

## CastorCrete™ TG

### PRODUCT DESCRIPTION AND USE

CastorCrete™ TG is a trowel-applied polyurethane mortar installed at ¼ to ⅜ inch to protect concrete from extreme physical and chemical abuse. It is very resistant to impact and abrasion and stands up to steel wheeled cart traffic. It is unaffected by hot cooking oils, animal fats and most solvents. CastorCrete™ TG has a co-efficient of thermal expansion similar to concrete which allows it to maintain adhesion when subjected to the thermal shock of hot water or steam cleaning. It can be used at constant service temperatures up to 250 °F. CastorCrete™ TG can be purchased with an anti-microbial additive to inhibit the growth of bacteria and micro-organisms.

CastorCrete™ TG is a quick turnaround flooring solution for businesses that must minimize down time. It is usually installed as a one step system without a primer or top coat and can be returned to service 12-24 hours after installation. CastorCrete™ TG is available in two formulations, regular and fast cure. The regular cure provides more work time than the fast cure material and makes the installation much easier at temperatures over 70 °F. CastorCrete™ TG is an environmentally friendly product. It contains no VOC, has very little odor and is made with natural sustainable raw materials.

Because of its unique combination of performance properties, CastorCrete™ TG has become the polymer flooring of choice for the demanding service conditions found in food and beverage processing industries. Other areas of use include commercial kitchens, chemical processing, pulp and paper plants and wastewater treatment facilities.

### **Chemical Composition**

Aromatic polyurethane concrete

### **Colors**

8 standard colors available

### **Limitations**

- Material will amber when exposed to UV light.
- Do not apply material in direct sunlight.
- Do not apply when temperatures are below 45 °F or above 90 °F.

### WARRANTY INFORMATION

Arizona Polymer Flooring guarantees that this product is free from manufacturing defects and complies with our published specifications. In the event that the buyer proves that the goods received do not conform to these specifications or were defectively manufactured, the buyer's remedies shall be limited to either the return of the goods and repayment of the purchase price or replacement of the defective material at the option of the seller. ARIZONA POLYMER FLOORING MAKES NO OTHER WARRANTY, EXPRESSED OR IMPLIED, AND ALL WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE ARE HEREBY DISCLAIMED. Arizona Polymer Flooring shall not be liable for damages caused by application of its products over concrete with excessive moisture vapor transmission or alkalinity. Arizona Polymer Flooring shall not be liable for any injury incurred in a slip and fall accident. Manufacturer or seller shall not be liable for prospective profits or consequential damages resulting from the use of this product.

### **SPECIALIZED FLOOR COATINGS & DECORATIVE CONCRETE SYSTEMS**

## **TECHNICAL DATA**

### **Physical Properties**

|  |               |
|--|---------------|
| Solids Content, % .....                                  | 100           |
| Mixing Ratio, .....                                      | Kit Packaging |
| Pot Life, Regular Cure (70 degrees, 1 gallon mass) ..... | 25 minutes    |
| Pot Life, Fast Cure (70 degrees, 1 gallon mass).....     | 15 minutes    |

Pot Life is reduced by increasing temperature and/or mass.

#### Cure Times (70 degrees)

| <u>Regular Cure</u>    | <u>Fast Cure</u>      |
|------------------------|-----------------------|
| Dry to Touch .....     | Dry to touch .....    |
| Return to Service .... | Return to Service ... |

### **Performance Properties**

|  |                                    |
|--|------------------------------------|
| Tensile Strength, psi (ASTM D-638).....              | 956                                |
| Ultimate Compressive Strength, psi (ASTM D-695)..... | 8,651                              |
| Ultimate Flexural Strength, psi (ASTM D-790) .....   | 3,321                              |
| Hardness, Shore D (ASTM D-2240).....                 | 85                                 |
| Adhesion to Concrete (ASTM 451).....                 | concrete fails before loss of bond |

### **Chemical Resistance**

The chemical resistance of a coating material is influenced by many factors, including exposure to a mixture of chemicals, service temperature and housekeeping practices. Successful engineering of the coating system must also take into consideration such factors as substrate design, temperature cycling and anticipated thermal and mechanical shock. Users are urged to consult our technical service department for recommendations on the specific project. Whenever possible, a sample should be tested under actual or simulated field conditions before a decision is made on the suitability of a given system.

The following chart is a guide to the resistance properties. Testing was conducted at room temperature on samples cured for 7 days.

- Key:
1. - Suitable for continuous contact
  2. - Suitable for intermittent spills and continuous contact up to 72 hours
  3. - Suitable for intermittent spills if followed promptly by water flushing
  4. - Not recommended

\*Coating stains when exposed to this chemical

|                           |   |                              |    |
|---------------------------|---|------------------------------|----|
| Acetic Acid, 15%.....     | 1 | Formaldehyde .....           | 1  |
| Acetic Acid, 25%.....     | 2 | Formic Acid 25% .....        | 1  |
| Acetic Acid, Glacial..... | 3 | Hydrobromic Acid, 48%.....   | *1 |
| Acetone.....              | 4 | Hydrochloric Acid, 37% ..... | *1 |
| Aluminum Chloride .....   | 1 | Hydrofluoric Acid 25% .....  | 2  |
| Aluminum Nitrate .....    | 1 | Hydrogen Peroxide, 30% ..... | 1  |
| Aluminum Sulfate .....    | 1 | Lactic Acid, 50% .....       | 1  |
| Ammonium Hydroxide .....  | 1 | Lactic Acid, 85% .....       | 2  |
| Ammonium Nitrate .....    | 1 | Jet Fuel.....                | 3  |
| Ammonium Sulfate .....    | 1 | Isopropyl Alcohol .....      | 2  |
| Aniline .....             | 3 | Maleic Acid, 40%.....        | 2  |
| Barium Chloride .....     | 1 | Methanol.....                | 3  |
| Barium Hydroxide .....    | 1 | Methylene Chloride .....     | 4  |
| Barium Sulfide .....      | 1 | Methyl Ethyl Ketone .....    | 4  |
| Beer .....                | 1 | Nitric Acid, 15% .....       | *1 |
| Benzene.....              | 1 | Oleic Acid .....             | 1  |

### Chemical Resistance (Cont'd.)

|                          |    |                            |    |
|--------------------------|----|----------------------------|----|
| Brake Fluid.....         | 1  | Phosphoric Acid, 85% ..... | 1  |
| Boric Acid.....          | 1  | Potassium Chloride .....   | 1  |
| N-Butyric Acid, 50%..... | 3  | Potassium Cyanide .....    | 1  |
| Calcium Chloride .....   | 1  | Potassium Hydroxide .....  | 1  |
| Calcium Hydroxide .....  | 1  | Potassium Nitrate .....    | 1  |
| Calcium Nitrate .....    | 1  | Potassium Sulfate .....    | 1  |
| Calcium Sulfate .....    | 1  | Skydrol.....               | 1  |
| Chloroform .....         | 1  | Sodium Hydroxide, 50%..... | 1  |
| Chromic Acid, 50% .....  | *1 | Sodium Chloride .....      | 1  |
| Citric acid, 50%.....    | 1  | Sulfuric Acid, 50% .....   | *1 |
| Cola Syrup .....         | 1  | Tetrahydrofuran.....       | 3  |
| Copper Chloride .....    | 1  | Toluene.....               | 3  |
| Copper Nitrate .....     | 1  | Trichlorethylene.....      | 3  |
| Copper Sulfate.....      | 1  | Trichlorethane .....       | 2  |
| Diesel Fuel.....         | 2  | Urea.....                  | 1  |
| Ethyl Acetate.....       | 2  | Xylene.....                | 2  |
| Ethyl Alcohol.....       | 2  |                            |    |

### GENERAL INFORMATION

#### Surface Preparation

Concrete surfaces must be clean, dry, and structurally sound. Surface must be shot blasted or scarified to CSP 4 to CSP 6. Keyways must be cut at 1/4" deep by 3/16<sup>th</sup> wide, 6 inches from all perimeter walls, machinery pedestals, and both sides of all control joints and at regular intervals spaced 10-12 feet apart throughout the flooring system. All floor drains and termination points must have a 1/2" deep by 1/2" wide keyway. **Never feather edge CastorCrete™ TG, always turn it into a keyway.** Priming of concrete substrates is not usually required under typical circumstances. However, due to variations in concrete quality, surface conditions, surface preparation and ambient conditions, reference test areas are recommended to determine whether priming is required to prevent the possibility of blisters, pinholes and other aesthetic variations. If priming is required, use Epoxy 100 applied at the rate of 200-250 sq. ft. per gallon. Proceed with CastorCrete™ TG when primed surface has become tack-free.

#### Moisture Vapor Emissions/Alkalinity Precautions

All interior concrete floors not poured over an effective moisture vapor retarder are subject to possible moisture vapor transmission that may lead to blistering and failure of the coating system. It is the coating applicator's responsibility to conduct calcium chloride and relative humidity probe testing to determine if excessive levels of vapor emissions are present before applying any coatings. Arizona Polymer Flooring and its sales agents will not be responsible for coating failures due to undetected moisture vapor emissions. Consult APF for information on moisture remediation products.

#### Mixing Instructions

Pour entire contents of parts A, B and C into mixing container and mix for 30 seconds. Then slowly add part D (aggregate) over a period of about 15 seconds. Once all of the components are incorporated, mix for an additional 30 seconds. Mixing should be done with a Kohl type mixer or any other mixer designed to mix heavy mortars. Mixed material should be placed immediately. It is recommended that multiple mixing containers be used to insure an adequate supply of fresh material.

### **Application Recommendations**

Under normal circumstances, CastorCrete™ TG is applied directly to the concrete without a primer. However, if the concrete is badly damaged or excessively porous, the use of Epoxy 100 as a primer can reduce outgassing, pinholes or blisters. A test area is recommended to determine if a primer should be used. For small areas, CastorCrete™ TG can be metered out and finished with a steel trowel. For large areas, a screed box is required. Once the mortar is screeded to the desired thickness, use a finishing trowel to compact and smooth the mortar. As soon as the mortar is relatively closed, immediately roll the surface with a looped roller or ¼-¾ inch nap roller to remove trowel marks and bring the resin to the top. It is very important to keep a wet edge. Each batch must be placed within 15 minutes of the prior one. Failure to do this could result in a visible tie in line. Excessive troweling or rolling can bring more resin to the top and reduce slip resistance. For very wet areas, it is recommended that 24 grit aluminum oxide be broadcast into the wet mortar.

### **Coverage per kit is as follows:**

#### **Floor Thickness**

¼ inch  
⅜ inch  
½ inch

#### **Coverage Per Kit**

22 Square Feet  
18 Square Feet  
11 Square Feet

### **Handling Precautions**

Avoid contact with skin; wear protective gloves. Read Material Safety Data Sheet before using.

### **Slip and Fall Precautions**

OSHA and the American Disabilities Act (ADA) have now set enforceable standards for slip-resistance on pedestrian surfaces. The current coefficient of friction required by ADA is .6 on level surfaces and .8 on ramps. Arizona Polymer Flooring recommends the use of angular slip-resistant aggregate in all coatings or flooring systems that may be exposed to wet, oily or greasy conditions. It is the contractor and end users' responsibility to provide a flooring system that meets current safety standards. Arizona Polymer Flooring or its sales agents will not be responsible for injury incurred in a slip and fall accident.