

Terapro PUR System

Installer's Guide



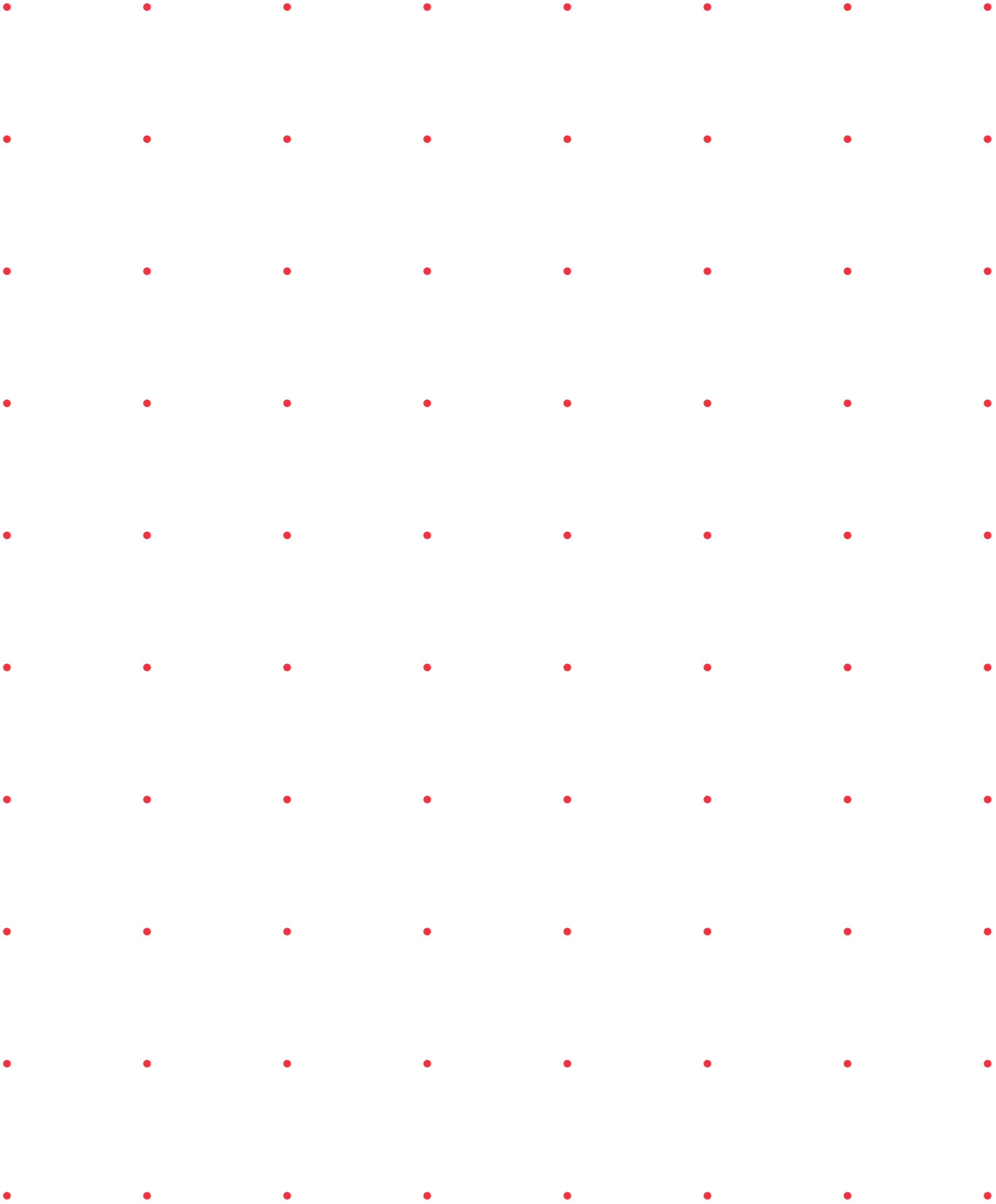


Table of Contents

- I. [System Overview & Products](#)
- II. [General Information](#)
 - a. [Disclaimer](#)
 - b. [Material Storage](#)
 - c. [Ambient Requirements](#)
- III. [System Application](#)
 - a. [Application Steps](#)
 - b. [Substrate Preparation](#)
 - c. [Accessories](#)
 - d. [Primer & Primer Selection](#)
 - e. [Terapro PUR Heavy Exposed Vehicular System](#)
 - f. [Terapro PUR Light Exposed Vehicular System](#)
 - g. [Terapro PUR Pedestrian System](#)
- IV. [Field Quality Assurance/Quality Control by Installer](#)
 - a. [Environmental Conditions](#)
 - b. [Substrate Preparation](#)
 - c. [System Component Application](#)
 - d. [Field Testing of System](#)
- V. [Quick Reference Information](#)
- VI. [Commentary Regarding Dew Point Meter Accuracy](#)
 - a. [Recommended Dew Point Requirements and Considerations](#)
- VII. [Critical Commentary Regarding Sand Broadcast into Primer](#)

I. System Overview & Products

Terapro PUR Systems are liquid roller-applied, multi-layer elastomeric concrete protection systems designed for vehicular and pedestrian traffic.

System Thickness	Varies by system (<i>excluding thickness of aggregate</i>)
Application Method	Roller Applied

Set/Cure Time*	
Open to Pedestrian Traffic	12 hours
Open to Vehicular Traffic	24 hours

System Components			
System Type	Primer	Base Coat	Intermediate & Topcoat
Terapro PUR Heavy Exposed Vehicular System	Varies based on substrate. Reference the Primer and Primer Selection section on Page 8 of this guide for additional information.	Terapro PUR 2200	Terapro PUR 3200
Terapro PUR Light Vehicular System		Terapro PUR 3200	Terapro PUR 3200 (top coat only)
Terapro PUR Pedestrian System		Terapro PUR 3200	Terapro PUR 3200 (top coat only)

***Ambient and substrate temperatures affect the application and cure times of Terapro PUR Deck Coating Systems**

II. General Information

Disclaimer

The information contained herein is intended as a general guide for installers and does not contain complete technical information and details. Installers must always refer to Terapro PUR Guide Specifications and Details for further technical requirements. The installer is solely responsible for fulfilling all contractual obligations.

Material Storage

Deliver all Siplast materials to the project site in factory-sealed containers. Assign a storage area for all materials that is cool, dry, not in direct sunlight, and in accordance with Siplast's recommendations and relevant regulatory agencies. DO NOT store materials in quantities that will exceed design loads, damage substrate materials, or impede installation or drainage.

The ideal material storage temperature is between 65°F and 90°F in a covered and controlled environment. DO NOT store materials outside in temperatures below 65°F or above 90°F. Storing materials below 65°F will increase the viscosity of the materials and make mixing and application difficult. Storing materials above 90°F will increase the speed of the chemical reaction and reduce the pot life and working time of the material.

Ambient Requirements

Installation of Terapro PUR 2200 and Terapro PUR 3200 resins may proceed while ambient and substrate temperatures are between 40°F and 104°F¹ and the substrate is a minimum of 5°F above the dew point and rising². DO NOT begin installation of any Siplast material either during or with the potential for inclement weather.

DO NOT perform installation when the ambient temperature is below 35°F due to the potential for the substrate to be frozen, which impedes the ability of electronic moisture meters to properly detect substrate moisture.

¹ It is recommended that special precautions be taken when the air and/or substrate temperatures are elevated. It may be necessary to limit material application to evening hours for exterior decks that are exposed to direct sunlight.

² Refer to **Commentary Regarding Dew Point Meter Accuracy** for additional information on the effect that relative humidity has on the accuracy of dew point meters.

III. System Application

Application Steps

The application of a Terapro PUR System involves a five-step process:

1. Cleaning and preparation of the substrate
2. Application of primer that is suitable for the substrate
3. Application of the base coat membrane
4. Application of the intermediate coat with aggregate surfacing
5. Application of the skid-resistant topcoat

Ensure that the substrate is clean and dry immediately prior to installation of any component of the Terapro PUR System. Remove any remaining dust or loose particles using clean, dry, oil-free compressed air, industrial vacuum, or other Siplast-approved methods.

NOTE: Read the product SDS available at siplast.com before using or installing this product. Prior to opening containers of any Siplast product, protect hands, wrists, and arms with gloves. Wear long sleeves. Wear ANSI/OSHA compliant or approved eye protection. If recommended by the product SDS, use respiratory equipment.

Substrate Preparation

Concrete

New concrete shall be allowed to cure in accordance with ACI-308. If concrete has cured less than 28 days, contact Siplast Technical Service for additional information. Prepare concrete surfaces in accordance with the SSPC-SP13/NACE No. 6. Achieve a concrete surface profile ("CSP") of at least 3 through 4, measured using ICRI CSP chips¹ a CSP of 3 must be used for Pro Primer E.

We recommend existing concrete to be cored (3 inches in diameter with a depth of 2 inches) and evaluated by an accredited lab. The number of cores should be sufficient to provide a representation of all areas to be waterproofed. Recommended testing procedures include ion chromatography and infrared spectroscopy. The depth of carbonation should also be determined. The presence of contaminants in the concrete may affect the adhesion of the primer layer. Contaminants include hydrocarbons or other organic compounds, unreacted silicates and chlorides. Concrete affected by alkaline-silica reaction (ASR) or alkaline-aggregate reaction (AAR) should not be considered as a substrate for a Terapro System. The lab should recommend the remedial work required to bring the concrete substrate into a condition suitable to receive the Terapro system. Reviewing the performance of an existing coating, roofing, or waterproofing system is also recommended when evaluating a concrete substrate. If blistering or loss of adhesion of the existing coating/waterproofing is evident, the source of the problem should be investigated and addressed with a plan of action before the existing system is removed and a new system applied.

After surface preparation is completed, assess the prepared concrete in accordance with SSPCSP13/NACE No. 6, Section 6. A subset of the acceptance criteria listed in SSPC-SP13, Section 6, Table 2 is provided below:

¹ It is recommended that a CSP of 3-4 is achieved. A CSP greater than 4 will increase the substrate surface area and require additional material to achieve proper coverage.

Properties	Test Method	Values
Surface tensile strength	ASTM D7234 and/or ASTM C1583	220 psi, minimum
Surface profile	ICRI No. 310.2	CSP 3 to 4
Surface cleanliness	ASTM D4258	No significant dust
Residual contaminants	ASTM F21	Water droplets placed on the surface to immediately form a continuous uniform film (bead) if contaminants are present.
Moisture content	ASTM F2170	80% max.

Steel/Metal

Clean and prepare metal surfaces in accordance with the Siplast requirements or SSPC-SP10/NACE No. 2, whichever is more stringent. Achieve a blast profile of 3-5 mils, measured using a Surface Profile Gauge. Wipe prepared metal surfaces with acetone, MEK, or other acceptable solvent prior to application of primer.

Wood/Plywood

The moisture content in any wood substrate shall not exceed 15%. Test moisture content using a non-destructive electronic moisture meter such as Tramex Moisture Encounter ME5 or similar. Plywood shall be completely dry. If plywood is not new, it should be cleaned and sanded. Plywood should be exterior grade or ACX and have both tongue-and-groove edges and ends perpendicular to supports.

Substrate Leveling, Sloping, and Patching

Substrate conditions must be evaluated by the design professional, contractor, structure owner, or other designated representative.

Preparation of Joints and Cracks

Prepare joints, cracks, and other fractures in the structural deck before installation of the Terapuro PUR system. Refer to Siplast detailed drawings for additional information.

Final Substrate Inspection

Ensure that all surfaces are free from conspicuous irregularities, loose, unsound or foreign materials such as dirt, ice, snow, water, grease, oil, or other deleterious materials that could interfere with adhesion between the substrate and primer. The installer is responsible for careful and methodical preparation of horizontal and vertical substrates, cracks, joints, penetrations, and any other areas to the receive waterproofing system.

Accessories

Terapro PUR Patch V

A fast-setting, two-component modified urethane concrete repair material with thixotropic consistency to allow for vertical applications.

Mixing & Application for Terapro PUR Patch V

Premix part B for 2 min. Add part A and mix for several minutes. Products will increase in viscosity quickly. Continue mixing without entraining air until it becomes consistent in color and texture. The product will become paste consistency. Apply the Terapro PUR Patch V to the substrate and apply evenly. Mix excess liquid materials and allow to cure. Once cured, dispose of cured material in accordance with local, state, and federal laws and regulations.

Terapro PUR Activator

A water soluble, organic solvent stripping agent. It is designed to increase the bond between existing polyurea and other materials being applied to them. The Terapro PUR Activator is used to promote adhesion between existing and new polyurea and adhesion of other coatings applied to existing polyurea. Note that polyureas **must be** reactivated with Terapro PUR Activator once the recoat window has been exceeded.

Mixing & Application

Remove all loose dirt, debris, and other contaminants that could interfere with the adhesion of the new polyurea membrane or coating to the existing polyurea surface. Abrade existing polyurea surfaces using a handheld grinder, wire wheel, or other suitable equipment to create a visible texture on the surface of the polyurea. Clean the existing polyurea surface using clean, lint-free rags and acetone or MEK.

Mix the Terapro PUR Activator thoroughly and apply at the rate of 1,600 to 3,200 ft² per gallon (0.5 to 1 mil WFT). Allow the Terapro PUR Activator to set until it has fully evaporated and the surface of the polyurea membrane becomes tacky approximately 5 to 15 minutes. If the polyurea membrane is not overcoated within one (1) hour of application, the Terapro PUR Activator must be re-applied.

Primer & Primer Selection

Refer to the ***Siplast Primer Selection Table in the Quick Reference Information*** section of this document to determine the appropriate primer for each substrate on project. Terapro primers should be applied when ambient and substrate temperatures are falling rather than rising to minimize the potential for pinholing. Amine blush can be wiped off with a solvent based cleaner such as acetone.

NOTE: IF MOISTURE VAPOR DRIVE IS PRESENT AND/OR JOBSITE CONDITIONS REQUIRE A MOISTURE-MITIGATING PRIMER, PRO PRIMER E MUST BE USED. CONTACT SIPLAST TECHNICAL & DESIGN SUPPORT FOR ADDITIONAL INFORMATION.

Primer Mixing & Application

Terapro E 1200

DO NOT mix partial containers of multi-component materials. DO NOT Dilute under any circumstances.

1. Pour part "A" and part "B" into clean, appropriately sized containers.
2. Adequately mix for 3-4 minutes at a slow speed using a drill motor and paddle, taking care to ensure air is not being entrained into the mixture.
3. After mixing thoroughly, immediately pour Terapro E 1200 primer onto horizontal substrate surface and spread evenly over the entire surface using a trowel or squeegee and back roll. Do not puddle.
4. Coverage Rate: **200 ft² per gallon** to achieve a wet film thickness of **8 mils**. Please note that higher consumption rates may be required with certain substrates in order to achieve a wet film thickness of 8 mils.
5. DO NOT apply more primer than can be surfaced within **eighteen (18) hours** of becoming tack-free.
6. An optional full sand broadcast may be used to extend recoat window and improve adhesion performance. Refer to the commentary contained herein for additional information.

Pro Primer E

DO NOT mix partial containers of multi-component materials.

1. Pour part "A" and part "B" into a clean, appropriately sized container .
2. Adequately mix for 3-4 minutes at a slow speed using a drill motor and paddle, taking care to ensure air is not being entrained into the mixture.
3. After mixing thoroughly, immediately pour Pro Primer E primer onto the horizontal substrate surface and spread evenly over the entire surface using a trowel or squeegee and back roll. Do not puddle.
4. Coverage Rate: 200 ft² per gallon to achieve a wet film thickness of 8 mils. Please note that higher consumption rates may be required with certain substrates in order to achieve a wet film thickness of 8 mils.

Terapro PUR Heavy Exposed Vehicular System

Base Coat Membrane

Terapro PUR 2200 Mixing & Application

DO NOT mix partial containers of multi-component materials. DO NOT dilute under any circumstances.

1. Mix Terapro PUR 2200 part “B” ***separately*** in the original factory container to properly disperse pigment using a mechanical mixing apparatus with appropriately sized “Jiffy” mixer (or similar) at medium speed.
2. Once mixed, pour part “B” into a ***clean***, appropriately sized container.
3. While mixing, pour part “A” into previously transferred part “B”.
4. Mix until a homogeneous mixture, ensuring to scrape the sides of the pail to mix all the material and color is obtained (typically 1-2 minutes²), **taking care not to entrain air in the mixture**³.
5. Immediately transfer into smaller containers or pour onto the substrate to prolong working time⁴.
6. Coverage Rate: **70 ft² per gallon** to achieve a wet film thickness of **23 mils**.
7. Pour Terapro PUR 2200 onto substrate and spread evenly over entire horizontal surface at the specified coverage rate using notched trowel or squeegee then back roll using a ¼-inch nap roller^{5,6,7}.
8. DO NOT apply more Terapro PUR 2200 than can be surfaced within twenty-four (24) hours of becoming tackfree.

IMPORTANT

Terapro PUR 2200 material will begin to set quickly. It is critical that installers utilize an appropriately sized notched squeegee to avoid material being installed in an excessive thickness.

² Duration is an estimate only. Installer is responsible for ensuring a complete and uniform mixture prior to dispensing material onto substrate.

³ Installer is responsible for adjusting mix speed as required to avoid air encapsulation during mixing.

⁴ It is critical that the mixed material be transferred to smaller containers or onto the substrate immediately after mixing. If kept in the large container, the thermal mass will accelerate the chemical reaction and significantly reduce working time.

⁵ Use of rollers with a nap heavier than ¼-inch is not recommended.

⁶ Use of additional equipment such as a spiked roller may be required to achieve the surface texture or finish required by the project specifications. Installer is responsible for ensuring appropriate equipment is utilized to achieve such requirements.

⁷ Installer is responsible for changing rollers when they become laden with partially cured material to ensure material being installed on deck surface is not contaminated.

Intermediate Coat & Topcoat Membrane

Terapro PUR 3200 is utilized for both the intermediate coat and topcoat layers.

Terapro PUR 3200 Mixing

DO NOT mix partial containers of multi-component materials. Four (4) fluid ounces of acetone per 2.5 gallon kit may be added to aid in spreading the material.

1. Mix Terapro PUR 3200 part “B” ***separately*** in original factory container to properly disperse pigment using a mechanical mixing apparatus with appropriately sized “Jiffy” mixer (or similar) at medium speed.
2. Once mixed, pour part “B” into a ***clean***, appropriately sized container.
3. While mixing, pour part “A” into previously transferred part “B”.
4. Mix until a homogeneous mixture, ensuring to scrape the sides of the pail to mix all the material and color is obtained (approximately 1 minute⁸), **taking care not to entrain air in mixture⁹ or “overmix”¹⁰.**
5. Immediately transfer into smaller containers or pour onto the substrate to prolong working time¹¹.
6. IMPORTANT NOTE: From the start of mixing to completion of spreading of a kit should be performed within approximately 10 minutes.
7. DO NOT apply more Terapro PUR 3200 than can be surfaced within twenty-four (24) hours of becoming tackfree.
8. Proceed to the steps below for application instructions.

Intermediate Coat Application

1. Coverage Rate: **133 ft² per gallon** to achieve a wet film thickness of **12 mils**.
2. Pour Terapro PUR 3200 onto substrate and spread evenly over entire horizontal surface at the specified coverage rate using notched trowel or squeegee then back roll using a ¼-inch nap roller^{12,13,14}.
3. Prior to the membrane achieving full set, broadcast a washed, dry, rounded, contamination-free Terapro VTS Quartz into a “wet” membrane to provide slip-resistance. Remove excess loose aggregate and allow Terapro PUR 3200 to fully dry prior to proceeding with subsequent steps.
4. Note: Turn radii, ramps, and other high traffic areas require an additional coat of Terapro PUR 3200. Repeat steps 1-3 to add an additional coat.

⁸ Duration is an estimate only. Installer is responsible for ensuring a complete and uniform mixture prior to dispensing material onto substrate.

⁹ Installer is responsible for adjusting mix speed as required to avoid air encapsulation during mixing.

¹⁰ Components will begin to react as soon as they encounter each other during mixing. It is critical that the installer only mix for the duration required to achieve a homogeneous mixture and color. Over-mixing will reduce the working time of the material.

¹¹ It is critical that the mixed material be transferred to smaller containers or onto the substrate immediately after mixing. If kept in the large container, the thermal mass will accelerate the chemical reaction and significantly reduce working time.

¹² Use of rollers with a nap heavier than ¼-inch is not recommended.

¹³ Use of additional equipment such as a spiked roller may be required to achieve the surface texture or finish required by the project specifications. Installer is responsible for ensuring appropriate equipment is utilized to achieve such requirements.

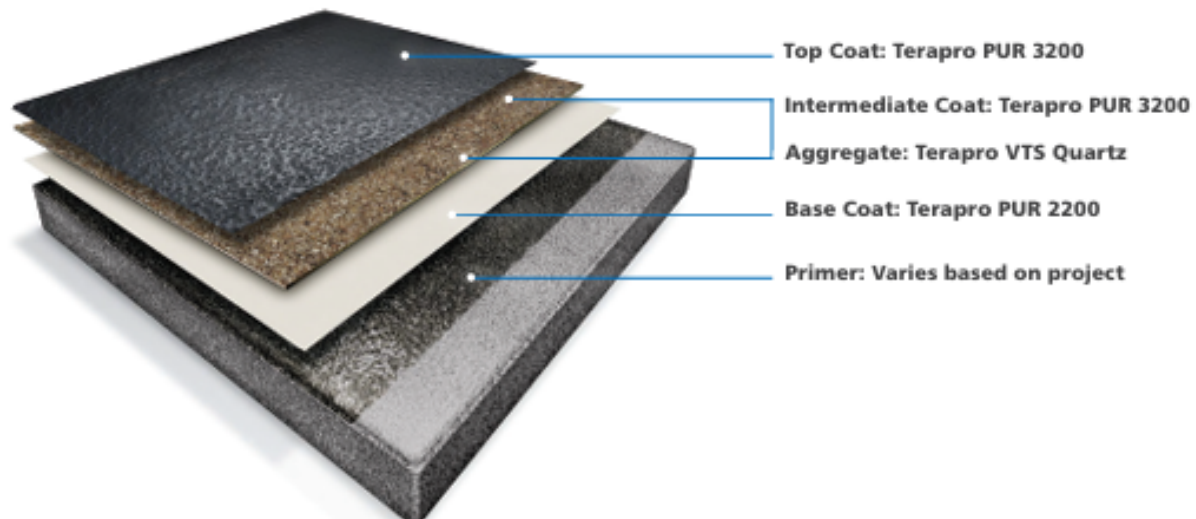
¹⁴ Installer is responsible for changing rollers when they become laden with partially cured material to ensure material being installed on deck surface is not contaminated.

Top Coat Application

1. Coverage Rate: When Terapro VTZ Quartz are used: 133 ft² per gallon to achieve a wet film thickness of 12 mils.
2. Pour Terapro PUR 3200 onto the substrate and spread evenly over the entire horizontal surface at the specified coverage rate using notched trowel or squeegee then back roll using a ¼-inch nap roller^{14,15,16}.
3. Allow the Terapro PUR system to fully cure in accordance with the appropriate set/cure times specified herein.

IMPORTANT

Terapro PUR 3200 material will begin to set quickly. It is critical that installers utilize appropriately sized notched squeegee to avoid material being installed with excess thickness.



Terapro PUR Light Exposed Vehicular System

Base Coat Membrane

Terapro PUR 3200 Mixing & Application

DO NOT mix partial containers of multi-component materials. DO NOT dilute under any circumstances.

1. Mix Terapro PUR 3200 part “B” ***separately*** in the original factory container to properly disperse pigment using a mechanical mixing apparatus with appropriately sized “Jiffy” mixer (or similar) at medium speed.
2. Once mixed, pour part “B” into a ***clean***, appropriately sized container.
3. While mixing, pour part “A” into previously transferred part “B”.
4. Mix until a homogeneous mixture, ensuring to scrape the sides of the pail to mix all the material and color is obtained (typically 1-2 minutes¹⁵), **taking care not to entrain air in the mixture**¹⁶.
5. Immediately transfer into smaller containers or pour onto the substrate to prolong working time¹⁷.
6. Coverage Rate: **80 ft² per gallon to achieve a wet film thickness of 20 mils.**
7. Pour Terapro PUR 3200 onto substrate and spread evenly over entire horizontal surface at the specified coverage rate using notched trowel or squeegee then back roll using a ¼-inch nap roller^{18,19,20}.
8. Prior to the membrane achieving full set, broadcast a washed, dry, rounded, contamination-free Pro Natural Quartz into a “wet” membrane to achieve a slip-resistant finish. Remove excess loose aggregate and allow Terapro PUR 3200 to fully dry prior to proceeding with subsequent steps.
9. DO NOT apply more Terapro PUR 3200 than can be surfaced within twenty-four (24) hours of becoming tackfree.

IMPORTANT

Terapro PUR 3200 material will begin to set quickly. It is critical that installers utilize appropriately sized notched squeegee to avoid material being installed with excess thickness.

¹⁵ Duration is an estimate only. Installer is responsible for ensuring a complete and uniform mixture prior to dispensing material onto substrate.

¹⁶ Installer is responsible for adjusting mix speed as required to avoid air encapsulation during mixing.

¹⁷ It is critical that the mixed material be transferred to smaller containers or onto the substrate immediately after mixing. If kept in the large container, the thermal mass will accelerate the chemical reaction and significantly reduce working time.

¹⁸ Use of rollers with a nap heavier than ¼-inch is not recommended.

¹⁹ Use of additional equipment such as a spiked roller may be required to achieve the surface texture or finish required by the project specifications. Installer is responsible for ensuring appropriate equipment is utilized to achieve such requirements.

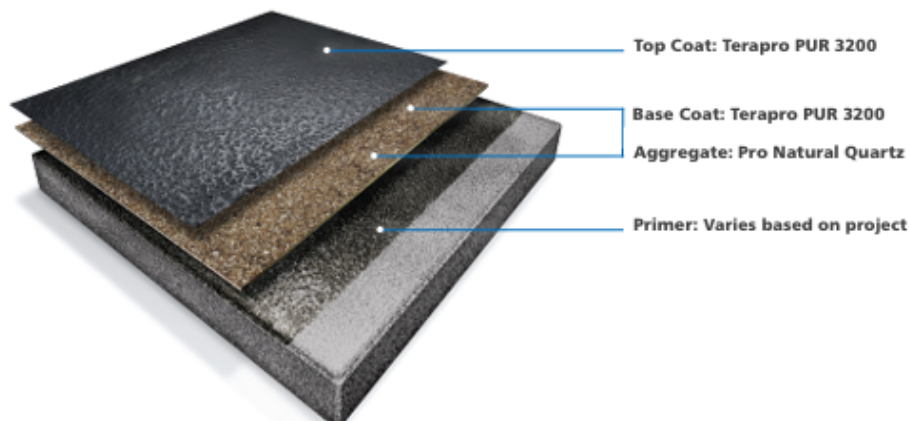
²⁰ Installer is responsible for changing rollers when they become laden with partially cured material to ensure material being installed on deck surface is not contaminated.

Topcoat Application

1. Coverage Rate: When Pro Natural Quartz are used: **100 ft²** per gallon coverage is used to achieve a wet film thickness of 16 mils.
2. Mix Terapro PUR 3200 part “B” separately in the original factory container to properly disperse pigment using a mechanical mixing apparatus with appropriately sized “Jiffy” mixer (or similar) at medium speed.
3. Once mixed, pour part “B” into a clean, appropriately sized container.
4. While mixing, pour part “A” into previously transferred part “B”.
5. Mix until a homogeneous mixture, ensuring to scrape the sides of the pail to mix all the material and color is obtained (typically 1-2 minutes²¹), **taking care not to encapsulate air in mixture**²².
6. Immediately transfer into smaller containers or pour onto the substrate to prolong working time²³.
7. Coverage Rate: **100 ft² per gallon per gallon to achieve a wet film thickness of 16 mils.**
8. Pour Terapro PUR 3200 onto the substrate and spread evenly over the entire horizontal surface at the specified coverage rate using notched trowel or squeegee then back roll using a ¼-inch nap roller^{14,15,16}.
9. Allow the Terapro PUR system to fully cure in accordance with the appropriate set/cure times specified herein.
10. Note: Turn radii, ramps, and other high traffic areas require an additional top coat of Terapro PUR 3200. Repeat steps 3-6 to add an additional coat.

⚠ IMPORTANT

Terapro PUR 3200 material will begin to set quickly. It is critical that installers utilize appropriately sized notched squeegee to avoid material being installed with excess thickness.



²¹ Duration is an estimate only. Installer is responsible for ensuring a complete and uniform mixture prior to dispensing material onto substrate.

²² Installer is responsible for adjusting mix speed as required to avoid air encapsulation during mixing.

²³ It is critical that the mixed material be transferred to smaller containers or onto the substrate immediately after mixing. If kept in the large container, the thermal mass will accelerate the chemical reaction and significantly reduce working time.

Terapro PUR Pedestrian System

Base Coat Membrane

Terapro PUR 3200 Mixing & Application

DO NOT mix partial containers of multi-component materials. DO NOT dilute under any circumstances.

10. Mix Terapro PUR 3200 part “B” ***separately*** in the original factory container to properly disperse pigment using a mechanical mixing apparatus with appropriately sized “Jiffy” mixer (or similar) at medium speed.
11. Once mixed, pour part “B” into a ***clean***, appropriately sized container.
12. While mixing, pour part “A” into previously transferred part “B”.
13. Mix until a homogeneous mixture, ensuring to scrape the sides of the pail to mix all the material and color is obtained (typically 1-2 minutes²⁴), **taking care not to entrain air in the mixture²⁵**.
14. Immediately transfer into smaller containers or pour onto the substrate to prolong working time²⁶.
15. Coverage Rate: **80 ft² per gallon to achieve a wet film thickness of 20 mils.**
16. Pour Terapro PUR 3200 onto substrate and spread evenly over entire horizontal surface at the specified coverage rate using notched trowel or squeegee then back roll using a ¼-inch nap roller^{27,28,29}.
17. Prior to the membrane achieving full set, broadcast a washed, dry, rounded, contamination-free Pro Texture Beads into a “wet” membrane to provide slip resistance. Remove excess loose aggregate and allow Terapro PUR 3200 to fully dry prior to proceeding with subsequent steps.
18. DO NOT apply more Terapro PUR 3200 than can be surfaced within twenty-four (24) hours of becoming tackfree.

IMPORTANT

Terapro PUR 3200 material will begin to set quickly. It is critical that installers utilize appropriately sized notched squeegee to avoid material being installed with excess thickness.

²⁴ Duration is an estimate only. Installer is responsible for ensuring a complete and uniform mixture prior to dispensing material onto substrate.

²⁵ Installer is responsible for adjusting mix speed as required to avoid air encapsulation during mixing.

²⁶ It is critical that the mixed material be transferred to smaller containers or onto the substrate immediately after mixing. If kept in the large container, the thermal mass will accelerate the chemical reaction and significantly reduce working time.

²⁷ Use of rollers with a nap heavier than ¼-inch is not recommended.

²⁸ Use of additional equipment such as a spiked roller may be required to achieve the surface texture or finish required by the project specifications. Installer is responsible for ensuring appropriate equipment is utilized to achieve such requirements.

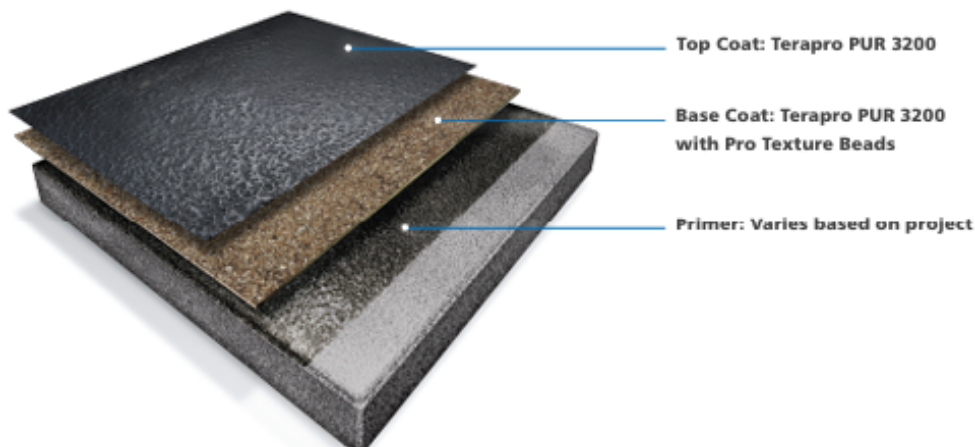
²⁹ Installer is responsible for changing rollers when they become laden with partially cured material to ensure material being installed on deck surface is not contaminated.

Topcoat Application

1. Coverage Rate: When Pro Texture Beads are used: **100 ft²** per gallon to achieve a wet film thickness of 16 mils.
2. Mix Terapro PUR 3200 part “B” separately in the original factory container to properly disperse pigment using a mechanical mixing apparatus with appropriately sized “Jiffy” mixer (or similar) at medium speed.
3. Once mixed, pour part “B” into a clean, appropriately sized container.
4. While mixing, pour part “A” into previously transferred part “B”.
5. Mix until a homogeneous mixture, ensuring to scrape the sides of the pail to mix all the material and color is obtained (typically 1-2 minutes³⁰), **taking care not to encapsulate air in mixture**³¹.
6. Immediately transfer into smaller containers or pour onto the substrate to prolong working time³².
7. Coverage Rate: **100 ft² per gallon per gallon to achieve a wet film thickness of 16 mils.**
8. Pour Terapro PUR 3200 onto the substrate and spread evenly over the entire horizontal surface at the specified coverage rate using notched trowel or squeegee then back roll using a ¼-inch nap roller^{14,15,16}.
9. Allow the Terapro PUR system to fully cure in accordance with the appropriate set/cure times specified herein.
10. Note: Turn radii, ramps, and other high traffic areas require an additional top coat of Terapro PUR 3200. Repeat steps 3-6 to add an additional coat.

⚠ IMPORTANT

Terapro PUR 3200 material will begin to set quickly. It is critical that installers utilize appropriately sized notched squeegee to avoid material being installed with excess thickness.



³⁰ Duration is an estimate only. Installer is responsible for ensuring a complete and uniform mixture prior to dispensing material onto substrate.

³¹ Installer is responsible for adjusting mix speed as required to avoid air encapsulation during mixing.

³² It is critical that the mixed material be transferred to smaller containers or onto the substrate immediately after mixing. If kept in the large container, the thermal mass will accelerate the chemical reaction and significantly reduce working time.

IV. Field Quality Assurance/Quality Control by Installer

Environmental Conditions

Installers must record environmental conditions readings into a daily log in accordance with the Siplast recommendations. If no such requirements are listed, the Installer shall record the following information:

1. Time of reading
2. Ambient temperature
3. Humidity
4. Substrate temperature
5. Dew point

The frequency of recording environmental conditions shall be in accordance with the project requirements. If no such requirements are listed, the Installer shall perform a minimum of three (3) readings and record each reading in a daily log. It is the responsibility of the installer to adhere to the recommendations outlined by Siplast.

Substrate Preparation

Installers must record substrate preparation methods and other related information into a daily log in accordance with the contract documents. If no such requirements are listed, the Installer shall record the following information:

1. Area (size) of prepared substrate (typically reported in square feet or square meters)
2. Surface preparation standard utilized (i.e., SSPC-SP13/NACE No. 6)
3. Substrate composition (i.e., concrete, steel, etc.)
4. Surface preparation equipment utilized (i.e., shot blaster machine, open blast cleaning machine with nozzle, pressure washing machine, etc.)
5. Surface preparation media (i.e., steel shot, sand, water, etc.)
6. Surface profile achieved

Substrate moisture content for porous substrates such as concrete, masonry, or wood shall be in accordance with the contract documents or the values listed below, whichever is more stringent. The frequency of testing shall be in accordance with the contract documents. If no such requirements are listed, the frequency of testing shall be one (1) test per 1,000 ft² or a minimum of three (3) tests, whichever is greater.

Substrate	Test Apparatus	Requirement
Concrete & Masonry	Tramex Concrete Moisture Encounter CME5, CMEX5 (or similar), DeFelsko PosiTest CMM, or Similar	< 5%
Wood	Tramex Moisture Encounter ME5 or Similar	<15%

System Component Application

Installers must record product application information for each system component utilized (i.e., primer, base coat, topcoat) into a daily log as required in the contract documents. If no such requirements are listed in the contract documents, the Installer shall record the following information:

1. Area (size) coated (typically reported in square feet or square meters)
2. Product name
3. Batch number(s)
4. Ambient temperature of product component(s)
5. Quantity of material used (typically reported in gallons)
6. Mixing method, application method, and equipment used

Field Testing of System

Film Thickness

Installers must perform wet film thickness testing for each system component utilized (i.e., primer, base coat, topcoat) in accordance with the contract documents and record the results in a daily log. If no such requirements are listed, the Installer shall perform testing in accordance with ASTM D4414. The frequency of testing shall be in accordance with the contract documents. If no such requirements are listed, Installer shall perform at least one (1) test per 500 ft² or a minimum of three (3) tests per day, whichever is greater.

Pull-Off Adhesion Strength

Concrete Surface Tensile Strength

Installer shall perform pull-off surface tensile strength testing to evaluate the concrete substrate surface strength in accordance with the contract documents and record the results in a daily log. If no such requirements are listed, Installer shall perform pull-off surface tensile strength testing to achieve a 220 psi result in accordance with SSPC-SP13, Table 2. The minimum values shall be in accordance with SSPC-SP13, Table 2. Values lower than the minimum requirements may indicate unsound or bruised concrete. If Installer records values less than the minimum requirements, cease work and obtain further instruction from Owner or Engineer of Record³³.

³³ Refer to SSPC-SP13, Appendix A.8.5 for additional information. Appendix A.8.5 states *“Because of the variability in concrete, the surface preparation methods used and the choice and operation of the instruments, there is a large margin of error in the pull-off strength results obtained from these methods. Therefore, it is incumbent on all persons performing the testing and/or specifying the numeric results that equal attention is paid to the mode of failure and it is observed, interpreted, and the consequences understood.”* If on site personnel (Owner, General Contractor, Installer) suspect a pull-off value is erroneous, additional testing should be performed in the general vicinity of this test location to validate the results.

System Component Adhesion

Installers must perform pull-off adhesion strength testing for each system component utilized (i.e., primer, base coat, topcoat) in accordance with the contract documents and record the results in a daily log. If no such requirements are listed, the Installer shall perform testing in accordance with the requirements herein. The frequency of testing shall be in accordance with the contract documents. If no such frequency is listed, Installer shall perform one (1) test per 5,000 ft² or fraction thereof, or a minimum of three (3) tests, whichever is greater.

Concrete, Masonry, and Wood Substrates

Installer shall perform pull-off adhesion testing in accordance with ASTM D7234. The location of each adhesion test should be randomly selected and evenly distributed throughout the installation area. The minimum recommended value is 220 psi³⁴. For each test, the Installer shall record the following information into a daily log:

1. Adhesion value
2. Mode of failure
3. Product tested (i.e., primer, base coat, topcoat, etc.)

Metal Substrates

Installer shall perform pull-off adhesion testing in accordance with ASTM D4541. The location of each adhesion test should be randomly selected and evenly distributed throughout the installation area. The minimum recommended value is 220 psi⁶. For each test, the Installer shall record the following information into a daily log:

1. Adhesion value
2. Mode of failure
3. Product tested (i.e., primer, base coat, topcoat, etc.)

³⁴ Each result should be evaluated based on duration of cure, mode of failure, and force at failure. Refer to ASTM D7234, Appendix X.1 for additional information regarding interpretation of results.

V. Quick Reference Information

Primer Selection Table

	Terapro E 1200	Pro Primer E
Concrete (7 to 28-day cure)	X	✓
Concrete (≥28-day cure)	✓	✓
Masonry & CMU	✓	✓
Cement Cover Board	✓	✓
Steel	X	X
Galvanized Metal	X	X
Painted Metal	X	X
Plywood	✓	✓
Minimum Recoat Time @ 68°F	4-6 hours	2-3 hours

Coverage Rates of System Components

Layer	Standard Kit Size	Coverage Rate	wet film Thickness
Primers			
Pro Primer E 1200	3-gallon	200 ft² per gallon	8 mils
Pro Primer E	3-gallon	200 ft² per gallon	8 mils
Base Coat Layer (Terapro PUR 2200)	3-gallon	70 ft² per gallon	23 mils
Base Coat Layer (Terapro PUR 3200)	3-gallon	80 ft² per gallon	20 mils
Intermediate Coat Layer (Terapro PUR 3200)	3-gallon	133 ft² per gallon	12 mils
Topcoat Layer (Terapro PUR 3200)	3-gallon	100 ft² or 133 ft² per gallon (varies by system)	16 or 12 mils

Recommended Equipment Information

Siplast recommends the use of Seymour Midwest Rake brand coating application tools and supplies, or equal. Installer is responsible for selecting appropriately sized equipment to meet the requirements specified herein, as well as any project requirements.

VI. Commentary Regarding Dew Point Meter Accuracy

Electronic Dew Point Meters such as the Defelsko PosiTector DPM are used for measuring, monitoring, and recording climatic conditions including relative humidity, air temperature (“Ta”), substrate temperature (“Ts”), dew point temperature (“Td”), wind speed, and the difference between surface and dew point temperatures (“Ts-Td”).

Standard industry guidance recommends that membranes and coatings should only be installed when the substrate temperature is at least **5°F above the dew point and rising**. However, it is recommended that installers consider adopting more stringent requirements to better accommodate variances in the equipment accuracy, such as the requirements listed below.

Defelsko has published a document titled “PosiTector DPM Td Accuracy Statement”³⁵ in which charts are provided that illustrate the maximum error of Td based on ambient temperature and relative humidity.

It is critical that installers utilizing this equipment understand that as relative humidity decreases, the max Td error of the PosiTector DPM increases. As such, the installer must always closely monitor the environmental conditions during installation to ensure the application is occurring within acceptable parameters.

If dew point conditions begin to change and the difference between substrate temperature and dew point begins to decrease, the installer should begin preparing to cease work to avoid improper application.

Recommended Dew Point Requirements and Considerations

1. If relative humidity is less than 30%, the substrate temperature shall be 10°F (6°C) above the dew point and rising.
 - a. If the difference between the substrate temperature and dew point is increasing, once the substrate temperature is 10°F (6°C) above the dew point installation may commence.
 - b. If the difference between the substrate temperature and dew point is decreasing, once the substrate temperature is less than 10°F (6°C) above the dew point installation shall cease.
2. If relative humidity is greater than 30% the substrate temperature shall be 8°F (4.4°C) above the dew point and rising.
 - a. If the difference between the substrate temperature and dew point is increasing, once the substrate temperature is 8°F (4.4°C) above the dew point installation may commence.
 - b. If the difference between the substrate temperature and dew point is decreasing, once the substrate temperature is less than 8°F (4.4°C) above the dew point installation shall cease.
3. Installer shall closely monitor substrate temperature and dew point throughout the waterproofing installation process. If the difference between the substrate temperature and dew point is decreasing and nearing the above stated limits, the installer shall begin preparing to cease installation.

³⁵ <https://dl.defelsko.com/resources/DPM-accuracy.pdf>

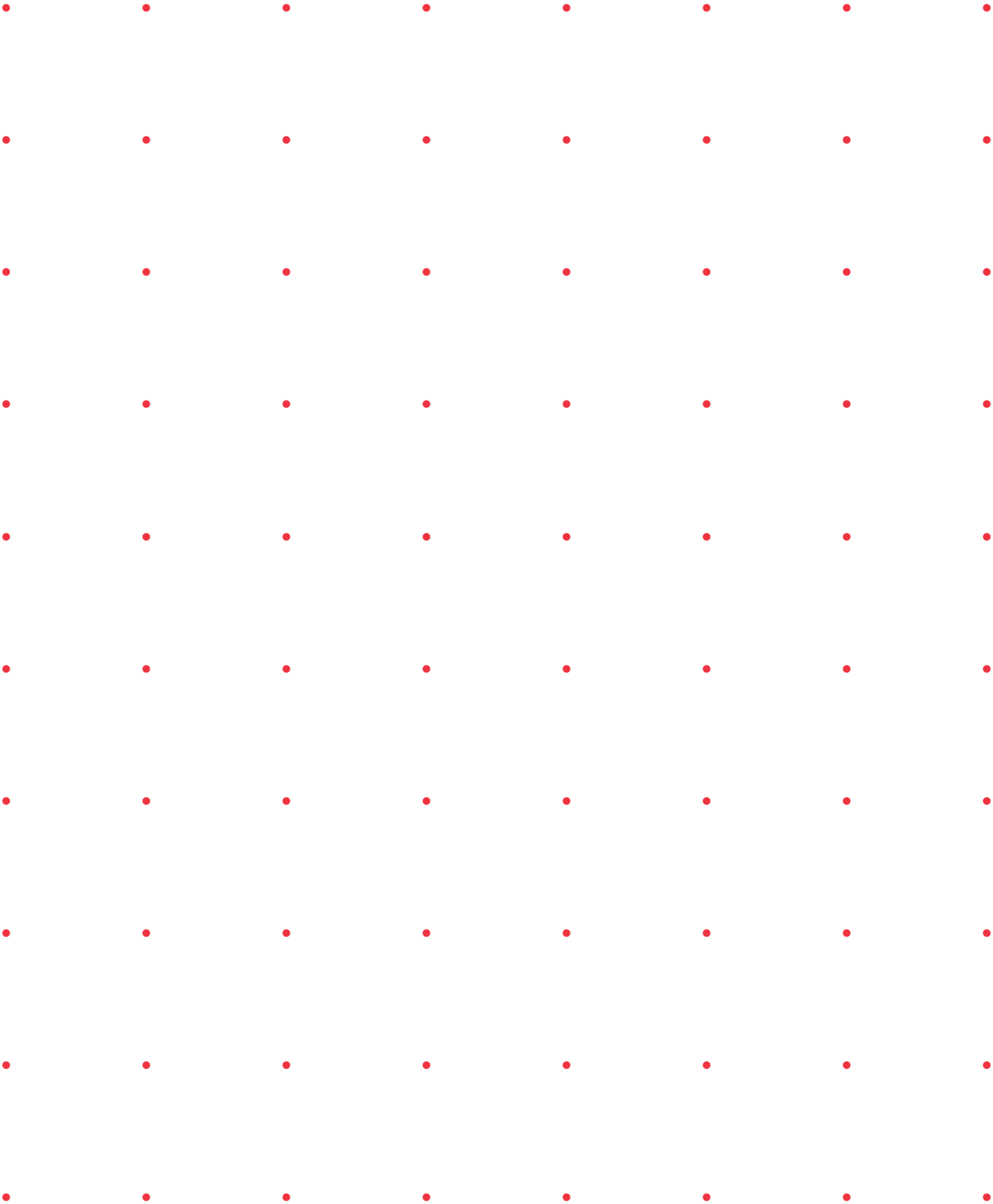
VII. Commentary Regarding Sand Broadcast into Primer

Proper use of primer is a critical component of a successful waterproofing application. Application of subsequent waterproofing component layers onto the primer must be performed within the primer's recoat window to ensure that maximum adhesion between layers is achieved. Maximum adhesion is achieved when the waterproofing layers form a chemical bond between each other (i.e., the layers adhere to each other at a molecular level).

In addition to achieving chemical bond, additional mechanical adhesion can be achieved by broadcasting aggregate into the primer while it's still in a liquid state. Sand increases the surface area that the subsequent layer of the waterproofing system can adhere to.

Installer should only install primer that can be overcoated within the product's specific recoat window. If extenuating project-specific circumstances are expected to affect the installer's ability to fully overcoat the installed primer, it is recommended that sand be broadcast into the primer to promote adhesion of the subsequent waterproofing system layers. If the recoat window is exceeded, the installer must brush blast the primer surface and install a subsequent coat of primer with sand broadcast. It is recommended that once the primer is cured, the installer performs adhesion testing to ensure adequate inter-layer adhesion is achieved.

Notes





Siplast
14911 Quorum Dr., Suite 600
Dallas, Texas 75254-1491
469-995-2200
Email: technicalassistance@siplast.com

Customer Service in North America:
Toll Free 1-800-922-8800

siplast.com

In Canada:
201 Bewicke Ave., Suite 208
Vancouver, BC, Canada V7M 3M7
604-929-7687