



# TC-One®

## Application Instructions

### System Description

This document outlines the standard application guidelines for installation of the TC-One one day TerraChip system. Typically thickness for finished system is 16-20 mils

**Prime Coat:** TC-One applied at 400 sqft/gallon

**Broadcast Coat:** TC-One applied at 400 sqft/gallon  
TerraChips applied at 14lb/sqft

**Finish Coat:** TC-One applied at 200 sqft/gallon

TC-One is available in 3 different versions to optimize cure times and working times:

**TC-One:** Standard version of the product suitable for typical conditions

**TC-One Blueline:** Formulated for use in elevated temperatures and when extra working time is desired

**TC-One Redline:** Formulated for use in colder temperatures and when fast cure time is desired

### 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., or concrete relative humidity exceeds 75% per ASTM F2170, TerraPrime MM may need to be installed prior to application of TerraTono™. Contact applicator for details.

## 2. Environmental Conditions

### 2.1 General

Store materials in clean, dry conditions at temperatures between 65°F and 90°F. Surface, air, and material temperatures must be between 20°F and 100°F during application (consult TDS for temperature guidelines). The temperature must remain within this 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 TerraPrime 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 Prime Coat

Immediately after activating, begin applying TC-One at a rate of approximately 400 sqft/gallon using a dip and roll method, using a paint tray, or pouring out ribbons of material in small sections. Use a 3/8” non-sheeding roller to spread evenly—rolling east/west and finishing north/south ensuring even coverage. There should be no visible signs of puddling or roller marks. Continue moving down the floor in this manner until entire surface is coated, activating additional product as needed. If an application break is necessary, break at a wall, doorway, or joint.

## 5.2 Broadcast Coat

Use the TC-One pigment packs to make the tinted version of the TC-One Part A for the broadcast coat. Mix 1 quart of TC-One Pigment pack with 3 quarts of TC-One to create 1 gallon of tinted TC-One Part A. TC-One Pigment Packs are available in tan and gray and are used with standard chip blends as follows:

Tan: Autumn, Sandstone, Canyon, Brownstone

Gray: Marble, Blue Steel, Graphite, River Bed, Flint

For non standard colors, select a base color that most closely matches the tone of the chip blend, or contact aiflooring for handling special colors.

Once activated, begin applying the colored TC-One at a rate of 400 sqft/gallon using a dip and roll method, paint tray, or pouring out ribbons of material in small sections. Use a 3/8" non-sheeding roller to spread evenly—rolling east/west and finishing north/south ensuring even coverage. There should be no visible signs of puddling or roller marks. Coating should not be translucent, but rather a nice solid pigmented coat into which to broadcast.

TerraChips should be applied while TC-One broadcast coat is still wet, staying as close to the finish roll as possible. Broadcast the chips in an upward motion to allow them to rain onto the surface evenly. Always keep chips at least three feet away from the wet edge of the basecoat. An average rate of 14lbs./100 square feet is required. Allow the surface to cure before continuing – approximately 30-60 minutes depending on installation conditions an version of TC-One used). Once the surface has cured, the excess chips must be removed.

When working on the dry chips, take care to not track dirt onto the dry TerraChip® surface. Wear slip-on paper booties, cover your shoes with plastic bags, or work in your socks. Once broadcast coat is cured, remove excess chips with blower or broom. These can be collected and reused on subsequent jobs. Then, scrape the surface lightly in all four directions with a floor scraper to reduce profile and further remove excess chips. Vacuum or sweep up any residual chips. To reuse the sweep up, mix three parts of new chips with one part of sweepings. This will prevent any inconsistencies due to the smaller chips from the sweep up.

## 5.3 Finish Coat

Once activated, begin applying the clear TC-One at a rate of 200 sqft/gallon using a dip and roll method, paint tray, or pouring out ribbons of material in small sections. Use a 3/8" non-sheeding roller to spread evenly—rolling east/west and finishing north/south ensuring even coverage. There should be no visible signs of puddling or roller marks. . Continue moving down the floor in this manner until entire surface is coated, activating additional product as needed. If an application break is necessary, break at a wall, doorway, or joint.

Ramps and areas that are frequently wet may require additional texture. This can be achieved by broadcasting a silica sand into the finish coat prior to the finish roll. Size of aggregate and amount will vary depending on the desired level of texture.

# 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. Cure times will vary significantly with temperature and humidity, but room temperature estimates are as follows

TC-One Blueline:	1+ hours
TC-One :	45 min
TC-One Redline:	30 min

All coatings must be recoated within 3 hours. After 3 hours sanding is required before recoating.

### 7.2 Return to Service

Typical return to service time for standard TC-One

	55°F	70°F	85°F
Foot Traffic	4 hours	3 hours	2 hours
Wheel Traffic	36 hours	24 hours	18 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

TC-One contains isocyanate and amine resins. TerraChips are vinyl acrylic paint chips.

## 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)