

**PRODUCT DESCRIPTION**

Tera-Gem III "U" Finish is a tough wearing 100% solids epoxy/aggregate composite designed for use in commercial and industrial environments. This product can be best utilized for heavy equipment movement areas, production and process areas, and dilute chemical usage areas. This product has excellent adhesion to concrete, tile and wood substrates. The Tera-Gem III "U" Finish consists of three (3) components: Component A, a modified Bisphenol A/Epichlorhydrin epoxy resin; Component B, a modified polyethylene amine curing agent; Component C, a specially graded sand aggregate to provide maximum packaging density while maintaining easy trowel and finishing characteristics. Tera-Gem III "U" Finish is a nominal 1/8" or 1/4" thick composite consisting of the following:

**PRIMER:** A two-component moisture tolerant epoxy primer. Other primers can be substituted depending on application.

**BASE COAT:** A three component, troweled polymer composite consisting of epoxy resin, curing agent and a Natural aggregate blend.

**SEAL COATS:** None

**PHYSICAL PROPERTIES \***

Compressive Strength	Mod. ASTM C-109	8,500 psi. AFTER 7 DAYS
Flexural Strength	Mod.(ASTM C-293)	2,000 psi.
Tensile Strength	(ASTM D-638)	>1,500 psi.
Flammability	(ASTM 635)	Self Extinguishing
Impact Resistance	(Mil D-3134F Sec 4.7.3)	No cracking or delamination at 16/ft/lbs
Dry Bond (concrete)	Mod.(ASTM C-293)	1,365 psi
Damp Adhesion (method 1)	Mod.(ASTM C-293)	850 psi
Damp Adhesion (method 2)	Mod. (ASTM C-293)	>200 psi
Linear Expansion	In./In./Degrees F	25 x 10 <sup>-6</sup>
Modulus Elast.		3.62 10 <sup>-6</sup>
Abrasion Loss	Ca. State C-360 Tabor Wheel 1,000 gram load/ 1,000 cycles	1 gram 28 mg. loss
Fungus & bacteria	Mil-F-52205	Will not support growth of fungus or bacteria test specified in TT-P-34

**Physical Properties-Binder Cured 7 days**

Epoxy Binder Ratio	2-A:1-B by volume
Aggregate Binder Ratio	7:1 by weight
Binder Pot Life	35-40 minutes
Binder Hardness (Barcol Tester)	70

When placed by trained applicators, Tera-Gem III "U" Finish will provide a long lasting, easy to maintain floor, with anti-skid properties that will stand up even in the most demanding of environments.

\*Properties are based on an epoxy composite formed by one (1) part Tera-Gem III “U” Finish epoxy binder and seven (7) parts of selected aggregate design. Different aggregate designs are necessary for application requiring smooth troweling.

### **SUGGESTED USES**

Tera-Gem III “U” finish is commonly used to preserve and rehabilitate concrete, tile, and wood substrates. It has been used successfully as an overlayment material in breweries, wineries, food processing plants, dairies, institutional kitchens, meat packing plants, or any area subjected to heavy traffic wear and/or chemicals.

### **CHEMICAL RESISTANCE PROPERTIES**

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Curing the binder for 7 days at room temperature and totally immersing the system for 24 hours measure chemical resistance for splash/spill or dilute applications. The chart below is a representative guide for several classes of industrial chemicals. For further information, consult the complete Tera-Gem III Chemical Resistance Chart.

<u>CHEMICAL TYPE</u>	<u>24 hr. wt. CHANGE</u>	<u>BARCOL HARDNESS</u>
15% HCL	.09%	72
Distilled Water	.08%	73
25% Acetic Acid	3.00%	36
Toluene/IPA	6.00%	N.R.
MEK	16.00%	N.R.

### **CHEMICAL RESISTANCE (PARTIAL LIST)**

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<u>Reagent</u>	<u>Film Integrity</u>	<u>Method</u>
10% Nitric Acid	No Effect	ASTM D-1308
10% Phosphoric Acid	No Effect	ASTM D-1308
10% Hydrochloric Acid	No Effect	ASTM D-1308
10% Sulfuric Acid	No Effect	ASTM D-1308
5% Acetic Acid	No Effect	ASTM D-1308
20% Ammonium	No Effect	ASTM D-1308
Urine	No Effect	ASTM D-1308
Tea/Coffee	No Effect	ASTM D-1308
Milk	No Effect	ASTM D-1308
Mustard	No Effect	ASTM D-1308
Ketchup	No Effect	ASTM D-1308
Household Cleaners	No Effect	ASTM D-1308
Non-Dye Containing	No Effect	ASTM D-1308

### **NOTE:**

- The end user should supply information regarding chemical concentrations, service temperatures and cleaning procedures to verify correct use of product. Review full chemical resistance charts for additional chemical information. Contact TL technical department for information regarding specific applications. Tera-Gem III “U” Finish performs adequately in many chemical environments, it is not recommended for immersion service.
- Staining or a white blush will occur if the new floor is not allowed to cure fully (7 days) prior to allowing water, chemicals, etc. to stand on the surface.

### **SURFACE PREPARATION**

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Concrete surfaces must be free from surface contaminants, laitance, curing compounds, oils, greases, dirt, chemical contaminants, delaminated coatings, etc. The surface must be sound. Concrete compressive strength must be a minimum of 3,000 psi. New concrete should be cured for a minimum of 28 days. Wet curing is the preferred method. User must notify

manufacturer if conditions differ from above. To properly clean concrete surfaces, the concrete may be sandblasted, steel shot-blasted, scarified, or other approved technique.

## **SYSTEM APPLICATION**

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### **PATCHING IF NEEDED:**

Since this is a coating, some patching of spalls, holes, and cracks may be required. Use Tera-Gem III RP45 – Epoxy Patch prior to coating.

### **PRIMER:**

Prepared surfaces must be primed with Tera-Gem III Primer. Mix part A of Tera-Gem III Primer with the Part B at a 2-A:1-B by volume mix ratio. Mix for 2 to 3 minutes in a bucket with an electrical drill mixer making sure the sides and bottom are thoroughly contacted. As quickly as possible dump out the mixed primer on the floor and distribute evenly by roller or squeegee. Spread rate is 100 to 150 sq. ft. per gallon.

### **BASECOAT (AKA BODY COAT, TROWELED COAT):**

Mix Tera-Gem III “U” Finish Part A with Part B at a 2-A:1-B volume ratio or 100-A:42.7-B by weight. Add (1) part by weight of Tera-Gem III “U” Finish base coat catalyzed binder to (7) parts weight of Component C, aggregate mix. (NOTE: A variation in aggregate gradation may alter finished properties). Thoroughly mix components A and B for 1 to 2 minutes with an electric drill motor mixer (Jiffy type). Then, add component C and mix for an additional 2 to 3 minutes, making sure to mix bottom and sides in thoroughly until the aggregate mix is thoroughly wetted with the catalyzed epoxy. Trowel the topping maintaining the desired thickness. A ¼” thickness is recommended for industrial environments.

## **MATERIAL HANDLING**

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Epoxy resins and curing agents have certain handling hazards. Users should become familiar with the information contained in the MSDS sheets for each formulated system. Observe warning indications on the labels for each component.

## **PACKAGING**

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Tera-Gem III “U” Finish epoxy system is available in pre-measured gallons, 3 gallon kits, 15 gallons kits and 165 gallon kits. Aggregates are shipped in 353, 50 lb. and 100 lb. sacks.

## **NOTES**

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The following information is available online at [www.teralite.com](http://www.teralite.com):

- Material Safety Data      - Color Selection      - Anti-Skid Recommendation      -Maintenance Suggestions
- Chemical Resistance

The technical data furnished is true and accurate to the best of our knowledge. However, no guarantee of accuracy is given or implied. We suggest that the user evaluate these recommendations and suggestions in conjunction with their specific application. Tera-Lite, Inc. / Revolan Systems warrant its products to be free from manufacturing defects conforming to our most recent material specifications. In the event of liability, we will be limited to the replacement of material at the material value only and at the sole discretion of Tera-Lite Inc. /Revolan Systems. We assume no responsibility for coverage, suitability of application, performance, or injuries resulting from use.

