

CON-DEK SYSTEM

WATERPROOF DECK COATING- CONCRETE SUBSTRATES



MATERIALS

1. ¾ oz. Fiberglass Chopped Strand Mat
2. PD Resin
3. GU80-1 Top Coat Powders
4. GU80-1 Liquid Admixture
5. GS88-1 Pigmented Sealer
6. GS13 or PD Clear Sealer (optional)

TOOLS

1. Variable Speed Drill (capable of producing 1000 RPMs)
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 (3/8" or 3/4" nap)
17. Extension Handle
18. Hopper Gun
19. Air Compressor (1½ 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. Crack Chaser Blade
28. Caulking Gun
29. Air Blower
30. 4" Makita Grinder
31. Pneumatic Staple Gun
32. Air Tool Oil
33. Hammer & Tape Measure
34. Metal Scraper

I. SUBSTRATE INSPECTION/PREPARATION

A. General

1. All building permits are required by local authorities shall be produced by contractor, owner, and/or their agent.
2. All inspections, as required by local building authorities, shall be the responsibility of the contractor, owner, and/or their agent.

3. For additional application requirements in Inclement Weather areas, refer to Technical Bulletin TB-110.

B. Traditional Concrete Substrates

1. 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 Systems, Inc. will not be responsible for any deficiencies in the existing concrete substrate.
2. Drying and curing of concrete shall be 28 days before any Con-Dek System is applied to the surface. Moisture content of the existing concrete shall be no greater than 5%. If any other system, other than water cure is used, the General Contractor, and/or Owner, must so advise the Pli-Dek installer.
3. Curing compounds of wax, oil, silicone, epoxy, moisture, paint, and some resins affect adhesion of the Con-Dek material. Therefore, if such materials have been used to cure the concrete, then the concrete must be pre-conditioned to accept the Con-Dek System.

C. Cleaning / Etching

1. Take any necessary action to clean surface before proceeding with Con-Dek System. If other sub-contractors have done damage, be sure to procure a signed additional work order.

D. Preparation

1. Prepare surface by grinding, or shot blasting. If grease or significant contaminants are present, contact Pli-Dek for additional instructions.
2. Ensure preparation procedures comply with local building and environmental regulations.
3. The concrete shall be porous, and have a minimum CSP-2 Rating, suitable to receive the coating.
4. Moisture & Vapor Transmission Testing refer to Concrete Moisture & Vapor Transmission Testing Technical Bulletin (TB-111).
5. Apply a primer coat that consists of 4 parts water and 1 part GU80-1 Liquid Admix at a rate of approximately 200 square feet per gallon.

E. Crack Treatment

1. Rout-out cracks with a crack chaser that is normally mounted on a small hand-held grinder. It may be necessary to open crack further with a dry-cut diamond blade mounted on a grinder, or a skill saw.
2. Additional control joints should be cut where necessary as recommended by structural engineer. Cutting additional expansion joints



to help control concrete movement shall be determined by others. Future cracking due to the lack of expansion joints shall be the responsibility of others.

3. Fill cracks with the manufacturer recommended urethane caulking, filling to the surface of the concrete. Allow 4 - 6 hours for curing time. The urethane must be fully cured before applying the subsequent coating. Apply 6" strips of Fiberglass and PD Resin over the cured urethane.

The Pli-Dek installer and/or Pli-Dek Systems, Inc. will not be responsible for structural movement that may result in new cracks, and/or recurring of existing cracks in substrate. Consequently, no warranty on cracking (expressed or implied) can be provided.

F. DEK C-MENT (Manufactured by MaxxExterior)

1. Install the DEK C-MENT according to MaxxExterior published specifications and application guidelines.
2. Ensure that the DEK C-MENT has a moisture content less than 5% prior to application of Pli-Dek products.
4. Ensure that the DEK C-MENT has properly placed bullnosed control joints and that ALL Pli-Dek products adhere to the contour of the bullnose.
5. Apply a primer coat that consists of 4 parts water and 1 part GU80-1 Liquid Admix at a rate of approximately 200 square feet per gallon.
6. Apply a screed coat of GU80-1 Top Coat to the entire surface. Mix as per section II and apply at a rate of approximately 175 sq. ft per batch mix using a hand trowel.

G. Flashing

The following items that involve flashing must be completed or adhered to:

1. Fascia metal is required except in those cases where an open ended structural slab makes up the outer edge.
2. Posts or any other object that shall protrude through the deck substrate shall be installed and flashed before Con-Dek applications.
3. Any scuppers or overflows must be installed before flashing.
4. All flashing is to be installed according to Pli-Dek Specifications (PD-110).
5. If metal flashing is to be installed by others, the sole responsibility of the flashing installation and proper caulking shall be of the Owner, or General Contractor.
6. Flashing shall be minimum 26 gauge, galvanized, bonderized sheet metal. For Inclement Weather areas, bonderized flashing is not recommended (refer to Technical Bulletin TB-110 Inclement Weather). Insure ALL metal flashing is wiped clean with a solvent to insure oils are completely removed from the Surface.

Dissimilar metals; such as Copper and galvanized, should NEVER come in direct contact with each other.

7. Proper flashing must be installed at all doors, walls, posts, penetrations, columns, etc. Flashing details will vary from job to job depending on framing and exterior wall systems. Please contact Pli-Dek Systems, Inc. for the appropriate flashing details. Pli-Dek provided architectural details are to be used a guide.
8. Flashing must be installed to accommodate all exterior wall coating applications from coming in contact with the deck surface. Exterior siding, stucco, etc. must be held off the deck a minimum of 50mm (2").
9. All flashing splices must be overlapped a minimum of 100mm (4") and caulked between any two pieces of flashing with an MP-1 or Sika Urethane sealant or equivalent. All flashing overlaps shall be installed as to not "buck" water.
10. Contact Pli-Dek Systems, Inc. for specific flashing details over the DEK C-MENT.

H. Sloping

1. It is the General Contractor's, his representative's, or individual owner's responsibility to assure adequate drainage to prevent holding of water.
2. Pli-Dek Systems, Inc. recommends a slope of 1/8" - 1/4" per linear foot.
3. If auxiliary slope is required, slope mix may be applied. (See Sloping Application Instructions SM-120 for complete details and limitations). When this type of sloping will not accommodate the problem, then drains become a necessity. Pli-Dek Systems, Inc. and/or trained applicator will not be held responsible for ponding water or the effects resulting from the installation of slope material.
4. Pli-Dek requires galvanized, stainless steel, or copper deck drain as per Drain Detail, CD-11, over light-weight concrete installations. Over structural concrete, cast-iron drains are recommended. Please contact Pli-Dek for help in acquiring these drains. Do not use plastic or shower drains in the assembly. If copper drains are used, please contact Pli-Dek for instructions on dissimilar metals.
5. The alternatives available for proper drainage are the responsibility of the General Contractor. Contact Pli-Dek Systems, Inc. for complete details.

II. MIXING INSTRUCTIONS

A. Screed Coat & Knockdown Texture

1. Pour 4.75L (1.25 gallons) of GU80-1 Liquid Admixture into a clean 19L (5 gallon) plastic container.
2. Add one 21kg (46lbs.) bag of GU80-1 Top Coat powder. Mix thoroughly for 3 to 4 minutes, with a Wind-lock B-M1 mixing blade,



or equivalent, powered by a 13mm (1/2 inch) 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). In order to avoid flash drying it may be necessary to chill the GU80-1 Liquid Admixture before mixing. Proper ventilation masks should be worn at all times when working with all Pli-Dek Products. Pli-Dek products must be stored in the shade to prevent overheating and reduction of pot life.

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.*

B. Custom Top Coat

1. Pour 4.75L (1.25 gallons) of GU80-1 Liquid Admixture into a clean 19L (5 gallon) plastic container.
2. Add one 21kg (46lbs.) bag of GU80-1 Custom Top Coat powder. Mix thoroughly for 3 to 4 minutes, with 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). In order to avoid flash drying it may be necessary to chill the GU80-1 Liquid Admixture, before mixing. Proper ventilation masks should be worn at all time when working with all Pli-Dek Products. Pli-Dek products must be stored in the shade to prevent overheating and reduction of pot life.
3. If colored GU80-1 Custom Top Coat is required, a Pli-Dek recommended tint pack may be added to the mix to achieve the desired color. Note: Ensure that all colorant is dispersed out of the container. *All mixes must be consistent (use the same mix ratios) to maintain color consistency.*

III. PD RESIN APPLICATION

1. The Pli-Dek Applicator must have sole right of access to the specified areas for the time needed, in order to complete the application of the Con-Dek System, and obtain an adequate cure.
2. Air temperature for application of the PD Resin Base Coat must be between 10°C (50°F,) and 43°C (110°F,) and must remain so for a minimum of 8 hours.
3. Lay out the .75 oz. fiberglass mat, overlapping metal flashing to the horizontal edge and overlap mat seams by a minimum of 1/4".
4. Thoroughly mix the PD Resin and then pour PD Resin base coat over the fiberglass mat, and apply with a pool trowel at a rate of

approximately 40 - 50 square feet per gallon. Allow 6 – 8 hours to dry.

IV. SECOND COAT APPLICATION

1. Air temperature for application of the second coat of PD Resin Base Coat must be between 10°C (50°F) and 43°C (110°F) and must remain so for a minimum of 8 hours.
2. Deck area must be free of all surface contaminants, such as dust, dirt, etc. Remove any loose areas, where fiberglass did not bond to the concrete and reapply PD Resin and fiberglass as needed before application of second coat.
3. Apply a second coat of PD Resin Base Coat using a 3/4" nap roller at a rate of 85 - 100 square feet. per gallon as described above, and allow 6 - 8 hours to dry.

V. FINISH OPTIONS

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

1. Grind any rough areas, being careful not to damage Fiberglass and PD Resin coat. 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 Finish Coats.

A. KNOCKDOWN TEXTURE FINISH

1. Air temperature for application of the Knockdown Texture Coat 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 GU80-1 Top Coat as described in Section II - A.
3. Using a hopper gun, spray the Knockdown Coating over the entire deck surface at a rate of 150 square feet per mix. **CAUTION: AS WITH ANY SPRAY MATERIAL, BE CERTAIN TO PROTECT ALL SURROUNDING AREAS FROM OVER-SPRAY.**
4. When the material begins to dry, knock down the material with a trowel. TIP: In order to eliminate footprints, we suggest wearing metal spiked shoes (golf shoes) during this process.
5. Allow the Knockdown to dry a minimum of 2 - 6 hours, depending on weather.
6. Remove any sharp edges by scraping the surface with a scraper or trowel.
7. Air temperature for application of the GS88-1 Sealer must be between 13°C (55°F) and 43°C (110°F) and must remain so for a minimum of 8 hours. Ensure humidity levels are low. Do not apply over moisture.
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 with the use of mechanical mixers. All containers should be boxed and mixed to ensure consistent coloring throughout.



10. Apply the GS88-1 Sealer over the dry Knockdown application at a rate of 100 square feet per gallon using a 19mm (¾") paint roller nap, suitable for latex type coatings. Two Coats may be necessary.
11. Allow GS88-1 Sealer coat to dry for a minimum of 6 hours.
12. To make cleaning easier in high traffic areas, a coat of GS13 of PD Clear Sealer may be applied over the dry GS88-1 Pigmented Sealer at a rate of 200 square feet per gallon. Surface will become more slippery. Use of a non-skid agent is recommended.

B. POLYMER SAND FINISH

1. Air temperature for application of the Sand Finish must be between 10°C (50°F) and 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 and posts.
3. Mix the GU80-1 Base Coat by pouring 1.5 gallons of GU80-1 Liquid Admixture into a clean 19L (5 gallon) plastic container. Add one 21kg (46lbs.) bag of GU80-1 Base Coat powder. Mix thoroughly for 3 to 4 minutes, with 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. In order to avoid flash drying it may be necessary to chill the GU80-1 Liquid Admixture, before mixing. Proper ventilation masks should be worn at all time when working with all Pli-Dek Products.
4. Trowel the GU80-1 Base Coat over the entire deck surface at a rate of 100 to 125 square feet per mix.
5. Broadcast aggregates of washed, dry, rounded, crystal silica sand, approximately 16 mesh at a rate of 100 lbs. per 100 square feet or until refusal (depending on skid resistance requirements) into wet/uncured Base Coat.
6. Allow 6 hours before removing all excess silica sand. A proper ventilation mask should be worn at all times when working with Pli-Dek Products.
7. Air temperature for application of the GS88-1 Sealer must be between 13°C (55°F) and 43°C (110°F) and must remain so for a minimum of 8 hours. Ensure humidity levels are low. Do not apply over moisture.
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 the use of mechanical mixers. All containers should be boxed and mixed to ensure consistent coloring throughout.
10. Apply the GS88-1 Sealer over the dry sand finish at a rate of 80 to 100 sq. ft. per gallon, (2 coats may be necessary using a 19.1mm (¾") paint roller nap, suitable for latex type coatings. Two coats may be necessary.

11. Allow GS88-1 Sealer coat to dry for a minimum of 6 hours.
12. To make cleaning easier in high traffic areas, a coat of GS13 of PD Clear Sealer may be applied over the dry GS88-1 Pigmented Sealer at a rate of 200 square feet per gallon. (Surface will become more slippery. Use of a non-skid agent is recommended.)

C. Con-Dek – "U": UNDERLAYMENT

Note: The vertical leg of all flashings should be coated with Fiberglass and PD Resin.

1. Air temperature for application of the Con-Dek "U" must be between 10°C (50°F) and 43°C (110°F), and must remain so for a minimum of 8 hours. Do not apply over any moisture.
2. PD Resin should not be exposed to construction traffic.
3. Mix the Pli-Dek GU80-1 Top Coat as described in Section II – A.
4. Apply a screed coat of GU80-1 Top Coat over the entire deck at a rate of 150 square feet per mix. Allow to dry for a minimum of 2 - 6 hours. Mix the GU80-1 Top Coat as described in Section II – B.
5. Allow a minimum of 8 hours prior to installing any finished product over the PD Resin and sand surface or screed coat.
6. *Optional Consult Tile Manufacturer or Sub for Recommendations: Broadcast aggregates of washed, dry, rounded crystal silica sand, approximately 16 mesh, at a rate of 100lbs. per 200 square feet.

D. CUSTOM FINISH (SIMULATED TILE, BRICK & 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 GU80-1 Custom Top Coat as described in Section II - B. 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 GU80-1 Custom Top Coat.
4. Trowel a tinted GU80-1 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 tape pattern over cured screed coat to achieve desired pattern finish.



6. Mix the GU80-1 Custom Top Coat as described in Section II – B.
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 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 GS13 or PD Clear Sealer.
11. Apply a coat of GS13 or PD Clear Sealer or GS13 Clear Sealer at a rate of 200 square feet per gallon. (2 coats may be necessary).

independent company and bears responsibility for its own workmanship. Pli-Dek Systems, Inc. assumes no liability for the workmanship of a trained contractor.

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 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:

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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

