

### HIGH PERFORMANCE CRACK BRIDGING CONTAINMENT LININGS

KCC is pleased to introduce an enhanced family of *Elasti-Liner*® products, meeting EPA VOC regulations that became effective January 1, 2005. *Elasti-Liner*® products are still unequalled after 14 years of excellence with the same high performance in resistance to chemicals, temperature and in crack-bridging that has made *Elasti-Liner*® containment linings the industry standard. It is fitting that the leading containment lining protecting earth from spills and contamination is also protecting the earth from VOC's. First introduced in 1994, *Elasti-Liner*® represented a unique (patented) technology and an entirely new class of advanced, high performance, secondary containment linings. *Elasti-Liner*®, which has become widely known as "The Ultimate Containment Lining"® is a completely new generation of polymers which combine unequalled chemical resistance with unsurpassed crack-bridging and unmatched resistance to weathering and UV exposure in a uniform (top to bottom) polymer system. *Elasti-Liner*® allows for truly monolithic lining application (no joints and no dissimilar layers), applied directly over existing joints) and is fire retardant. The proven success and reliability of *Elasti-Liner*® continues to provide facility owners with the most advanced technology available in preventing ground water contamination. As a result of the relentless innovation on-going at KCC, the original product, now called *Elasti-Liner*® II (U.S. Patent

Number 5,814,693) has been further improved to handle the highest concentrations of both organic and inorganic acids, all alkalines and many solvents. The newest member of the *Elasti-Liner*® family was developed at the request of many customers who desired the crack-bridging and physical properties of the original, without the need for chemical resistance to the highly concentrated acids. Rather, the new product is intended for more dilute acid chemistry at lower installed cost. In late 1997, KCC introduced this new product, named *Elasti-Liner*® I covered under KCC's patent, provided yet another break through in new polymer technology. *Elasti-Liner*® I has excellent crack-bridging and UV resistant properties, and maintains a high level of chemical resistance to alkalines and moderate strength acids. In highly concentrated acid chemistry, *Elasti-Liner*® II is recommended. Both *Elasti-Liner*® products provide superior crack bridging, over moving or non-moving cracks in concrete substrates, and are recommended for use over existing cracked linings as well. Most rigid products with little or no crack bridging capability cannot match *Elasti-Liner*® II in its broad spectrum of chemical resistance. Low Temperature Cure version of *Elasti-Liner*® II is available for substrate temperatures as low as 50°F. *Elasti-Liner*® I does not require any additives for use and cure at 50°F.

Specifying either *Elasti-Liner*® I or II provides you with very significant, long lasting performance advantages over any other material;

- Unequalled chemical resistance to organic & inorganic acids, caustics, many solvents (*Elasti-Liner*® II > *Elasti-Liner*® I).
- Unprecedented crack bridging on concrete substrates with **three year warranty** on *Elasti-Liner*® II.
- Excellent abrasion resistance. (Available with slip resistant (SR) polymer additive for walking surfaces.)
- Resistant to high temperature spills of aqueous materials to 300°F and thermal shock  $\Delta T$  of 150°F (*Elasti-Liner*® II).
- Monolithic, no joints, seams or dissimilar layers of materials. Installed over expansion joints to provide truly monolithic, corrosion resistant containment lining.
- Recommended for most containment substrates, old and new concrete, steel and new or old cracked polymer linings.
- Performance unaffected by weathering and UV light. *Elasti-Liner*® will not lose crack bridging and chemical resistance properties with age, as is typical of other polymer systems.
- Highly competitive installed "first cost" compared to far less capable materials.
- Both *Elasti-Liner*® I & II are VOC compliant and meet EPA Regulations effective January 1, 2005.

One name - *Elasti-Liner*®. Two distinct products with unique and unequalled capabilities - *Elasti-Liner*® I and *Elasti-Liner*® II. Review the chemical resistance charts and physical properties for each product on the following pages. Consult with KCC for the optimum choice to meet your performance requirements. KCC *Elasti-Liner*® technology is the answer to your chemical containment requirements.

***Elasti-Liner*® is "the ultimate containment lining"®**

*Elasti-Liner*® and "the ultimate containment lining"® are copyrighted trademarks of KCC Corrosion Control Co., Ltd.

**CHEMICAL RESISTANCE<sup>1</sup> ELASTI-LINER® II**

*Elasti-Liner® II* is suitable for intermittent immersion conditions in lining sumps, trenches and concrete tanks up to 250°F in aqueous environments. *Elasti-Liner® II* is recommended to 300°F in aqueous splash and spill conditions; ambient temperature for solvent spills. ***Elasti-Liner® II* is recommended for effective 72 hour spill containment of many industrial chemicals; examples are listed below. Contact KCC to confirm suitability for your specific application.**

ACIDS	ALKALINES	SOLVENTS, CHEMICALS
1-80% Acrylic	All Plating Solutions	All Alcohols
1-Glacial Acetic	All Pulp Liquors	Animal & Mineral Oils
1-50% Chromic	1-10% Ammonium Fluoride	Fuels & Fuel Oils
1-50% Ferric Chloride	1-20% Sodium Hypochlorite	Triethanolamine
1-37% Hydrochloric	1%-Sat. Ammonium Hydroxide	1-30% Hydrogen Peroxide
1-49% Hydrofluoric (24 hrs. max.)	1-15% Calcium Hypochlorite	Lubricating Oils
1-50% Hydrofluosilicic	1-90% Potassium Hydroxide	Methyl Cellosolve
1-70% Nitric	1-80% Potassium Nitrate	Sour Crude Oils
1-85% Phosphoric	1-50% Sodium Hydroxide	Triethanolamine
1-98% Sulfuric	1-10% Sodium Peroxide	Trisodium Phosphate

Note: Adding water to a spilled acid is dangerous as it causes an immediate and highly exothermic (rise in temperature) reaction.

Be sure to flood an area with very large quantities of water to overwhelm the acid in a wash down to prevent an exothermic reaction.

***ELASTI-LINER® II* MAXIMUM SERVICE TEMPERATURES<sup>1</sup>** In aqueous chemicals, splash & spill: **300°F**

In aqueous chemicals, intermittent immersion: **250°F**

In 72 hour containment of aqueous chemicals: **150°F<sup>1</sup>**

In solvents and non-aqueous chemicals, splash & spill: **ambient** temperature.

Contact KCC for specific recommendations for your specific temperatures.

**CHEMICAL RESISTANCE<sup>1</sup> ELASTI-LINER® I**

*Elasti-Liner® I* is suitable for intermittent immersion conditions in lining sumps, trenches and concrete tanks up to 170°F in aqueous environments. *Elasti-Liner® I* is recommended to 210°F in aqueous splash and spill conditions; ambient temperature for solvent spills. ***Elasti-Liner® I* is recommended for 72 hour spill containment of many industrial chemicals; examples are listed below. Be sure to contact KCC to confirm suitability for your specific application.**

ACIDS	ALKALINES	SOLVENTS, CHEMICALS
1-50% Acrylic	All Plating & Anodizing solutions	All Alcohols
1-50% Acetic	All Pulp Liquors	Animal & Mineral Oils
Anodizing solutions	1-10% Ammonium Fluoride	Ethylene Glycol
Chrome Plating solutions	1-20% - Ammonium Hydroxide	Fuel Oils
1-30% Chromic	Cadmium Cyanide Plating solution	Lubricating Oils
1-50% Ferric Chloride	Ferric Hydroxide	Sour Crude Oils
1-37% Hydrochloric	1-15% Calc. Hypochlorite	Trisodium Phosphate
1-20% Hydrofluoric	1-45% Potassium Hydroxide	Urea
1-35% Hydrofluosilicic	1-50% Sodium Hydroxide	Vinegar
1-40% Nitric	1-15% Sodium Hypochlorite	Acid Mine Water
1-85% Phosphoric		Sewage Water
1-75% Sulfuric		

Note: Adding water to a spilled acid is dangerous as it causes an immediate and highly exothermic (rise in temperature) reaction.

Be sure to flood an area with very large quantities of water to overwhelm the acid in a wash down to prevent an exothermic reaction.

***ELASTI-LINER® I* MAXIMUM SERVICE TEMPERATURES<sup>1</sup>** In aqueous chemicals, splash & spill: **250°F**

In aqueous chemicals, intermittent immersion: **200°F.**

In 72 hour containment of aqueous chemicals: **130°F<sup>1</sup>**

In solvents and non-aqueous chemicals, splash & spill: **ambient** temperature.

Contact KCC for specific recommendations for your specific temperatures.

**RESISTANCE TO WEATHERING**

All *Elasti-Liner®* products are specially formulated to resist color fade and chalking when used outdoors in ultraviolet light. However, over time there could be a very slight loss of color luster. This will not adversely affect the overall performance of the lining system in chemical containment applications. Unlike many other polymers, *Elasti-Liner® I & II* retain their excellent chemical resistance and crack bridging properties and even improve considerably with age.

<sup>1</sup> FOR SPECIFIC RECOMMENDATIONS CONTACT KCC CORROSION CONTROL CO., LTD.

TYPICAL PROPERTIES	Elasti-Liner® II	Elasti-Liner® I
Solids Content: .....	39% ± 2.0% by weight	43% ± 2.0% by weight
.....	34% ± 1.5% by volume	41% ± 1.5% by volume
EPA Solids Content .....	66% ± 1.0% by weight	69% ± 1.0% by weight
Volatile Organic Content: .....	1.456 lbs. per gallon	1.364 lbs. per gallon
Flash Point: (Pensky-Martens Closed Cup).....	Resin Part A > 65°F .....	Resin Part A > 65°F
.....	Hardener Part B > 53°F.....	Hardener Part B > 55°F
.....	Standard Accelerator Part C > 120°F	(N/A)
.....	LTC Accelerator Part C > 120°F	(N/A)
Viscosity: @ 75°F (mixed).....	2000 - 3000 cps	3000 - 4000 cps
Weight/Gallon: .....	8.2 ± 0.2 lbs./gal. (mixed)	8.7 ± 0.2 lbs./gal. (mixed)
Thinner: .....	<b>Only if and as directed by KCC, Do Not Use MEK.</b>	
Coverage: (theoretical sq. ft. per gallon) .....	32sq.ft./gl.@50 wet mils→19m dry	40sq.ft./gl.@40 wet mils→17m dry
System Thickness (minimum DFT recommended):	40 mils min for Elasti-Liner II	40 mils min for Elasti-Liner I
Color: .....	Charcoal	Light Gray

PHYSICAL PROPERTIES (Cured 7 days at room temp.)	Elasti-Liner® II	Elasti-Liner® I
Tensile Strength at break (ASTM D-412): .....	1100 lbs. force/in <sup>2</sup>	900 lbs. force/in <sup>2</sup>
Tensile Strength at 50% Elongation (ASTM D-412) .....	310 lbs. force/in <sup>2</sup>	350 lbs. force/in <sup>2</sup>
Elongation at break: (ASTM D-412):.....	200% average	180% average
Bond Strength to Concrete (ASTM D-4541): .....	both > tensile strength of concrete; breaks 5000 psi concrete	
Shore "A" Hardness (ASTM D-2240):.....	65 to 75	70 to 80
Tear Strength (ASTM D-624): .....	110 lbs. force/in <sup>2</sup>	104 lbs. force/in <sup>2</sup>
Impact Strength .....	undamaged at highest test force possible	(same as II)

**STORAGE AND SHELF LIFE**

All *Elasti-Liner*® components should be stored in their sealed containers in a cool dry area and out of direct sunlight in temperatures ranging from 60°F to 80°F.

**TYPICAL SHELF LIFE**

Temperature	Months	
	EL I	EL II
@ 50°F	12	12
@ 75°F	8	9
@ <90°F	6	8

**INSTALLATION PROCEDURES – GENERAL**

**Elasti-Liner I & II are Roller Applied Only Materials.**

The installation procedures in this bulletin are as specific as possible. These procedures vary, depending on the version of *Elasti-Liner*® being applied. **Be certain to read the mixing and application procedures that relate to the *Elasti-Liner*® product to be used**

**Surface Preparation:** Elasti-Liner® I and II

**On Steel:** All steel surfaces to be coated require a "White Metal" blast to SSPC-SP-5 or NACE 1, with an abrasive blast. A KCC E 3 series primer is required before *Elasti-Liner*® I or II application. Consult with KCC for specific recommendations on application of *Elasti-Liner*® to steel

**On Concrete Containment Structures:** An E 3 series primer is required. All oil, grease, chemicals, and/or weak laitance should be removed by either mechanical or chemical methods. Mechanical methods such as sandblasting, blastracking or scarifying are the preferred methods.

**Priming:** Installation of Elasti-Liner I & II requires an E 3 series primer applied at 3 to 5 measurable wet mils on the concrete. Never apply Elasti-Liner without primer, consult KCC on primer.

Chemical methods such as acid etching and detergents should only be used to remove laitance, and grease when mechanical methods cannot be used.

The concrete must have a tensile strength of 250 psi minimum, and be clean and dry. All pits and surface imperfections, sharp corners, undercut areas from forms, honeycombing and bug holes opened up as a result of surface preparation must be repaired by "scratch coating" after priming. Existing polymer materials may only require high pressure washing or light abrasive blasting, but must be well bonded to concrete substrate. For specific surface repair material recommendations, contact KCC Corrosion Control.

Specific recommendations and testing procedures for surface tensile strength and moisture content are contained in KCC Corrosion Control Specification SC-01 "Preparation of Concrete for Thermoset Polymer Systems".

- **Mixing and Application:**  
**BEFORE MIXING COMPONENTS, MEASURE TEMPERATURE OF SURFACE TO BE COATED USING INFRARED or DIAL SURFACE THERMOMETERS. DO NOT ATTEMPT MATERIAL APPLICATION IF SURFACE TEMPERATURE IS BELOW 50°F, ABOVE 100°F, OR WITHIN 5°F OF DEW POINT. DO NOT USE AIR TEMPERATURE AS A DETERMINATION OF SURFACE TEMPERATURE !**

When coating concrete surfaces, blowholes caused by air movement out of concrete may occur. Concrete generally expels air during the day and intakes air during the night. The best time to apply any coating to avoid blowholes in the coating film is early evening at which time concrete is cooling and temperature drop of surface has been confirmed by measurement. Other precautions such as shading work area from sunlight to minimize the heating of the substrate and elimination of cyclic temperature changes will also reduce expulsion of air. KCC TECHNICAL PLUS E 3 or E 8 Primer, followed by application of KCC Epoxy Scratch Coat will minimize air expulsion from the concrete if both the primer and scratch coat area applied during the time when concrete is cooling (late afternoon, early evening) or work area has been shaded.

<sup>1</sup> FOR SPECIFIC RECOMMENDATIONS CONTACT KCC CORROSION CONTROL CO., LTD.

**Elasti-Liner® I & II MIXING & APPLICATION****Elasti-Liner® I PACKAGING**

1 Gal. Unit	5 Gal. Unit	30 Gal. Unit
Part A 7.9 lbs.	Part A 39.5 lbs.	Part A 237.0 lbs.
Part B 0.40 lbs.	Part B 2.0 lbs.	Part B 12.0 lbs.

**Elasti-Liner® II PACKAGING**

1 Gal. Unit	5 Gal. Unit	30 Gal. Unit
Part A 8.2 lbs.	Part A 41.1 lbs.	Part A 246.0 lbs.
Part B 0.13 lbs.	Part B 0.65 lbs.	Part B 3.9 lbs.
Std. C 0.65 lb.	Std. C 3.25 lbs.	Std. C 19.5 lbs.
LTC C 0.39 lb.	LTC C 1.95 lbs.	LTC C 11.7 lbs.

**POT LIFE or WORKING TIME (see tables below)**

The pot life or working time of the material is mass sensitive for Elasti-Liner I only, and both Elasti-Liner I & II are temperature sensitive. Elasti-Liner II is not mass sensitive therefore a larger volume of that material may be mixed, without the penalty of shorter pot life. However, no more material should be mixed than can be applied in the pot life period specified below for the temperature of the material, or within a maximum 2 hour period. All materials should be stored between 60°F and 80°F for 24 hours prior to use for optimum handling properties.

**Elasti-Liner® I POT LIFE and RECOAT TIME**

Temp.	Pot Life	Minimum Time to Recoat	Maximum Time to Recoat
@ 50°F	1 hrs.	7 hrs.	96 hrs.
@ 70°F	45 min.	5 hrs.	72 hrs.
@ 90°F	30 min.	3 hrs.	48 hrs.

**Elasti-Liner® II POT LIFE and RECOAT TIME**

with Part C Standard Accelerator

Temp.	Pot Life	Minimum Time to Recoat	Maximum Time to Recoat
@ 70°F	2 hrs.	10 hrs.	72 hrs.
@ 80°F	1½ hrs.	8 hrs.	60 hrs.
@ 90°F	1 hrs.	6 hrs.	48 hrs.

**Elasti-Liner® II POT LIFE and RECOAT TIME**

with Part C Low Temp. Cure Accelerator

Temp.	Pot Life	Minimum Time to Recoat	Maximum Time to Recoat*
@ 50°F	2 hrs.	12 hrs.	48 hrs.
@ 60°F	2 hrs.	10 hrs.	36 hrs.
@ 70°F	1½ hrs.	8 hrs.	18 hrs.

\*Recoat time is affected by wet film thickness. Times given above relate to 50 wet mils. Thinner films require faster recoating.

Thinner films will cure faster and require recoating sooner. **Elasti-Liner® I & II may be recoated as soon as material is cured well enough to resist damage by walking on or handling the surface.**<sup>1</sup>

**Mixing Instructions - Elasti-Liner® I & II After Priming and Scratch Coat Application:**

It is important to note that for all installations of *Elasti-Liner® I or II*, after surface preparation, all surfaces are first primed with either E 3 or E 8 primer, and repair of any concrete defects is made with Epoxy Scratch Coat.

**The first coat applied after priming and scratch coating is *Elasti-Liner® I*, that is always applied as a basecoat for both *Elasti-Liner® I & II* installations. *Elasti-Liner® I* is a two component mix of Resin (Part A) and Hardener (Part B). Subsequent topcoats of either *Elasti-Liner® I or II* are then applied depending on the system being installed.**

Following are important steps to properly mix E 3 or E 8 primer, Epoxy Scratch Coat resin & hardener as well as *Elasti-Liner® I & II* base and topcoats.

All of these materials are a mixture of two product components, except *Elasti-Liner® II*, which is a mixture of three product components, which must be thoroughly and properly mixed in the prescribed order. The following are the important steps to properly mix *Elasti-Liner®* system components:

- Using a mechanical (Jiffy type) mixer, thoroughly stir Resin (Part A) for two minutes prior to adding any other component.
- After stirring Part A for two minutes, continue to mix and slowly add Hardener (Part B), pouring the Part B into the vortex created by the mixer but away from the shaft. Mix for 2 to 3 minutes after Part B is added and frequently scrape the material off the sides of the bucket using a clean flat-bladed tool.

**Step 3 is for *Elasti-Liner® II* only.**

- Continuing to mix, slowly add *Elasti-Liner® II* Accelerator (Part C), pouring it into the vortex created by the mixer but away from the shaft. After all Part C is added, continue to mix for an additional two minutes minimum and frequently scrape the material off the sides of the bucket. **Use either Part C Standard Accelerator (surface temp. > 70°F) or Part C LTC Accelerator (surface temp. 50°-70°F) BUT DO NOT USE BOTH !**

**It is critical that the entire quantities of all three components are used and mixed into the full unit.** Proper ratio of components is important to ultimate cure and film properties. **Do not leave out any material! Use thinner only as specified in these instructions. Use either Part C Standard Accelerator or Part C LTC Accelerator, but not both in any one mixture of *Elasti-Liner II*. Do not vary from mixing instructions provided herein unless specifically instructed by KCC.**

<sup>1</sup> FOR SPECIFIC RECOMMENDATIONS CONTACT KCC CORROSION CONTROL CO., LTD.

### **Application Instructions - Elasti-Liner® I & II**

**(1) Surface Temperature:** For best results, it is recommended that primer, scratch coat (if required) and all coats of *Elasti-Liner® I or II* be applied when temperatures are cooling and concrete is no longer expelling air (usually in the early evening), or on completely sealed surfaces (primed and scratch coated). Never apply any of the materials in direct sunlight and always shade the work area at a minimum.

*Elasti-Liner® I or II* should **not** be applied at surface temperatures **below 50°F** or **above 90°F** as measured by a surface thermometer. *Do not use air temperature as a determination of surface temperature! Shade area from direct in advance of and during application and cure time to cool the surface or apply while concrete is cooling.*

*At temperatures above 70°F, Part C Standard Accelerator is used for Elasti-Liner II. . At temperatures between 50°F and 70°F, Part C LTC (Low Temperature Cure) Accelerator is used. Shipments may contain both Part C Accelerators to accommodate changing temperatures. Use either, but not both.*

**(2) Application Tools:** The use of short-nap paint rollers on vertical surfaces and flat bladed squeegees and spiked metal rollers on horizontal surfaces are the recommended methods of applying *Elasti-Liner® II*. Airless spray application may be successful on certain projects (consult with KCC). Brush application is generally only used for very small areas, areas inaccessible to spray equipment and small repairs. Notched squeegee application on horizontal surfaces is acceptable, provided maximum thickness of 50 wet mils per coat is not exceeded.

**(3) Application Methods & Thickness: Elasti-Liner I & II are to be applied by roller or squeegee only.** *Elasti-Liner® II* Topcoat is applied at 50 wet mils maximum per coat, confirmed by use of a wet film thickness gauge. 50 wet mils may be applied in one coat on horizontal surfaces and two to three successive coats on vertical surfaces (about 20 to 22 wet mils per coat). Consistent film thickness is achieved by using steel spiked rollers on horizontal surfaces. Consistent film thickness on verticals is achieved using short nap paint rollers. Rolling Aid may be added to achieve designated film thickness on vertical surfaces. Small amounts of DIBK solvent may also be added when Rolling Aid is used to reduce defects created during rolling. Brushes are only used on small areas and for repairs (see Repair Procedure section).

**(4) Application to Previously Coated Surfaces:** *Before application of Elasti-Liner® II to any existing lining or coating, compatibility must be confirmed by test patches and adhesion or peel tests. These tests are recommended to determine sufficiency of bond to existing coating or*

*lining and bond of existing coating to the concrete substrate. If testing has confirmed compatibility,*

*Elasti-Liner® I* basecoat may be applied to previously coated surfaces after the surfaces have been cleaned and abrasively blasted to provide roughened finish equivalent to coarse grit sandpaper and either E 3, E 8 primer or KCC EN Tie Coat are applied. Never apply *Elasti-Liner* directly to concrete, always use an E 3 series primer.

*Elasti-Liner® I* basecoat is applied (at 20 to 25 mils wet = 10 to 12 dry mils). After *Elasti-Liner® I* basecoat has cured sufficiently that it cannot be damaged by touch, it is ready for topcoat application of either *Elasti-Liner® I or II* topcoats.

**(5) Application to Bare Concrete:** Application of *Elasti-Liner® I or II* direct to bare, dry concrete is **not** recommended. KCC requires a.) proper surface preparation of the concrete, b.) priming the concrete with an E 3 series primer, followed by c.) concrete repairs with epoxy scratch coat to fill “bug holes” and other surface imperfections, followed by d.) a basecoat of *Elasti-Liner® I* on both *Elasti-Liner® I & II* installations. Any questions on surface preparation, concrete repairs, priming and *Elasti-Liner®* installation procedures, contact KCC.

**(6) Application to Primed and/or Scratch Coated Surfaces:** *Elasti-Liner® I* Basecoat and *Elasti-Liner® I or II* Topcoats are applied directly to surfaces primed with TECHNI-PLUS E 3 or E 8 Primer and/or sealed with TECHNI-PLUS Epoxy Scratch Coat. No additional primer is required after use of Epoxy Scratch Coat, provided that recoat over installed scratch coat is accomplished within 14 days of date of cure and surface is protected from sunlight after installation of scratch coat or primer. The target substrate surface is first wiped clean with a clean dry wipe. In the event of dirt or other hard to remove debris is present, solvent wipe may be required.

**(7) Slip Resistant (SR) Additive for Final Topcoat on Walking Surfaces:** SR Additive, a selected polymer bead, is used for walking surfaces where slip resistance is desired. Prior to application, SR Additive is mixed into *Elasti-Liner® II* Topcoat Resin (Part A) at the rate of 1½ lbs. per 5 gallons of material (1½ lbs. of SR Additive measures 1.9 quarts by dry volume). Parts B and C are then mixed in as described above. Topcoat with SR additive is applied at 30 to 35 wet mils using a short nap paint roller. With SR Additive, thinning of the mixture using DIBK Solvent at 12 oz. per gallon may be advised.

<sup>1</sup> FOR SPECIFIC RECOMMENDATIONS CONTACT KCC CORROSION CONTROL CO., LTD.

**REPAIR PROCEDURE - Elasti-Liner® I & II**

Area to be repaired must be cleaned of all chemical residues. Wipe the area with ketone solvent or degreaser. Abrade surface of material with 20 mesh sand paper. Be sure to abrade at least 1 inch beyond entire area to be repaired. Dust off area well and wipe with solvent. Allow solvent to completely dry for at least 20 minutes or until it is dry to the touch. Over entire prepared surface, apply by brush – one coat of EN Tie Coat 10 – 15 wet mils. Apply *Elasti-Liner® I or II* as soon as Tie Coat is tack free, usually within 20 to 30 minutes. The maximum recoat time for EN Tie Coat is 1 hour @ 80 F. If recoat window is exceeded, repeat entire procedure.

**APPLICATION EQUIPMENT – Elasti-Liner® II**

**Brush:** High quality natural bristle brush.

**Metal Spike Roller:** BB 1” diameter x 6” wide

**Fabric Roller:** Phenolic core short nap.

**Squeegee:** Flat blade or 1/8” notched to yield 50 wet mils maximum.

**CLEAN UP – Elasti-Liner® I and II**

- **Clean-Up** (for)

Rollers, brushes and tools should be cleaned immediately after use. KCC recommends clean up of uncured material with 622 Clean Up solvent. *Elasti-Liner®* is very resistant to solvents when fully cured. Contact KCC for specific recommendations. **NEVER USE ACETONE FOR CLEAN-UP !**

**CURE TIME**

The cure time is dependent on both air and substrate temperature. The ambient air temperature may not be the temperature of the substrate, i.e. direct sunlight will heat steel or concrete to higher temperature than ambient air. In winter, steel or concrete may be colder than ambient air. The substrate temperature should be measured and dew point calculated prior to application. Make sure that both air and substrate temperatures, as well as dew point, are measured prior to *Elasti-Liner®* installation.

**Time To Complete Cure  
(For Chemical Exposure)**

	<b>Elasti-Liner® II</b>	<b>Elasti-Liner® I</b>
If substrate maintained: @ 50°F (using Part C LTC Accelerator) .....	10 Days	@ 50°F 8 Days
@ 70°F.....	10 Days	@ 70°F 7 Days
@ 80°F.....	7 Days	@ 80°F 6 Days
@ 90°F.....	5 Days	@ 90°F 5 Days

**INSPECTION OF FILM INTEGRITY**

During installation of the coating, care should be taken to provide for the correct specified uniform thickness of material by carefully checking at regular, pre-specified intervals, with a wet film thickness gauge. After allowing adequate cure time based on the actual substrate temperature, the surface should be inspected for runs, sags, foreign matter and under-cured areas caused by insufficient hardener quantity, incomplete mixing or low temperature. If under-cured areas are found, they must be repaired. Film thickness on steel structures may be checked with a magnetic dry film thickness gauge. Coatings to be subjected to intermittent immersion service should be inspected visually for defects and discontinuities. *Elasti-Liner* may be spark tested, but that requires a conductive primer on the concrete prior to installation of *Elasti-Liner I or II*.

**Reference Document:** *National Assoc. of Corrosion Engineers (NACE), "Inspection of Linings on Steel and Concrete".*

**SAFETY**

*Elasti-Liner® I & II* Topcoat Part A and Hardener Part B are flammable and *Elasti-Liner® II* Part C Accelerators, both Standard and LTC, are combustible, containing both polymer resins and solvent based materials. *Elasti-Liner® Bonding Agent* Hardener Part B is flammable. All *Elasti-Liner®* sealed components must be stored cool, dry & out of sunlight.

**IT IS VERY IMPORTANT THAT MATERIAL MIXING AND APPLICATION BE PERFORMED AWAY FROM ANY SPARKS, OPEN FLAME OR ANY SOURCE OF IGNITION. SMOKING IS NOT ALLOWED WITHIN 50 FEET OF WORKSITE. USE ONLY CLASS I GROUP D EXPLOSION PROOF ELECTRIC MIXING EQUIPMENT. AIR DRIVEN NON-SPARKING MIXERS ARE PREFERRED.**

<sup>1</sup> FOR SPECIFIC RECOMMENDATIONS CONTACT KCC CORROSION CONTROL CO., LTD.

When working with any polymers, hardeners and dry aggregate fillers always wear appropriate safety glasses, breathing protection, clothing and gloves. Any contaminated clothing should be washed prior to being rework.

The vapors given off during application and cure should not be allowed to build up. The ventilation should be sufficient to provide as many air changes per minute as required to meet OSHA guidelines with special consideration for enclosed areas or trenches and sumps. When using these materials any sources of ignition should be eliminated within a 50 ft. range. NIOSH organic vapor cartridge respirators must be worn at all times during mixing and application.

**Material Safety Data Sheets** have been supplied with your shipment. KCC Corrosion Control recommends that the personnel applying the materials read and understand these prior to mixing any material. If resin, accelerator or hardener are splashed in the eyes, flush with clean water for 15 minutes and **CONTACT A PHYSICIAN**. **IF INGESTED DO NOT INDUCE VOMITING AND CONTACT A PHYSICIAN.**

All empty containers; bags, cans, bottles and excess material must be properly disposed of in accordance with applicable Federal, State and Local Codes. **IN EMERGENCY SITUATIONS CONTACT CHEMTREC AT 800/424-9300.**

**SPECIAL CONTRACTOR NOTE:** *Elasti-Liner*® is a patented product by KCC, and your company has signed confidentiality agreements with KCC to not disclose to any third party or to supply to any third party literature, samples of any components, adhesive, joint tape or any copies or originals of any documents involving KCC *Elasti-Liner*® Products.

### **WARRANTY**

For product warranty see KCC Corrosion Control Co., Ltd. **STANDARD TERMS AND CONDITIONS (U. S. 01/2009 KCC-Sale), stated terms including limitation of liability constitute the total warranty.**

The information contained herein is believed to be accurate and reliable but is not to be construed as implying any warranty or guarantee of performance. The suggestions or recommendations and data contained herein are based on laboratory tests and field data that are believed to be accurate and reliable. The suggestions or recommendations of data contained in this bulletin are made without guarantee or representations as to results. We suggest that the user evaluate these suggestions or recommendations in your facility or laboratory or in field testing prior to use. For specific Corrosion Control Co., Ltd. product Limited Warranty and Limitations of Liability see KCC Corrosion Control Co., Ltd. Terms and Conditions of Sale - U.S. 1/2009 KCC - Sale. No statement contained herein shall infer or be construed as granting the right or permission to use, in any manner whatsoever, any patent or other intellectual property owned by a KCC company or any KCC affiliate company.

**KCC** Corrosion Control

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