

HOT RUBBERIZED ASPHALT (HR) FLUID APPLIED WATERPROOFING

MATERIALS

1. Pli-Dek Hot Rubber (HR)
2. PD-2014 Reemay Fabric
3. PD Neoprene Flashing
4. Separation Sheet
5. Protection Board
6. PD Drain Board
7. Asphalt Primer

TOOLS

1. Melter
2. Stiff Broom
3. Gas Blower
4. Safety Equipment (Helmet, Mask, Goggles, Gloves, etc.)
5. Spike Shoes
6. Extension Cord
7. Level
8. Pencil
9. Utility Knife
10. Scissors
11. Masking Tape
12. Drop Cloth
13. Stainless Steel Trowel
14. Margin Trowel
15. Small Paint Brush
16. Paint Roller (3/4" nap)
17. Extension Roller Handle
18. Squeegee

I. Substrate Inspection/ Preparation

A. GENERAL

1. This document is to establish uniform procedures for installing Pli-Dek Fluid Applied Waterproofing Membrane – Hot Rubberized Asphalt (HR).
2. Consult with Pli-Dek Systems, Inc. if modifications to this Application Instruction are required to adjust to job-site conditions.
3. All inspections, as required by local building authorities, shall be the responsibility of the contractor, owner, and/or their agent.
4. Pli-Dek materials must be applied over sound dry substrates.
5. Surfaces shall be properly prepared with bug holes, holidays and damaged surfaces prepared to a smooth solid substrate.
6. All surfaces must be sloped a minimum of 1/4" per foot (6.4mm/.3m).
7. Maximum deflection of a deck surface shall be less than L/360th of the span.

B. TRADITIONAL CONCRETE SUBSTRATES

1. Concrete surfaces to receive waterproofing membrane are required to be a minimum of 2500 psi.

2. The concrete surface must be cured for 28 days and dry to receive the Pli-Dek Waterproofing System.
 - a) A mat test may be performed to insure the moisture content of the concrete surface.
 - b) Steel pan decks will require additional cure time and mat testing to verify the moisture content of the concrete surface.
3. The concrete surface requires a proper profile to receive the waterproofing membrane. A steel trowel followed by a Light Broom or equivalent finish is recommended. Surfaces which are steel troweled require scarification or bead blasting to provide the proper profile.
4. Concrete surfaces shall be free of voids, exposed aggregate, honey combs, holidays, ridges or depressions, and projections which preclude a smooth sloped surface.
5. All reinforcement including cut-off rebar shall be covered with a minimum of 1/4" (20mm) of epoxy or approved repair mortar.
6. Concrete to receive waterproofing shall be water cured and free of curing compound contaminants. No silicone curing compounds may be used.
7. All penetrations shall be solidly grouted or epoxied in place to prevent movement in the penetration. No flexible or corrugated pipe shall be used for through slab penetration. All copper piping shall be sleeved through the concrete penetration. Penetrations require a minimum of 1 1/2" of spacing between multiple penetrations.
8. Any variation from the specifications mentioned in this section, requires written approval and system recommendations from Pli-Dek Systems, Inc.
9. Expansion Joint installation; contact Pli-Dek Systems, Inc.

C. PLYWOOD

1. Plywood shall be a minimum of 3/4" (20mm) exterior grade, and have a maximum span between supports 16" O.C. (410mm). All plywood shall be securely fastened to the supports with screws or ring shank nails spaced in accordance with APA guidelines and Building Code requirements.
2. Framing or blocking must support all plywood edges, except as per APA guidelines; blocking is not required when tongue and grooved plywood is utilized.
3. The plywood surface shall be clean, dry, and free of dirt, dust, oil, petroleum products, paint and any other contaminants that may impair adhesion.
4. All plywood seams shall be staggered and gapped 1/8" (3.2mm). All seams shall be properly detailed prior to the installation of the field membrane.
 - a) Note: If the plywood is butted tightly, the seams shall be saw cut to provide a 1/8" (3.2mm) gap between sheets, except tongue and grooved. Ensure that the tongue and groove section of the

plywood is installed so as to allow for expansion

5. All adjacent edges of the plywood sheets shall not be more than 1/32" (0.78mm) out of plane (i.e. above or below adjacent sheet).
6. Plywood should be installed with a ¼" (6.4mm/.3m) per linear foot slope to drain. Decks with parapet enclosures must be sloped to a drain or scupper.
7. Any variation from the framing specifications mentioned in this section, require written approval and system recommendations from Pli-Dek Systems, Inc

D. CONCRETE MASONRY UNITS (CMU)

1. All CMU (Concrete Block) work requiring waterproofing requires a cementitious coating approved by Pli-Dek Systems, Inc. Contact Pli-Dek for additional information.

E. RETROFIT.TEAR-OFF APPLICATION

1. Asphalt, coal tar pitch or other existing membrane shall be removed. CONTACT Pli-Dek Systems, Inc. to review existing conditions for site specific requirements.

F. SUBSTRATE CLEANING

1. Thoroughly sweep the substrate which is to receive the waterproofing membrane.
2. Substrate shall also be blown clean using an air compressor to remove any remaining loose debris.
3. Adhesion Testing is recommended to provide final check to determine if concrete has been properly cleaned by installing a test patch of PMA to the surface and check its adhesion.

II. Surface Conditioner Application (to concrete)

1. Apply the Asphalt Primer to the concrete using a roller or hand-held sprayer evenly at a rate of 300 to 600 SF/gallon (7.4 - 14.7 m²/L) depending on surface texture. Surface conditioner shall "tan" the surface, not blacken it.
2. Allow sufficient time for the surface conditioner to thoroughly dry prior to the membrane application.

III. Membrane Preparation

1. The membrane shall be heated in double jacketed, oil bath or air jacketed melter with mechanical agitation, specifically designed for the preparation of a rubberized asphalt membrane.
2. Heat membrane until membrane can be drawn-free flowing at a temperature range between 350°F (176°C) and 400°F (204°C).

IV. Detailing

1. Sloping of the structural deck surface at ¼" per foot (6.4mm/.3m) or per local Building Code requirements.

2. All surfaces to receive HR require primer to insure adhesion to the substrate. Asphalt Primer shall be installed at a rate of 200 square feet per gallon by roller or sprayer.
3. Shrinkage cracks shall be treated with a pre-treat coat of Pli-Dek Waterproofing Membrane – HR (60 mil).
4. Moving construction or structural cracks greater than 1/8" (1.5mm) shall be routed out and sealant (polyurethane/ASTM C 920) installed prior to installing a pre-treat coat of Pli-Dek Waterproofing Membrane.
5. At all horizontal / vertical junctures and projections a (cant) of 3"x 3" with HR at a rate of 90 mil and PD-2014 Reemay Fabric embedded into the HR.
 - a. Alternate method at all horizontal / vertical junctures and projections a (cant) of 3"x3" with HR at a rate of 90 mil and PD Neoprene Flashing embedded into the HR.
6. At expansion joints, contact Pli-Dek Systems, Inc. for specific job-site condition recommendations.
7. All metal and plastic surfaces of pre-treat or sealant preparations shall be wiped clean with Xylene prior to the application of the field membrane.

V. Application

A. PRIMER

1. All surfaces to receive HR require primer to insure adhesion to the substrate. Asphalt Primer shall be installed at a rate of 200SF/gallon (7.4 – 14.7 m²/L) depending on surface texture.

B. STANDARD APPLICATION

1. Horizontal Surfaces.
2. Pli-Dek Waterproofing Membrane – HR shall be installed by squeegee application at a rate of 1.4 lbs/215 mils wet film thickness (WFT).
3. PD Neoprene Flashing – shall be installed at all turn ups, penetrations and drains unless otherwise specified by Pli Dek Systems, Inc. Apply 90 mils of HR to areas which PD Neoprene Flashing will be applied. Embed PD Neoprene Flashing. Install the specified system on top of the horizontal leg of the PD Neoprene Flashing.
4. Application of the first coat of Pli-Dek Waterproofing Membrane – HR shall be installed by squeegee application at a rate of 90 mil wet film thickness (WFT).
5. Application of the PD-2014 Reemay Fabric into the wet HR shall have overlaps of 2" minimum and end laps of 4". Stagger all end overlaps. Immediately install the second coat of HR over the PD-2014 Reemay Fabric.
6. Application of the second coat of Pli-Dek Waterproofing Membrane – HR shall be installed by squeegee application at a rate of 125 mil wet film thickness (WFT) for a total thickness of 215 mil minimum wet film thickness (WFT).

C. SEPARATION SHEET

1. Separation Sheet shall be rolled onto hot applied rubberized asphalt membrane while still warm and tacky.
2. Lap protection course 2" on side laps and 6" on end laps.
3. Starting at the low points or drains lay the protection course membrane in full continuous sheets in a shingle pattern. Stager all end laps.

D. PROTECTION COURSE

1. Specified protection course is placed over properly cured Pli-Dek Hot Rubber.
 - a. Layout specified protection course over the cured Pli-Dek Hot Rubber with a minimum of 1½" side overlaps and 3" end laps.
 - b. Cut and fit the specified protection course around penetrations with a maximum of 1" variance from the penetration

E. DRAIN BOARD

1. PD Drain Board as specified may be placed over the specified protection board and/or properly cured Pli-Dek Hot Rubber.
 - a. Roll the specified PD Drain Board over the protection board (if specified) or over the cured Pli-Dek Hot Rubber.
 - b. Butt the side and roll ends together and overlap the filter fabric on to the adjacent roll to provide a continuous mat for separation of soils or overburden.
 - c. Cut and fit the PD Drain Board around penetrations with a maximum of 1" variance from the penetration.
2. On horizontal application, it is recommended tape is applied to seams to prevent debris from getting into the drainage system.

F. INSULATION

1. Insulation may be necessary in cold weather climate areas, if insulation is warranted, it shall be Styrofoam Brand (Type) as manufactured by the Dow Chemical Company.
 - a. Install the rigid insulation loose laid over the drainage composite layer to the specified thickness per project requirements. Firmly abutt each adjacent board without gaps between adjacent boards.
 - b. If multiple layers of insulation are required, then install the thicker layer on the bottom. Rotate the direction of each layer 90° and stager board seams. All layers of insulation must be unadhered to each other.
 - c. Cut insulation to fit close to all curbs, walls, drain boxes, protrusions, and other structural elements and obstructions as required.

G. FILTER FABRIC

1. Install Filter Fabric directly over the top insulation to minimize debris reaching the insulation.
 - a. Place the Filter Fabric over the insulation layer with all edges overlapped a minimum 12" (300mm) and a minimum of 6' between all overlaps. Keep overlaps a minimum of 6' from all perimeters. Secure filter fabric under any perimeter metal counter flashings.
 - b. Cut filter fabric around any drainage openings so to not restrict water flow to the drain. Cut filter fabric around any penetrations in such a manner as to prevent any stone ballast from entering between penetration and insulation.
 - c. Provide spot ballast (ie sand bags) as required to hold filter fabric in place prior to concrete slab topping installation. Remove spot ballast as concrete topping work proceeds.

H. DRAINAGE UNDER CONCRETE TOPPING SLAB

1. Install Drainage Course over insulation layer to provide an air/drainage layer between the insulation and the concrete topping slab. Abutt all drainage core edges and secure with plastic wire straps as required to maintain a continuous layer. Seal all edges by overlapping and then bonding extra fabric flap edges to adjacent drainage course fabric with a general construction adhesive to ensure integrity.
2. Cut drainage sheet to fit close to all perimeter, protrusions and obstructions.

I. TERMINATION BARS

1. Termination bars shall be continuous aluminum, stainless steel or galvanized metal, 1/8" x 1" in size and shall be pre-drilled for non-corrosive screw attachment on a maximum of 8" centers.

J. CLEAN UP

1. Uncured material can be removed with a solvent. Cured material can only be removed mechanically; care must be taken.

K. FLOOD TESTING

1. The Pli-Dek Fluid Applied Waterproofing Membrane shall be properly cured prior to water testing.
2. Flood Testing is recommended per ASTM D 5957 with 2" of water for a minimum of 24 hours.
3. As an alternative, Electronic Field Vector Mapping may be used.

L. LIMITATIONS

1. Application Temperatures: 40°F (4°C).
2. Cure times are dependent on environmental conditions, substrate temperature, air temperature, humidity, wind speed, etc. Care must be taken to

ensure that the product is applied in a uniform fashion; the products should not be allowed to puddle.

IV. Slip and Fall Precautions

OSHA, American Disabilities Act (ADA), and The Federal Housing Act (FHA) have now set enforceable standards for slip-resistance on pedestrian surfaces. Pli-Dek Systems, Inc. recommends the use of angular slip-resistant aggregate in all coatings or flooring systems that may be exposed to wet, oily/greasy, or otherwise potentially slippery conditions. It is the end user's responsibility to provide a flooring system that meets current safety standards. Pli-Dek Systems, Inc or its sales agents will not be responsible for injury incurred in a slip and fall accident. Please consult local building codes for the current coefficient of friction requirement.

Disclaimer

Information contained in this specification conforms to standard detail and product recommendations for the installation of the Pli-Dek products as of the date of publication of this document and is presented in good faith. Pli-Dek Systems, Inc. assumes no liability, expressed or implied, as to the architecture, engineering or workmanship of any project. To ensure that you are using the latest, most complete information, contact Pli-Dek Systems, Inc., at:

**41610 Date St, Suite 104
Murrieta, CA 92562
Tel.: (800) 364-0287
Website: www.plidek.com**

* The Trained Applicator indicates certain employees of the company have been instructed in the proper application of Pli-Dek products and have received copies of the Pli-Dek Application Instructions and Specifications. The Trained Contractor Program is not an apprenticeship. Each trained contractor is an independent company and bears responsibility for its own workmanship. Pli-Dek Systems Inc. assumes no liability for the workmanship of a trained contractor.