



# TerraQuartz®

## Application Instructions

### System Description

This document outlines the standard application guidelines for installation of the TerraQuartz® industrial flooring system. A single broadcast application will yield a 1/16" floor; a double broadcast application will yield a 1/8" floor. The system is applied using the following components.

**TQ BaseCoat:** a 100% solids epoxy-polyamide basecoat; applied at 85-100 square feet/gallon.

**TQ BaseCoat Redline:** a 100% solids epoxy quick cure basecoat applied at 85-100 square feet/gallon.

**TerraQuartz® Aggregate:** quartz granules; applied at 50 pounds/100 square feet/broadcast step.

**Sealer LS:** a 100% solids light-stable epoxy seal coat; applied at 80-100 square feet/gallon.

**TerraThane®:** a 100% solids aliphatic polyurea seal coat; applied at 200-300 square feet/gallon. 4 different version are available—**TerraThane, TerraThane BlueLine, TerraThane RedLine, TerraThane Satin.**

### Application Details

## 1. Concrete Condition

### 1.1 General

Concrete must be structurally sound and free of oil, grease, and other contaminants. New concrete must be thoroughly cured to prevent shrinkage cracks. Typically, 14 days at 70°F is sufficient.

### 1.2 Cracks, Sawcuts, Expansion Joints

Cracks, sawcuts, and expansion joints must be identified and characterized prior to installation. Cracks must be evaluated to determine if they are stable or moving. The method of crack treatment is dependent on the type of crack. Sawcuts and expansion joints should not be covered when the surface will experience changing temperatures.

### 1.3 Moisture

Excess moisture emissions can cause coating delamination. All concrete surfaces should be tested for moisture prior to applying a seamless coating. There are several methods available. ASTM D-4263 is a qualitative test using a plastic sheet. The calcium chloride test provides quantitative results. If moisture emissions exceed 3 lbs./1000 sq. ft./ 24 hrs, or concrete relative humidity exceeds 75% per ASTM F2170, TerraPrime MM may need to be installed prior to application of TerraQuartz® system. Contact applicator for details.

## 2. Environmental Conditions

### 2.1 General

Store materials in clean, dry conditions at temperatures between 65°F and 90°F. . Consult TDS for application temperature guidelines, making sure the appropriate version of BaseCoat and TerraThane are used for the existing conditions. The temperature must remain within this specified range for a minimum of 24 hours after application. The surface temperature also be at least 5° above the dew point.

## 2.2 Rising Temperatures

Concrete will release air during periods of rising temperatures. This can result in bubbles in the coating even in apparently well sealed concrete. To prevent bubbling, always apply coatings when the application and cure temperatures will be constant or decreasing.

# 3. Surface Preparation

## 3.1 Cleaning

Oil, grease, and other contaminants will inhibit bonding. Remove by first scraping any thick, caked deposits, then by scrubbing with an appropriate cleaner. Always finish with a warm water rinse. Test the treated area with a 1:2 mix of muriatic acid and water. (Always add acid to water.) A white haze of bubbles indicates a clean concrete surface.

## 3.2 Surface Profile

Surface laitance and loose concrete must be removed. The substrate must be prepared to a surface profile of CSP 2 or 3 by diamond grinding or light shot blasting. Acid etching can be used on new concrete, but mechanical preparation is always preferred and is the only acceptable method for old concrete and for new concrete if curing agents, hardeners, or sealers are present.

## 3.3 Surface Repairs

**voids, Popouts:** Remove all loose concrete from the damaged area. Fill as necessary with TerraRich or Patch Filler.

**Stable Cracks:** Minor shrinkage cracks can be bridged without special treatment. For wider cracks, route the crack in a “V” cut to a width of ½” and a depth of at least ¼”. Clean the area and fill with an epoxy grout.

**Moving Cracks:** Cracks less than 1/8” : Apply 8-10 mils of TerraFlex 16-24 inches wide centered on the crack. For larger cracks, saw cut the crack to a width of ½” and a depth of at least 1”. Clean the area and insert closed cell backer rod leaving an opening ½” deep. Fill the crack with TerraFlex and apply 8-10 mils of TerraFlex 16-24 inches wide centered on the crack.

**Expansion Joints:** Remove all material from the joint and insert closed cell backer rod. Leave the backer rod protruding from the joint during application to prevent the joint from being filled. Install the flooring up to the backer rod. After installation, depress the backer rod to a depth of ½”. Lightly sand the edges of the flooring system adjacent to the joint. Depress the backer rod, clean the joint, and install an appropriate sealant.

**Drains:** If a drain is surrounded by a joint, treat as outlined above. Seal all drain openings prior to application.

# 4. Mixing

## 4.1 Two Component Products

Premix Part A (resin) for 30 seconds with a drill and Jiffler or Hansen mixer. Slowly add Part B (catalyst) and continue mixing for 2 minutes. Mix at medium speed with the mixer immersed in the material to minimize air entrainment. Do not thin products.

# 5. Application

## 5.1 Double Broadcast

**First BaseCoat:** Mix the TQ BaseCoat as described in 4.1. Immediately after mixing, pour the material onto the floor in a 6-12” wide stream. Spread with a drywall knife or squeegee at 100 square feet/gallon. Backroll with a 3/8” roller to spread evenly. Pour subsequent mixes to overlap rolled material. Always pour into a wet edge. Pouring into an edge that has set will create a noticeable surface defect. If an application break is necessary, break at a wall, doorway, or joint.

**TerraQuartz® Aggregate:** TerraQuartz® Aggregate is broadcast into the wet basecoat. Broadcast the quartz in an upward motion to allow it to rain onto the surface evenly from above. Applying the quartz at an angle will cause ridges in the finish. Open time to accept quartz will vary depending on temperature and base coat used.. Always keep the

broadcast quartz at least five feet away from the wet edge of the basecoat. The seeding should leave no visible wet spots of the basecoat. An average rate of 50 lbs./100 square feet is required. Allow the surface to cure before continuing. Once the surface has cured, the excess quartz must be removed. Sweep or vacuum the surface. For a more uniform surface, the quartz can be scraped or to knock down high spots before vacuuming. The excess quartz can be saved for reuse.

**Second BaseCoat:** Apply TQ BaseCoat at 85-100 square feet/gallon over first broadcast coat. Again broadcast TerraQuartz® Aggregate as was done in first basecoat application.

**Sealer:** There are two products used to seal the dry quartz and finish the application:

Sealer LS is a 100% solids light-stable epoxy based on hydrogenated epoxy technology.

TerraThane is a light-stable aliphatic polyurea.

Depending on the surface profile and performance properties desired, the quartz may be sealed with one or two coats of sealer. For an aggressive profile, apply Sealer LS at 100-120 square feet/gallon. Spread with a non-marking squeegee. Backroll with a 3/8" nap roller until even. A finish coat of TerraThane® may be applied at 300 square feet/gallon. Pour the TerraThane® onto the floor and spread with a short, thin, flexible squeegee. Roll in both directions with a 3/8" nap roller to ensure complete coverage.

For a less aggressive texture, apply Sealer LS as the first seal coat at 80-100 square feet/gallon. Apply TerraThane® as the finish coat at a rate of 200-250 square feet/gallon.

## 6. Cleanup

### 6.1 Two Component Products

Clean all equipment immediately after use with isopropanol (rubbing alcohol) or xylene. Read the SDS and follow all safety procedures for any cleaning material.

## 7. Cure Time

### 7.1 Recoat

All coatings can be recoated as soon as they accept foot traffic. Following are typical times at 70°F.

Sealer LS:	12 hours
TerraThane®:	10 hours

All coatings must be recoated within 24 hours. After 24 hours, sanding is required before recoating.

### 7.2 Return to Service Guidelines for Standard TerraThane Finish Coat.

	55°F	70°F	85°F
Foot Traffic	30 hours	16 hours	10 hours
Wheel Traffic	96 hours	72 hours	48 hours

## 8. Safety

### 8.1 Storage and Handling

Store products in a cool, dry area away from flames and sparks. Separate resins from hardeners. Safety Data Sheets are available and should be read before handling any material. Avoid contact with all materials to prevent irritation. Wear rubber gloves, protective clothing, and safety glasses. Use only with adequate ventilation.

### 8.2 Composition

TQ BaseCoat and Sealer LS contain epoxy and amine resins. TerraThane® contains isocyanate and amine resins.

## **9. Floor Maintenance**

### **9.1 Cleaning**

Do not wash the floor within 5 days of installation. Exposure to water before the floor is completely cured may dull the finish. Avoid harsh chemical cleaning for ten days. To maintain the appearance and maximize the service life of the coating, clean regularly with a mild detergent and a floor scrubber with non-abrasive pads or brushes.

## **10. Technical Assistance**

### **10.1 American Industrial**

1218 W. 41st Street  
Suite B  
Tulsa, OK 74107

918-445-0627  
800-535-5053 (24 hour safety and medical help)  
[www.aiflooring.com](http://www.aiflooring.com)