

COLD RUBBER SYSTEM

COLD-FLUID APPLIED ELASTOMERIC WATERPROOFING MEMBERANE

**MATERIALS**

1. Pli-Dek Cold Rubber (CR)
2. PD-2014 Reemay Fabric
3. Protection Course
4. PD Drain Board
5. Polyurethane Sealant
6. Closed Cell Backer Rod
7. Filter Fabric

TOOLS

1. Stiff Broom
2. Gas Blower
3. Extension Cord
4. Safety Equipment (Helmet, Mask, Goggles, Gloves, etc.)
5. Spike Shoes
6. Variable Speed Drill
7. Wind-lock B-M1 mixing blade or equivalent
8. Extension Cord
9. Level
10. Pencil
11. Scissors
12. Masking Tape
13. Drop Cloth
14. Stainless Steel Trowel
15. Margin Trowel
16. Small Paint Brush
17. Paint Roller (3/4" nap)
18. Extension Roller Handle
19. Smooth Squeegee

I. PURPOSE**A. General**

1. This document is to establish uniform procedures for installing Pli-Dek Cold Fluid Applied Waterproofing Membrane – CR.
2. Consult with Pli-Dek Systems, Inc. if modifications to this Application Instruction are required to adjust to job-site conditions.

II. SUBSTRATE INSPECTION/PREPARATION**A. General**

1. Pli-Dek materials must be applied over sound dry substrates.
2. Surfaces shall be properly prepared with bug holes, holidays and damaged surfaces prepared to a smooth solid substrate.
3. All surfaces must be sloped a minimum of 1/4" per foot (6.4mm/.3m).

4. Maximum deflection of a deck surface shall be less than L/360th of the span.

B. Concrete

1. Concrete surfaces to receive waterproofing membrane are required to be a minimum of 2500 psi.
2. The concrete surface must be cured 48 hours 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 contaminates. No silicone curing compound 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, require 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" (3.2 mm). 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" (3.2 mm) 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" (0.78 mm) out of plane (i.e. above or below adjacent sheet).
6. Plywood should be installed with a 1/4" (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.
 - a. All block work requires mortar joints to be struck smooth.

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.

III. 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 CR to the surface and check its adhesion.

IV. MEMBRANE PREPARATION

1. The CR shall be kept warm, maintaining a minimum temperature of 40°F.
2. Mix the CR material with a paddle mixer on a low speed drill for a minimum of 5 minutes prior to installation of the membrane.

V. PRIMER

1. Primer is not required for the installation of CR.

VI. DETAILING

A. Concrete Substrate

1. Sloping of the structural deck surface at 1/4" per foot (6.4mm/.3m) or per local Building Code requirements.
2. Shrinkage cracks shall be treated with a pre-treat coat of Pli-Dek Waterproofing Membrane – CR (30 mil).
3. Moving construction or structural cracks greater than 1/8" (1.5 mm) shall be routed out and sealant (polyurethane/ASTM C 920) installed prior to installing a pre-treat coat of Pli-Dek Waterproofing Membrane.
4. At all horizontal / vertical junctures and projections a sealant fillet (cant) of 3/4" X 3/4" (polyurethane/ASTM C 920) shall be installed.
5. All pre-treat coats must cure a minimum of 12 hours prior to the application of the membrane.

B. Plywood Substrate

1. All metal surfaces of pre-treat or sealant preparations shall be wiped clean with Xylene prior to the application of the field membrane.
2. At plywood seams, metal flashing transitions and dissimilar transitions (excluding expansion joints) apply a detail strip 4-6" wide at 45 mils. Embed 4-6" strips of PD-2014 Reemay Fabric into membrane. Once detailing has been completed allow to cure and apply specified system over the detail areas.
3. All pre-treat coats must cure a minimum of 12 hours prior to the application of the membrane.

C. Expansion Joints

1. At expansion joints, contact Pli-Dek Systems, Inc. for specific job-site condition recommendations.

VII. MEMBRANE APPLICATION

A. Standard Application

1. Horizontal or Vertical Surfaces.
2. Pli-Dek Waterproofing Membrane – CR shall be installed by roller, trowel, or smooth squeegee application at a rate of 60 to 120 mil (25 square foot per gallon) wet film thickness (WFT).



B. High Build Application

1. Horizontal Surfaces
2. Application of the first coat of Pli-Dek Waterproofing Membrane – CR shall be installed by squeegee, or trowel application at a rate of 90 mil (18 square foot per gallon) wet film thickness (WFT).
3. Application of the PD-2014 Reemay Fabric into the wet CR shall have overlaps of 2" minimum and end laps of 4". Stagger all end overlaps. Allow the first coat and Reemay to set a minimum of 24 hours prior to the installation of additional coats of CR.
4. Application of the second coat of Pli-Dek Waterproofing Membrane – CR shall be installed by smooth squeegee application at a rate of 90 mil (18 square foot per gallon) for a total thickness of 120 mil minimum wet film thickness (WFT).

C. Protection Course / Drainage Composite

1. Specified protection course is placed over properly cured Pli-Dek Waterproofing Membrane – CR.
 - a. Layout specified protection course over the cured CR 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.
2. PD Drain Board as specified may be placed over the specified protection board and/or properly cured Pli-Dek Waterproofing Membrane – CR.
 - a. Roll the specified PD Drain Board over the protection board (if specified) or over the cured CR.
 - 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.

- d. On horizontal applications it is recommended tape is applied to seams to prevent debris from getting into the drainage system.

D. Limitations

1. Application Temperatures: 40°F (4°C).
2. Cure time are dependent on environmental conditions: substrate temperature, air temperature, humidity, wind speed, etc.

E. Flood Testing

1. The Pli-Dek Waterproofing Membrane – CR 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.

Disclaimer

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* 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.

