

## I. Substrate Inspection/ Preparation:

### A. General

1. This document is to establish uniform procedures for installing Pli-Dek Cold Fluid Applied Waterproofing Membrane – Pli-Dek Cold Rubber.
2. Contact Pli-Dek if modifications to this Application Instruction are required to adjust to job-site conditions.
3. All building permits are required by local authorities shall be produced by contractor, owner, and/or their agent.
4. All inspections, as required by local building authorities, shall be the responsibility of the contractor, owner, and/or their agent.
5. Verify all necessary tools and PPE according to the various SDS Sheets are on the job site.
6. Pli-Dek materials must be installed over sound, dry substrates.
7. Surfaces shall be properly prepared with bug holes, holidays and damage surfaces prepared to a smooth solid substrate.
8. All surfaces must be sloped a minimum of 1/8" per foot.
9. The Pli-Dek Cold Rubber Horizontal and Vertical is *not* UV Stable and must be covered with an overburden. In those cases where there might be UV exposure, the Pli-Dek Cold Rubber UV can be used, contact Pli-Dek for additional recommendations.

### 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 to receive the Pli-Dek Cold Rubber.
3. The concrete surface requires a proper profile to receive the Pli-Dek Cold Rubber. A light broom finish or equivalent is recommended. Surfaces which are steel troweled require scarification or bead blasting to provide the proper profile of CPS-2.
4. Concrete surfaces shall be free of voids, exposed aggregate, honeycombs, 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 ¼" (20mm) of epoxy or approved repair mortar. Contact Pli-Dek for additional information.
6. Concrete to receive the Pli-Dek Cold Rubber 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 ½ "of spacing between multiple penetrations.

8. Any variation from the specifications mentioned in this section, require written approval and system recommendations from Pli-Dek.
9. For expansion joint installation; contact Pli-Dek. All sheet metal flashing is to be installed per specification.
10. The builder must give assurance that concrete has been installed according to the International Building Code (IBC) standards and requirements. The Pli-Dek technicians, and/or Pli-Dek LLC will not be responsible for any deficiencies in the existing concrete substrate.
11. Some conditions over concrete will require the application of Pli-Dek Cold Rubber Primer prior to the installation of the Cold Rubber Waterproofing Membrane, contact Pli-Dek for additional information.

### C. Plywood

1. Plywood shall be a minimum of  $\frac{3}{4}$ " (20mm) exposure 1 sheathing and any approved fire rated assembly. 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 edged, 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 contaminates that may impair adhesion.
4. All adjacent edges of the plywood sheets shall not be more than  $\frac{1}{32}$ " (0.78 mm) out of plane (i.e., above or below adjacent sheet).
5. Plywood should be installed with a  $\frac{1}{4}$ " (6.4 mm/.3mm) per linear foot slope to drain. Decks with parapet enclosures must be sloped to a drain or scupper.
6. Any variation from the framing specifications mentioned in this section require written approval and system recommendations from Pli-Dek.

### D. Concrete Masonry Units (CMU)

1. All CMU (concrete block) work requiring waterproofing requires a cementitious coating approved by Pli-Dek.
  - a) All mortar joints are required to be filled with a cementitious coating approved by Pli-Dek.

### E. Retrofit/Tear-Off Application

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

## II. Substrate Cleaning

- A. Thoroughly sweep the substrate which is to receive the waterproofing membrane.
- B. Substrate shall also be blown clean using an air compressor to remove any remaining loose debris.

- C. Adhesion Testing is recommended to provide final check to determine if concrete has been properly cleaned by installing a test patch of the Pli-Dek Cold Rubber to the surface and check its adhesion.

### III. Membrane Preparation:

- A. The Cold rubber High Build shall be kept warm, maintaining a minimum temperature of 40°F.
- B. Before application, mix the Cold Rubber material with water (water must be added) at a ratio of one quart of water to five gallons of Pli-Dek Cold Rubber. This will yield 5.25 gallons of membrane. The mixing ratio is 20 parts Pli-Dek Cold Rubber membrane to 1 part water (20:1).
  - 1. The cold Rubber should be thoroughly mixed using a mechanical mixer at slow speed to ensure a homogeneous material. Do not mix in an up and down motion, or with a blade that bring air into the mixture.

### IV. Detailing

- A. Concrete Substrate:
  - 1. Sloping of the structural deck surface at 1/8" per foot, or per local Building Code requirements.
  - 2. Shrinkage cracks shall be treated with a pre-treat coat of Pli-Dek Cold Rubber (30 mils) Embed 4-6" strips of PD-2014 Reemay Fabric into the wet Pli-Dek Cold Rubber. Once the detailing has been completed, allow to cure and apply specified system over the detailed area.
  - 3. Moving construction or structural cracks greater than 1/16" (1.5 mm) shall be routed out and APOC AP-1 sealant installed prior to the installation of the Pli-Dek Cold Rubber.
  - 4. At all horizontal/vertical junctures and projections, a sealant fillet (cant) of 3/4" x 3/4" of APOC AP-1 sealant shall be installed.
  - 5. Caulking must cure a minimum of 12 hours prior to the application of the Pli-Dek Cold Rubber.
- B. Plywood Substrate:
  - 1. All sheet metal shall be wiped clean with Vinegar or Acetone, prior to the application of the Pli-Dek Cold Rubber.
  - 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 the Pli-Dek Cold Rubber. Once detailing has been completed allow to cure and apply specified system over the detail areas.
  - 3. All detail coats must cure a minimum of 2-4 hours prior to the application of the membrane.
- C. Expansion Joints
  - 1. Contact Pli-Dek for specific job-site condition requirements for expansion joints.

## V. Membrane Application:

### A. Standard Application: Horizontal or Vertical Surfaces Concrete Overburden:

1. Pli-Dek Cold Rubber shall be installed by roller, trowel, or smooth squeegee application at a rate of 60 to 120mils (25 square foot per gallon @ 60 mils) wet film thickness (WFT). Allow the Pli-Dek Cold Rubber to cure a minimum of 2-4 hours before proceeding to subsequent coats. Cure time will vary depending on temperature and humidity.
  - a) If more than 48 hours pass between coats, the surface **must be** primed with the Pli-Dek Cold Rubber Primer.
  - b) Contact Pli-Dek for additional information when installing at a thickness above 90 mils in a single pass.
2. Protection Course/Drainage Composite:
  - a) APOC Protection panel (AP-5520 1/8", AP-5620 1/4", or AP-5720 3/8"), as specified shall be placed over properly cured Pli-Dek Cold Rubber.
  - b) Layout APOC Protection Panel at specified thickness over the cured Pli-Dek Cold Rubber with a minimum of 1 1/2" side overlaps and 3" end laps.
  - c) Cut and fit the specified protection panel around penetrations with a maximum of 1" variance from the penetration.
3. PD Drain Board as specified maybe placed over the specified protection course and/or properly cured Pli-Dek Cold Rubber.
  - a) Roll the specified PD Drain Board over the protection board (if specified) or over the cured Cold 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.
  - d) On horizontal applications, it is recommended that tape is applied to the seams to prevent debris from getting into the drainage system.

### B. Standard Application: Horizontal or Vertical Surfaces Tile Overburden:

1. Pli-Dek Cold Rubber Horizontal shall be installed by roller, trowel, or smooth squeegee application at 45 mils wet film thickness. Apply Cold Rubber Vertical at 45 mils wet film thickness (WFT) a minimum of 6" up the vertical surface.
  - a) Embed 4-6" strips of PD-2014 Reemay Fabric into wet the Pli-Dek Cold Rubber. Turn the PD-2014 Reemay fabric up the vertical surface a minimum of 6".
  - b) Allow the Pli-Dek Cold Rubber Horizontal and Vertical to cure a minimum of 2-4 hours and apply another coat of Pli-Dek Cold Rubber Horizontal and Vertical at 45 mils wet film thickness (WFT) on the corresponding surfaces.
  - c) Cure time will vary depending on temperature and humidity.

2. (Optional per Tile Installer) Apply a 10 mils wet film thickness (WFT) of Cold Rubber Horizontal and broadcast 16 grit sand into the wet Cold Rubber Horizontal prior to the application of the tile thin set or mortar.

**C. Limitations:**

1. Application Temperature: above 40° F and below 110° F.
2. Cure times are dependent on environmental conditions such as substrate temperature(s), air temperature, humidity, wind speed, etc.

**D. Flood Testing:**

1. The Pli-Dek Cold Rubber 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.

## VI. 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 LLC 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 LLC 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 LLC, at:



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\* The Trained Applicator Certificate 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 LLC assumes no liability for the workmanship of a trained contractor.