



**ICC-ES ESR-2097 SYSTEM  
APPLICATION INSTRUCTIONS**

---

## **MATERIALS**

1. 2.5 Hot Dipped lbs/sq yd Galvanized Metal Lath
2. Corrosion-resistant staples
3. Pli-Dek Seam Paper
4. GU80-1 Base Coat Powder (gray)
5. GU80-1 Top Coat Powder
6. GU80-1 Custom Top Coat
7. GU80-1 Liquid Admixture
8. GS88-1 Pigmented Sealer
9. Fiberglass Mat
10. PD Resin
11. GS99-1 Clear Sealer

## **TOOLS**

1. Variable Speed Drill (capable of producing 1000 RPM's)
2. Wind-lock B-M1 mixing blade or equivalent
3. Extension Cord
4. Clean 5 Gallon Plastic Containers
5. Measuring Bucket (1 gal, 2 gal, etc.)
6. Hand Grinding Stone
7. Level
8. Pencil
9. Utility Knife
10. Scissors
11. Masking Tape
12. 4" x 22" Pool Trowel
13. Stainless Steel Trowel
14. Margin Trowel
15. Small Paint Brushes
16. Paint Roller (3/4" nap)
17. Extension Handle
18. Hopper Gun
19. Compressor (1-1/2 horsepower, electric or better)
20. Air Hose
21. Semi-stiff Broom
22. Dust Mask
23. Goggles
24. Rubber or Cloth Gloves
25. Metal Spiked Golf Shoes
26. Tin Snips
27. Hammer
28. Pneumatic Staple Gun
29. Hudson or Chapin Sprayer

## **I. SUBSTRATE INSPECTION/PREPARATION**

### **A. General**

1. Pli-Dek materials must be applied over sound dry Exterior grade plywood decks. \*\*Contact Pli-Dek Systems, Inc. for installation approvals over OSB substrates.
2. All plywood decks must be sloped 6.4mm/.3m (1/4") per linear foot.

3. Maximum deflection of the deck shall be less than L/360th of the span.

### **B. Plywood**

1. Plywood shall be a minimum of 16mm, 5/8" (3/4" recommended) exterior grade, and have a maximum span between supports of 410mm (16") on center. 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 groove plywood is used.
3. The plywood surface shall be clean, dry, and free of dirt, dust, oil, paint, or any other contaminants that may impair adhesion.
4. All plywood seams shall be staggered, and gapped 3.2mm (1/8"). All seams shall be covered with a maximum of 50mm (2") wide flashing paper tacked in place. NOTE: If plywood is butted tightly, the seams shall be saw cut to provide a 3.2mm (1/8") gap between sheets, except tongue and groove. 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 0.78mm (1/32") out of plane (i.e. above or below each other).
6. Plywood should be installed with a 6.4mm/.3m (1/4") per linear foot slope. Decks with parapet enclosures must be sloped to a drain or scupper.
7. Any variation from the framing specifications mentioned in section 1 require written approval and system recommendations from Pli-Dek Systems, Inc.

### **C. Flashing**

1. Flashing shall be minimum 26 gauge, galvanized, bonderized sheet metal. NOTE: If galvanized flashing is not bonderized, wipe clean with solvent to remove oils from the surface.
2. Openings shall be flashed before installation of doors and sliders. NOTE: If doors or sliders have been installed without proper flashing, we recommend they be removed and proper flashing installed. (See DETAIL 1.)

- 
3. All penetrations, including posts, or other objects that protrude through the deck shall be installed and flashed prior to applying the Pli-Dek materials. (See DETAILS 2 & 3.)
  4. All decks with a parapet surround require a scupper not less than 76mm (3") wide and 100mm (4") high, spaced a maximum of 3.65m (12 ft) apart. Any scuppers or overflows shall be installed and flashed prior to applying Pli-Dek materials. (See DETAIL 4.)
  5. All deck drains must be flanged and properly installed to a proper depth. NOTE: Brass drains with a sheet metal flange are recommended. (See DETAIL 5.)
  6. Gravel stops shall have a maximum ground dimension of 3/16" (See DETAIL 6.)
  7. All flashing must be attached to the substrate with galvanized ring shank nails minimum 25mm (1") length.
  8. All flashing shall overlap adjacent pieces, a minimum of 100mm (4"), and seams caulked with an elastomeric caulking compound. (See DETAIL 7.)
  9. Deck/Wall interfaces must be flashed. (See DETAIL 8.)
  10. All stairs must be flashed. (See DETAIL 9.)
  11. When copper flashing/drains are used, ensure that all galvanized metal; such as, nails, staples, lath, drains, etc. does not come into contact with copper (do not allow any dissimilar metals to come in contact with each other). The contact of the two dissimilar metals will create rust and corrosion (electrolysis). \*\*Contact Pli-Dek Systems, Inc. for additional details and recommendations.
  12. See Pli-Dek Details for further written instructions. (PD-150 Architectural Details) Contact Pli-Dek Systems for written approval on flashing details that vary or are not included in PD-150 Details.

#### **D. Sloping**

1. It's the General Contractor's, his representative's, or individual owner's responsibility to assure adequate drainage.
2. Pli-Dek Systems, Inc. requires a slope of 1/4" per linear foot.

3. If auxiliary slope is required, slope mix may be applied. (See Sloping Application Instructions PD-191 for complete details and limitations). When this type of sloping will not accommodate the problem, then drains become a necessity.
4. The alternatives available for proper drainage are the responsibility of the General Contractor. Contact Pli-Dek Systems, Inc. for complete details.
5. Pli-Dek and/or trained applicator will not be held responsible for ponding water or the effects resulting from sloping installation.

## **II - MIXING INSTRUCTIONS**

1. All Pli-Dek products should be stored in a cool dry place at the jobsite to avoid flash drying in the bucket.

### **A. Base Coat**

1. Pour 3.8L (1 gallon) of GU80-1 Liquid Admixture into a clean 19L (5 gallon) plastic container.
2. Add one 21kg (46lb.) bag of GU80-1 Base Coat (gray), and mix thoroughly for 3 to 4 minutes. Use a Wind-lock B-M1 mixing blade, or equivalent, powered by a 13mm (1/2") variable speed drill, capable of producing 1000 RPMs. TIP: In areas subject to extremely dry and/or hot climates, it may be necessary to add water (up to .47L [1 pint] per mix). To avoid flash drying, it may be necessary to chill the GU80-1 Liquid Admixture before mixing. A proper safety ventilation mask should be worn when working with all Pli-Dek products.

### **B. Screed Coat & Knockdown Texture Coating**

1. Pour 4.75L (1.25 gallon) of GU80-1 Liquid Admixture into a clean 19L (5 gallon) plastic container.
2. Add one 21kg (46lb.) bag of Top Coat and mix thoroughly for 3 to 4 minutes. Use a Wind-lock B-M1 mixing blade, or equivalent, powered by a 13mm (1/2") variable speed drill capable of producing 1000 RPMs. TIP: In areas subject to extremely dry and/or hot climates, it may be necessary to add water (up to .47L [1 pint] per mix). To avoid flash drying, it may be necessary to chill the GU80-1 Liquid Admixture, before mixing. A proper safety ventilation mask should be worn when working with all Pli-Dek Products.

- 
3. If colored cement is required, a Pli-Dek recommended tint pack may be added to the mix to achieve the desired color. Note: Ensure that all of the colorant is dispersed out of the container. *All mixes must be consistent (use the same mix ratios) to maintain color consistency.*

### C. Custom Top Coat

1. Pour 4.75L (1.25 gallon) of GU80-1 Liquid Admixture into a clean 19L (5 gallon) plastic container.
2. Add one 21kg (46lb.) bag of Custom Top Coat and mix thoroughly for 3 to 4 minutes. Use a Wind-lock B-M1 mixing blade, or equivalent, powered by a 13mm (1/2") variable speed drill capable of producing 1000 RPMs. TIP: In areas subject to extremely dry and/or hot climates, it may be necessary to add water (up to .47L [1 pint] per mix). To avoid flash drying, it may be necessary to chill the GU80-1 Liquid Admixture before mixing. A proper safety ventilation mask should be worn when working with all Pli-Dek products.
3. If colored cement is required, a Pli-Dek recommended tint pack may be added to the mix to achieve the desired color. Note: Ensure that all of the colorant is dispersed out of the container. *All mixes must be consistent (use the same mix ratios) to maintain color consistency.*

## III. - BASE & SCREED COAT

### A. General

1. Ensure that the exterior plywood surface has been prepared in accordance with Section I.
2. Ensure that all proper flashing is in place.
3. Air temperature for application of the Base Coat must be between 10°C (50°F) and 43°C (110°F) and must remain so for a minimum of 2 - 6 hours. **DO NOT APPLY IN INCLEMENT WEATHER.**

### B. Plywood Deck Preparation

1. Lay out 1.4kg/m<sup>2</sup> (2.5lb/yd<sup>2</sup>) galvanized expanded metal lath in a staggered pattern over the entire plywood surface overlapping the metal flashing to the edge of the deck surface.
2. Overlap all edges of metal lath, a minimum of 13mm (3/4").
3. Offset metal lath edges a minimum of 150mm (6") from plywood seams. (See DECK PLAN in Detail Appendix.)

4. Secure metal lath to plywood with a minimum 22mm (7/8 inch) crown by a minimum 16mm (5/8 inch) long corrosion resistant staples spaced approximately 1½" on center around the perimeter and on overlapped lath seams, and 75mm (3") in the field (approximately 12 staples per square foot).

5. Additional staples spaced every 1½" on center are required where the metal lath overlaps the seam paper, as installed in Section I.

### C. Base Coat Application

1. Mix the Base Coat as described in Section II.A
2. Pour the Base Coat over the metal lath and trowel, filling all voids at a rate of 25-30 square feet per mix. The metal lath must be completely covered in the Base Coat.
3. Allow the Base Coat to dry for a minimum of 6 hours prior to applying the next application. If the base coat does not cover the lath completely, a screed coat is required.

### D. Screed Coat Application:

1. Screed coat may not be necessary in all applications. Contact Pli-Dek Systems, Inc. for application recommendations.
2. Prior to the screed coat application, remove any high or rough edges using a hand grinding stone or scraper.
3. The deck must be free of all surface contaminants, such as dust, dirt, etc., which will impair the adhesion of the Pli-Dek Top Coat.
4. Mix the Top Coat as described in Section II.B
5. Trowel a screed coat over the base coat at a rate of 150 square feet per mix. Allow to dry for a minimum of 2 - 6 hours.

### E. Pli-Dek – F: Fiberglass & Resin

\*\*This application becomes required when job conditions may experience excessive movement. Examples: cantilevered decks, large spanning decks, etc. Contact Pli-Dek Systems, Inc. for written recommendations. Some geographic locations may require the Fiberglass and Resin Coating in ALL applications. Contact Pli-Dek for written verification.

1. Air temperature for application of the PD Resin and Fiberglass Coat must be between 10°C (50°F) and 43°C (110°F) and must remain so for a minimum of 24 hours.
2. Mix the PD Resin using a mechanical mixer at slow speed for approximately 1 minute.
3. The deck must be free of all surface contaminants, such as dust, dirt, etc. which will impair the adhesion of the PD Resin.
4. Lay out the .75 oz fiberglass mat over entire deck surface extending to all edges of the deck. Overlap mat seams a minimum of 1/4" to a maximum of 1/2".
5. Apply the PD Resin over fiberglass mat, at a rate of approximately 40-50 square feet per gallon with a trowel. Allow to completely dry, usually 6-8 hours depending on temperature. PD Resin must completely penetrate through the fiberglass mat.
6. After the PD Resin has cured, remove any loose areas, where fiberglass was not bonded, and reapply PD Resin and Fiberglass as needed before application of Finish Coat.
4. When the material begins to dry, knockdown the material with a trowel. TIP: In order to eliminate footprints, Pli-Dek suggests wearing metal spiked shoes (golf shoes) during this process.
5. Allow the Knockdown Coating to dry a minimum of 2-6 hours.
6. Remove any sharp edges by scraping the surface with a scraper or trowel. Ensure surface is free from dust and/or contaminants.
7. Apply a bead of Manufacturer recommended elastomeric joint sealant at all wall-to-deck junctions, wood posts, wrought iron posts, etc.
8. Air temperature for application of the GS88-1 Sealer must be between 13°C (55°F) and 43°C (110°F) and must be allowed to dry for a minimum of 8 hours.
9. The deck must be free of all surface contaminants, such as dust, dirt, etc., which will impair adhesion of the GS88-1 Sealer.
10. Mix the GS88-1 Sealer thoroughly by mixing with the use of a mechanical mixer. All containers should be boxed and stirred to ensure consistent coloring throughout.

#### **IV. - FINISH OPTIONS**

Prior to any finish coat installation the following must be completed:

1. Remove any high or rough areas using hand grinding stone or scraper. Rough areas will affect the aesthetic appearance of the finished product.
2. The deck must be free of all surface contaminants, such as dust, dirt, etc. which will impair the adhesion of the Pli-Dek material.  
**NOTE: DO NOT APPLY IN INCLEMENT WEATHER.**

##### **A. Pli-Dek– K: KNOCKDOWN TEXTURE FINISH**

1. Air temperature for application of the Knockdown Texture Coating mixture must be between 10°C (50°F) and 43°C (110°F) and must remain so for a minimum of 8 hours.
2. Mix the Top Coat as described in Section II.B
3. Using a hopper gun, spray the Knockdown Coating over the entire deck surface at a rate of 150-sq. ft. per mix. **CAUTION: AS WITH ANY SPRAY MATERIAL, BE CERTAIN TO PROTECT ALL SURROUNDING AREAS FROM OVER-SPRAY.**

##### **B. Pli-Dek –B: ELASTOMERIC SAND FINISH**

1. Air temperature for application of the PD Resin must be between 10°C (50°F), 43°C (110°F), and must remain so for a minimum of 8 hours. Do not apply over any moisture.
2. Apply a bead of Manufacturer's recommended elastomeric joint sealant at all wall-to-deck junctions, wood posts, wrought iron posts, etc.
3. Before application, mix PD Resin using a mechanical mixer at slow speeds; mix thoroughly until a homogenous mixture and color is obtained. Use care not to allow the entrapment of air into the mixture.

4. Apply PD Resin over the entire deck surface and flashing using a ¾" nap roller and a brush at a rate of 75 square feet per gallon. Do not allow PD Resin to puddle.
5. Broadcast aggregates of washed, dry, rounded, crystal silica sand, approximately 16 mesh at a rate of 100 lbs. per 100 sq. ft. or until refusal (depending on skid resistance requirements) into the wet/uncured PD Resin.
6. Allow a minimum of 8 hours before removing all excess silica sand.
7. Air temperature for application of the GS88-1 Sealer must be between 13°C (55°F) and 43°C (110°F) and must be allowed to dry for a minimum of 8 hours.
8. The deck must be free of all surface contaminants, such as dust, dirt, etc., which will impair adhesion of the GS88-1 Sealer.
9. Mix the GS88-1 Sealer thoroughly by boxing, stirring, or by using a mechanical mixer. Box and mix all containers to ensure consistent coloring throughout.
10. Apply the GS88-1 Sealer over the dry PD Resin and Sand Coat, using a ¾" nap paint roller, suitable for latex type coatings (2 coats may be necessary.) **NOTE: DO NOT APPLY IN INCLEMENT WEATHER.**
11. To make cleaning easier in high traffic areas, a coat of GS99-1 Clear Sealer may be applied over the dry GS88-1 Pigmented Sealer at a rate of 200 sq. ft per gallon. (Surface will become more slippery. Use of a non-skid agent is recommended)

#### **C. Pli-Dek – U: UNDERLAYMENT FOR TILE OR CONCRETE FINISH**

1. Air temperature for application of the PD Resin must be between 10°C (50°F), 43°C (110°F), and must remain so for a minimum of 8 hours. Do not apply over any moisture.
2. Apply a bead of manufacturer recommended elastomeric joint sealant at all wall-to-deck junctions, wood posts, wrought iron posts, etc.
3. All exposed flashing is to be coated with GS88-1 Color Sealer before the PD Resin is applied.
4. Before application, mix the PD Resin using a mechanical mixer at slow speeds; mix thoroughly until a homogenous mixture and color is obtained. Use care not to allow the entrapment of air into the mixture.
5. Lay out the .75 oz fiberglass mat over entire deck surface extending to all edges of the deck. Overlap mat seams a minimum of 1/4" to a maximum of 1/2".
6. Apply the PD Resin over fiberglass mat, at a rate of approximately 40-50 square feet per gallon with a trowel. Allow to completely dry, usually 6-8 hours depending on temperature. The PD Resin must completely penetrate through the fiberglass mat.
7. Apply a second coat of PD Resin over the entire deck surface using a ¾" nap roller and a brush at a rate of 75 sq. ft. per gallon and broadcast an aggregate of washed, dry, rounded, silica sand, approximately 16 mesh into the wet/uncured PD Resin.
8. PD Resin should not be exposed to construction traffic.
9. Allow a minimum of 8 hours prior to installing any finished product over the PD Resin and Sand surface.

#### **D. Pli-Dek – C: POLYACRYLIC SAND FINISH**

1. Air temperature for application of the Pli-Dek C finish must be between 10°C (50°F) and 43°C (110°F) and must remain dry, for a minimum of 8 hours.
2. Mix the Gray Base Coat as described in Section II.A and add an additional ½ gal. of GU80-1 Liquid.
3. Trowel a second coat of GU80 Gray Base over the entire deck surface at a rate of 150 square feet per mix. While the second coat is wet/uncured, broadcast aggregates of washed, dry, rounded, crystal silica sand approximately 16 mesh at a rate of 100lbs. /100sq.ft. or until refusal (depending on skid resistance requirements).
4. Allow drying for 6 hours before removing all excess silica sand. A proper ventilation mask should be worn at all time when working with Pli-Dek products.
5. Air temperature for application of the GS88-1 Sealer must be between 13°C (55°F) and 43°C (110°F) and must remain dry for a minimum of 8 hours.
6. The deck must be free of all surface contaminants, such as dust, dirt, etc., which will impair adhesion of the GS88-1 Sealer.

- 
7. Mix the GS88-1 Sealer thoroughly by mixing with the use of mechanical stirrers. All containers should be boxed and stirred to ensure consistent coloring throughout.
  8. Apply the GS88-1 Sealer at a rate of 100 sq. ft. per gallon over the dry Sand Coat, using a 19mm (3/4") nap paint roller, suitable for latex type coatings (2 coats may be necessary). **NOTE: DO NOT APPLY SEALER IN INCLEMENT WEATHER.**
  9. To make cleaning easier in high traffic areas, a coat of GS99-1 Clear Sealer may be applied over the dry GS88-1 Pigmented Sealer at a rate of 200 sq. ft. per gallon. Surface will become more slippery.

#### **E. Pli-Dek – S: POLYACRYLIC SMOOTH FINISH**

1. Air temperature for application of the Polyacrylic smooth finish must be between 10°C (50°F) and 43°C (110°F) and must remain so for a minimum of 8 hours. It may be necessary to grind the rough ridges of the Base Coat to minimize chatter lines.
2. Mix the Top Coat as described in Section II.B
3. Trowel a screed coat over the entire deck surface at a rate of 150 square feet per mix. Allow it to dry for a minimum of 6 hours.
4. It may be necessary to apply an additional coat of Custom Top Coat to create a smoother finish. Coverage rate should be approximately 200 square feet per mix. **\*\*Please note:** Surface will not be perfectly smooth and will have some imperfections/variations.
5. Apply a bead of Manufacturer recommended elastomeric joint sealant to all wall-to-deck junctions.
6. Air temperature for application of the GS88-1 Sealer must be between 13°C (55°F) and 43°C (110°F) and must remain dry for a minimum of 8 hours.
7. Prior to color coat application, remove any high or rough edges using a hand grinding stone or scraper.
8. The deck must be free of all surface contaminants, such as dust, dirt, etc., which will impair adhesion of the GS88-1 Sealer.

9. Mix the GS88-1 Sealer thoroughly by mixing with the use of a mechanical mixer. All containers should be boxed and stirred to ensure consistent coloring throughout.
10. Apply the GS88-1 Sealer using a 19mm (3/4") nap paint roller, suitable for latex type coatings, at a rate of 100 sq. ft. per gallon (2 coats may be necessary). **NOTE: DO NOT APPLY SEALER IN INCLEMENT WEATHER.**
11. To make cleaning easier in high traffic areas, a coat of GS99-1 Clear Sealer may be applied over the dry GS88-1 Pigmented Sealer at a rate of 200 sq ft per gallon. (Surface will become more slippery. Use of a non-skid agent is recommended.)

#### **F. Pli-Dek – T: EPOXY STONE FINISH**

**\*\*Contact Pli-Dek Systems, Inc. for written instructions.**

#### **G. Pli-Dek – CF: CUSTOM FINISH: SIMULATED TILE, BRICK, AND STONE**

1. Air temperature for application of the Custom Finish must be between 10°C (50°F) and 43°C (110°F) and must remain so for a minimum of 8 hours.
2. Mix the Custom Top Coat as described in Section II.C and add the selected color tint pack to establish the desired grout color. *Note: All mixes must be consistent (use the same mix ratios) to maintain color consistency.*
3. The deck must be free of all surface contaminants, such as dust, dirt, etc. which will impair adhesion of the Pli-Dek Custom Top Coat.
4. Trowel a tinted Top Coat over the entire deck surface at a rate of 150 square feet per mix. Allow to dry for a minimum of 2 - 6 hours. (Decorative scroll lines can be achieved at this step prior to screed coat drying, as long as no templates or tape are going to be used.)
5. Install one of the various types of stencil patterns or install a tape pattern over the cured screed coat to achieve the desired finish.
6. Mix the Custom Top Coat as in Section II.C
7. Trowel a tinted screed coat over the stenciled or taped deck surface at a rate of 150 square feet per mix. Allow to dry for a minimum of 2 - 6 hours.

- 
8. Apply desired stain/shading using a low pressure sprayer, soft broom, or sponge. Contact Pli-Dek Systems, Inc. for complete details.
  9. Remove the stencil or tape pattern.
  10. The deck must be free of all surface contaminants, such as dust, dirt, etc., which will impair adhesion of the GS99-1 Sealer.
  11. Apply a coat of GS99-1 Clear Sealer at a rate of 200 sq. ft. per gallon. (2 coats may be necessary.)

#### **H. Slip and Fall Precautions**

1. 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 users 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 insure 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](http://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.