FM Approved as a Class 1 Interior Wall and Ceiling Materials or Systems for Smoke Sensitive Occupancies as tested in accordance with FM 4882

IBC Chapter 26: Insulated roof deck systems meeting the above test methods shall meet the requirements of the International Building Code on Foam Plastics.

* + - 1. *THERMOPLASTIC POLYOLEFIN ROOFING MEMBRANE - TPO*

*Retain this Article if fabric-reinforced thermoplastic polyolefin sheet is required.*

* + - * 1. *Fabric-Reinforced Thermoplastic Polyolefin Sheet: ASTM D 6878, uniform, flexible sheet formed from a thermoplastic polyolefin, internally fabric or scrim reinforced. Basis of Design:* ***AWIP OneDek® TPO***

*Select one thickness in subparagraph below. Not all Warranty terms are available for all products, coordinate with AWIP Technical Department*

***Membrane Thickness****:* ***[60 mil], [80 mil]*** *nominal*

*Exposed Face Color:* ***[White]***

* + - 1. *POLYVINYL-CHLORIDE ROOFING MEMBRANE - PVC*

*Retain this Article if fabric-reinforced thermoplastic polyolefin sheet is required.*

*Retain this Article if fabric-reinforced PVC sheet is required*

* + - * 1. *PVC Sheet: ASTM D 4434, Type III, fabric reinforced that contains KEE (Elvaloy) to reduce plasticizer migration. Basis of Design:* ***[AWIP OneDek® PVC]***

*Thickness* ***[[60 mil], [80 mil]****), nominal]*

*Exposed Face Color:* ***[White]***

* + - 1. ROOFING MEMBRANE INSTALLATION
         1. Mechanically Attached – the system shall be fastened securely to the roof deck using approved fasteners and plates with frequency to meet wind uplift requirements
         2. Fully Adhered – the system shall be adhered to the substrate using approved adhesives, ensuring full coverage and uniform bonding
      2. AUXILIARY Roofing Materials – Single Ply
         1. General: Auxiliary materials recommended by roofing system manufacturer for intended use and compatible with membrane roofing.

Select VOC compliant or NO VOC application below. Coordinate accessories selection with membrane and application.

Liquid-type auxiliary materials shall meet VOC limits of authorities having jurisdiction.

Retain one of two paragraphs below depending on type of roofing membrane selected.

* + - * 1. Sheet Flashing:  Manufacturer's internally reinforced or scrim reinforced, smooth backed membrane with same thickness and color as sheet membrane.

Select applicable bonding adhesive below. Coordinate with AWIP Technical Department for selection of "Bonding Adhesive" Paragraph in Part 3 "Adhered Roofing Membrane Installation" Article. Coordinate proper adhesive for flashing applications with AWIP’s Technical Department

* + - * 1. Bonding Adhesive: Manufacturer's standard solvent**-based** bonding adhesive for membrane, and solvent-based bonding adhesive for base flashings. Basis of Design: [OneDek® PVC or TPO Bonding Adhesive]
        2. Metal Termination Bars: Predrilled stainless-steel or aluminum bars, with anchors installed per manufacturer’s instructions.
        3. Fasteners required for all applications. Retain fasteners appropriate for application and change of plane terminations.
        4. Fasteners: Factory-coated steel fasteners and metal or plastic plates meeting corrosion-resistance provisions, designed for fastening membrane to substrate, and acceptable to membrane roofing system manufacturer. Basis of Design: [OneDek® Fastening System]

Edit as required.

* + - * 1. Miscellaneous Accessories: Provide pourable sealers, preformed cone and vent sheet flashings, preformed inside and outside corner sheet flashings, T-joint covers, cover strips, and other accessories.
      1. AUXILIARY ROOFING System Components

Retain subparagraph below if expansion joints are required.

* + - * 1. Expansion Joints: Provide factory fabricated weatherproof, exterior covers for expansion joint openings consisting of flexible rubber membrane, supported by a closed cell foam to form flexible bellows, with two metal flanges, adhesively and mechanically combined to the bellows by a bifurcation process. Provide product manufactured and marketed by single-source membrane supplier that is included in the No Dollar Limit Warranty. Basis of Design: [OneDek® Assembly]
        2. Coping System: Manufacturer’s factory fabricated coping system. Provide product manufactured and marketed by single-source membrane supplier that is included in the No Dollar Limit Warranty. Basis of Design: [OneDek® Assembly]

Retain subparagraph below if fascias are required.

* + - * 1. Fascia System: Provide fabricated fascia system compatible with roofing system. Basis of Design: [OneDek® Assembly]
        2. Metal Edge System: Provide fabricated metal edge system used to terminate the roof at the perimeter of the structure. Provide product manufactured or accepted by membrane supplier that is included in the No Dollar Limit Warranty.  Basis of Design: [OneDek® Assembly]
        3. Metal Flashing Sheet: Metal flashing sheet is specified in Division 07 Section "Sheet Metal Flashing and Trim."
      1. WALKWAYS
         1. Flexible Walkways: Factory-formed, nonporous, heavy-duty, slip-resisting, surface-textured walkway pads sourced from membrane roofing system manufacturer. Basis of Design: [OneDek® Assembly]
      2. ONEDEK® INSULATED ROOF DECK ASSEMBLY

Edit as required. Coordinate insulation selection and thicknesses indicated on Drawings with adjoining construction, AWIP Warranty requirements, as well as, HVAC design and energy program.

* + - * 1. General: Single component deck and insulation panel that comply with requirements and referenced steel deck standards, selected from manufacturer's standard sizes and of thicknesses indicated.
        2. OneDek® Insulated Roof Deck

The OneDek® Insulated Roof Deck system shall be certified through IAPMO Uniform Evaluation Services or equal and FM Approved.

Provide insulated roof deck with minimum R Value: [**insert R Value] [minimum required by applicable code].**

Provide insulated roof deck with minimum thickness: **[2’’, 2.5’’, 3’’, 4’’, 5’’,6’’, or 8’’]**

The panel thermal properties shall be verified by tested values in accordance with ASTM C518 and ASTM C1363.

The insulated metal roof panel shall be 40’’ wide with a roll-formed offset double tongue and groove side joint.

A minimum 3/8’’ diameter continues bead of approved non-skinning butyl gun grade sealant shall be allowed into the groove of the top side and liner side edge of the panel prior to engagement as shown on the panel shop/erection drawings. The butyl shall be factory-installed.

The through and/or hidden fasteners shall positively lock the face and liner sheet of the panels to the structural support and provide resistance to project design loads including wind, snow, and diaphragm shear as necessary. Where diaphragm is required, insulated roof deck system shall be installed in accordance with manufacturer’s diaphragm shear fastening patterns. Additional fasteners used to stitch the joint at face (exterior) side shall be used for diaphragm resistance. Fastener types and spacing shall be as shown on the panel shop/erection drawings

**Select One Insulated Roof Deck Fastening System**

**Concealed Clip Non-Diaphragm Fastening**

**40/5-12 Diaphragm Fastening**

**40/7-6 Diaphragm Fastening**

Substitutions for the insulated roof deck diaphragm shear assembly are not permitted without prior written approval of the Architect/Engineer and submission of equivalent full-scale test data.

**Select One Insulated Roof Deck:**

**[RD1-M shall be used for roofing membranes attached to the surface with bonding adhesives – fully attached. Exterior steel substrate thickness shall be min. 26 ga and interior steel substrate thickness shall be min. 26 ga.]**

**[RD1 shall be used for roofing membranes attached to the surface with mechanical fasteners – mechanically attached. Exterior steel substrate thickness shall be min. 22 ga and interior steel substrate thickness shall be min. 26 ga.]**

The panel exterior metal substrate shall be per RD1 or RD1-M thickness specifications above G90 Galvanized or AZ50 Galvalume steel coated with primer or equivalent as needed for project. The panel exterior shall be flat and smooth to accept the single ply membrane. The interior metal substrate shall be minimum 26ga G90 galvanized or AZ50 Galvalume steel coated with embossed polyester finish with a dry film thickness of 1.0 mil including primer. Interior color shall be Imperial White.

When diaphragm resistance is required by the insulated roof deck system (RD1 or RD1-M), steel gauges may be upgraded to meet project loads.

The panel’s ability to withstand positive and negative design loads shall be verified by testing in accord

The insulated metal roof deck shall have a separate roof membrane system provided by the roof deck manufacturer to act as the main air and water resistive barrier.

* + - * 1. Continuous Foam-in-Place Polyisocyanurate Core

The panels shall have a flame spread no less than 25 and a smoke developed rating no less than 450 in accordance to ASTM E84.

The polyisocyanurate foam core shall meet or exceed the following physical properties:

Compressive Strength (ASTM D1621): 17.5 PSI

Density, in-place (ASTM D1622): 2.00 – 2.50 PCF

Tensile Adhesion (ASTM D1623): 13.5 PSI

Tensile Strength (ASTM C297): 16 PSI

Dimensional Stability (ASTM D2126): 14 day aged < 0.5% change at -20 degree F, < 1.0% change at 158 degree F dry heat, < 1.0% change at 158 degree F humid heat

* + - * 1. Panels not meeting these testing and performance criteria are not permitted to be used for this exterior roof deck application.

“Best practice” to retain for all.

* + - 1. Tapered insulation

Retain paragraph below if tapered insulation is required.

* + - * 1. Tapered Insulation: ASTM C 1289, Type II, Class1, Grade [**2** (20 psi)] [**3** (25 psi)], provide factory-tapered insulation boards fabricated to slope of [1/4 inch per 12 inches (1:48)] <Insert slope>, unless otherwise indicated. Basis of Design: [OneDek® Assembly]
      1. INSULATION ACCESSORIES
         1. General: Roof insulation accessories recommended by insulation manufacturer for intended use and compatible with membrane roofing.
         2. Provide factory preformed saddles, crickets, tapered edge strips, and other insulation shapes where indicated for sloping to drain. Fabricate to slopes indicated. [Basis of Design: OneDek® Assembly]
         3. Fasteners: Factory-coated steel fasteners and metal or plastic plates meeting corrosion-resistance provisions, designed for fastening roof insulation to substrate, and furnished by roofing system manufacturer. [Basis of Design: OneDek® Assembly]
         4. Wood Nailer Strips: Comply with requirements in Division 06 Section **"**Miscellaneous Rough Carpentry**."**

1. EXECUTION
   * + 1. EXAMINATION
          1. Examine substrates, areas, and conditions for compliance with the requirements affecting performance of roofing system.

General:

Verify that roof openings and penetrations are in place and set and braced and that roof drains are securely clamped in place.

Verify that wood cants, blocking, curbs, and nailers are securely anchored to roof deck at penetrations and terminations and that nailers match thicknesses of insulation.

Joists & Purlins:

Verify that surface plane flatness and fastening of steel roof deck complies with requirements in Division 05 Section "Metals”

Ensure general rigidity and proper slope for drainage.

Verify that deck has no projecting fasteners and with no adjacent units in excess of 1/16 inch (1.6 mm) out of plane relative to adjoining deck.

* + - * 1. Unacceptable panels should be brought to the attention of the General Contractor and Project Owner’s Representative and must be corrected prior to installation of roofing system.

Retain for all.

* + - * 1. Proceed with installation only after unsatisfactory conditions have been corrected.
      1. PREPARATION
         1. Clean and remover from substrate sharp projections, dust, debris, moisture, and other substances detrimental to OneDek® installation to joists prior to beginning roofing installation in accordance with roofing system manufacturer's written instructions.
         2. Prevent materials from entering and clogging roof drains and conductors and from spilling or migrating onto surfaces of other construction.

Retain paragraph below if priming concrete deck before installing overlying roofing system.

Retain for all.

* + - * 1. Proceed with roof membrane installation only after unsatisfactory conditions have been corrected.
      1. ROOFING MEMBRANE INSTALLATION, GENERAL
         1. Install roofing membrane in accordance with roofing system manufacturer's written instructions, applicable recommendations of the roofing manufacturer and requirements in this Section.

Delete paragraph below if not a AWIP Warrantied project.

* + - * 1. Start installation of roofing membrane in presence of roofing system manufacturer's technical personnel.

Retain paragraph and subparagraph below if roof slope exceeds minimum permitted by roofing system manufacturer.

* + - * 1. Cooperate with testing and inspecting agencies engaged or required to perform services for installing roofing system.
        2. Coordinate installing roofing system so insulation and other components of the roofing membrane system not permanently exposed are not subjected to precipitation or left uncovered at the end of the workday or when rain is imminent.

Provide tie-offs at end of each day's work to cover exposed roofing membrane sheets and insulation with joints and edges sealed.

Complete terminations and base flashings and provide temporary seals to prevent water from entering completed sections of roofing system.

Remove and discard temporary seals before beginning work on adjoining roofing.

Retain for all.

* + - * 1. Proceed with installation only after unsatisfactory conditions have been corrected.
      1. ADHERED ROOFING MEMBRANE INSTALLATION

Retain this Article for adhered roofing membrane installations.

* + - * 1. Install roofing membrane over OneDek® area to receive roofing in accordance with membrane roofing system manufacturer's written instructions.

Unroll roofing membrane and allow to relax before installing.

Install sheet in accordance with roofing system manufacturer’s written instructions.

For PVC roofing membranes, retain subparagraph below with paragraph above. Delete below for thermoplastic polyolefins.

Delete first paragraph below if not applicable.

* + - * 1. Accurately align roofing membrane and maintain uniform side and end laps of minimum dimensions required by manufacturer. Stagger end laps.

Retain one of two subparagraphs below for adhering membrane to substrate. Retain first paragraph for solvent-based bonding adhesive, second for water-based bonding adhesive.

* + - * 1. Bonding Adhesive: Apply solvent-based bonding adhesive to substrate and underside of roofing membrane at rate required by manufacturer and allow to partially dry before installing roofing membrane. Do not apply bonding adhesive to splice area of roofing membrane.

Retain first paragraph below for tape-splicing roofing membrane seams.

* + - * 1. Seams: Clean seam areas, overlap roofing membrane, and hot-air weld side and end laps of roofing membrane according to manufacturer's written instructions to ensure a watertight seam installation.

Test lap edges with probe to verify seam weld continuity. Apply lap sealant to seal cut edges of roofing membrane.

Verify field strength of seams a minimum of twice daily and repair seam sample areas.

Remove and repair any unsatisfactory sections before proceeding with Work.

Repair tears, voids, and lapped seams in roofing membrane that do not meet requirements.

* + - * 1. Spread sealant or mastic bed over deck drain flange at deck drains and securely seal roofing membrane in place with clamping ring.

Retain below if tie-ins to existing roofing are required.

* + - * 1. Install roofing membrane and auxiliary materials to tie in to existing roofing.

Retain for all.

* + - * 1. Proceed with installation only after unsatisfactory conditions have been corrected.
      1. MECHANICALLY FASTENED ROOFING MEMBRANE INSTALLATION

Retain this Article for mechanically fastened roofing membrane installations.

* + - * 1. Install roofing membrane over OneDek® area to receive roofing in accordance with roofing system manufacturer's written instructions.

Unroll roofing membrane and allow to relax before installing.

Install sheet in accordance with roofing system manufacturer’s written instructions.

For PVC roofing membranes, retain subparagraph below with paragraph above. Delete below for thermoplastic polyolefins.

Delete first paragraph below if not applicable.

* + - * 1. Accurately align roofing membranes and maintain uniform side and end laps of minimum dimensions required by manufacturer. Stagger end laps.
        2. Mechanically fasten roofing membrane securely at terminations, penetrations, and perimeter of roofing.

Delete paragraph below if project is fastened to a monolithic deck.

* + - * 1. Always install membrane laps perpendicular to the length of insulated metal roof panel. “Picture Frame” installation method is not permitted.
        2. Apply roofing membrane with side laps shingled with slope of roof deck where possible.

Retain first paragraph below for tape-splicing roofing membrane seams.

* + - * 1. Seams: Clean seam areas, overlap roofing membrane, and hot-air weld side and end laps of roofing membrane according to manufacturer's written instructions to ensure a watertight seam installation.

Test lap edges with probe to verify seam weld continuity. Apply lap sealant to seal cut edges of roofing membrane.

Verify field strength of seams a minimum of twice daily and repair seam sample areas.

Remove and repair any unsatisfactory sections before proceeding with Work.

Repair tears, voids, and lapped seams in roofing membrane that do not meet requirements.

* + - * 1. Spread sealant or mastic bed over deck drain flange at deck drains and securely seal roofing membrane in place with clamping ring.

Select one of two methods of mechanical fastening described in two paragraphs below. In-splice attachment uses fasteners and plates and is much more common.

* + - * 1. In-Splice Attachment: Secure one edge of roofing membrane using fastening plates or metal battens centered within membrane splice and mechanically fasten roofing membrane to roof deck. Field-splice seam.

Retain below if tie-ins to existing roofing are required.

* + - * 1. Install roofing membrane and auxiliary materials to tie in to existing roofing.

Retain for all.

* + - * 1. Proceed with installation only after unsatisfactory conditions have been corrected.
      1. BASE FLASHING INSTALLATION
         1. Install sheet flashings and preformed flashing accessories and adhere to substrates according to membrane roofing system manufacturer's written instructions.
         2. Apply **solvent-based** bonding adhesive at required rate and allow to partially dry. Do not apply bonding adhesive to seam area of flashing.
         3. Flash penetrations and field-formed inside and outside corners per manufacturer’s installation instructions.
         4. Clean seam areas and overlap and firmly roll sheet flashings into the adhesive. Weld side and end laps to ensure a watertight seam installation.
         5. Terminate and seal top of sheet flashings and mechanically anchor to substrate through termination bars.

Retain for all.

* + - * 1. Proceed with installation only after unsatisfactory conditions have been corrected.
      1. WALKWAY INSTALLATION

Retain this Article if walkways set directly on roofing membrane are required.

* + - * 1. Flexible Walkways: Install walkway products in locations indicated. Heat-weld walkway products to substrate according to roofing system manufacturer's written instructions.
        2. Roof-Paver Walkways: Install walkway roof pavers over protecting surfacing not roof membrane according to manufacturer's written instructions in locations indicated, to form walkways. Leave 3 inches (75 mm) of space between adjacent roof pavers.

Retain for all.

* + - * 1. Proceed with installation only after unsatisfactory conditions have been corrected.
      1. FIELD QUALITY CONTROL

Retain if required.

* + - * 1. Testing Agency: Owner will engage a qualified independent testing and inspecting agency to perform roof tests and inspections and to prepare test reports.

A roof inspection is required by All Weather Insulated Panels before issuance of Warranty.

* + - * 1. Final Roof Inspection: Arrange for roofing system manufacturer's representative) to inspect roofing installation on completion and submit report to Architect.

Retain subparagraph below if Architect or Owner wants to be present during manufacturer's final inspection.

Notify Architect or Owner 48 hours in advance of date and time of inspection.

* + - * 1. Repair or remove and replace components of roofing system where test results or inspections indicate that they do not comply with specified requirements.
        2. Additional testing and inspecting, at Contractor's expense, will be performed to determine compliance of replaced or additional work with specified requirements.
      1. PROTECTION AND CLEANING
         1. Protect roofing system from damage and wear during remainder of construction period.
         2. Correct deficiencies in or remove roofing system that does not comply with requirements, repair substrates, and repair or reinstall roofing system to a condition free of damage and deterioration at time of Substantial Completion and according to warranty requirements.
         3. Clean overspray and spillage from adjacent construction using cleaning agents and procedures recommended by manufacturer of affected construction.

END OF SECTION

Qr code

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