

# SIL-ACT® Product Data

## DECK-SIL® EP-3700

100% Solids, Low-Modulus, Epoxy Urethane Co-polymer



ADVANCED  
CHEMICAL  
TECHNOLOGIES, Inc.

*"Protecting the World's Infrastructure"*

DECK-SIL® Product for Use under U. S. Patent No. 9,242-269.

### ABOUT

DECK-SIL® EP-3700 is a fast setting, solvent free, 100% solids, moisture-insensitive, low-modulus epoxy urethane co-polymer overlay resin. It is designed primarily for bonding skid-resistant overlays to bridges, elevated slabs and PCCP, including High Friction Surface Treatments.

### BENEFITS

- Epoxy urethane technology
- Excellent bond strength
- Moisture-insensitive
- Nonflammable
- Easy to mix - 1:1 ratio, color coded
- Retains high tensile elongation at low temperatures
- No primer required
- Designed for automated pump
- Non-regulated, hazmat certification or placards not required for transport

### COMPLIANCES

- ASTM C881 (Type III, Grade 1, Class B & C.)
- Transportation within the United States is non-regulated by the DOT
- AASHTO
- VOC compliant, 0 g/L

Before starting, please refer to this product data sheet and the Material Safety Data Sheet for DECK-SIL® EP-3700. Copies may be obtained from ACT upon request.

#### Application - Bonding Skid-Resistant Overlays

1. Clean surface by shotblasting to remove all contaminants, ICRI Level 5 minimum. Remove dust and debris by blowing off with oil-free compressed air.
2. Mechanically mix component A with component B 1:1 by volume with Jiffy type mixer and low-speed variable drill at 300 rpm for a minimum of 3 minutes. Mix only the quantity that can be used within its gel time. BULK: For bulk mixing, a positive displacement pump, incorporating a static mixing wand and meter, is recommended.
3. Apply DECK-SIL® EP-3700 by 3/16" to 1/4" notched squeegee at the specified rate.
4. Broadcast select aggregate to refusal. The aggregate should be angular grain or fractured Flint, Basalt or Bauxite having less than 0.2% moisture and free of dirt, clay, etc. The aggregate should have a minimum MOHS scale hardness of 7 unless otherwise approved.
5. After initial cure of first course, remove extra aggregate. Do not open to traffic.
6. Apply second course of epoxy and aggregate at the specified rate. Remove excess aggregate. Allow to cure following the table herein. Open to traffic.

#### Minimum Curing Times

Average Temperature of Materials & Substrate (°F)

Cure Temp	50-54	55-59	60-64	65-69	70-74	75-79	80-84	85+
Course 1	4 hrs	3.5 hrs	3 hrs	2.5 hrs	2 hrs	1.5 hrs	1 hr	1 hr
Course 2	6 hrs	5.5 hrs	5 hrs	4.5 hrs	3 hrs	2 hrs	1.5 hrs	1 hr

\*Set times are merely averages. Site conditions will dictate actual cure response for sweeping and 1<sup>st</sup> and 2<sup>nd</sup> layers, as well as open to traffic.

#### Coverage

Minimum Coverage Rates (3/8" overlay)

	Epoxy	Aggregate
Course 1	1 gallon/40 sq. ft.	10 lbs./sq. yd.
Course 2	1 gallon/20 sq. ft.	14 lbs./sq. yd.

# TECHNICAL DATA

PROPERTY	TEST	DECK-SIL® EP-3700
Mixing Ratio		1:1 by volume
Viscosity	ASTM C-881	1,800-3,500 cps
Gel Time	ASTM C-881	18-23 minutes
Thermal Compatibility	ASTM C-884	Pass
Shore D Hardness	ASTM D-2240	68-74
Water Absorption	ASTM D 570	0.1%
Chloride Ion Permeability	AASHTO T-277	0 coulombs
Bond Strength (14 day cure)	ASTM C-882	3,500-4,500 psi
Shrinkage	ASTM C-883	Pass
Compressive Modulus	ASTM D-695	80,000-120,000 psi
Compressive Strength 3 hours with sand	ASTM C-579	1,000 psi
Compressive Strength 24 hours with sand	ASTM C-579	5,000 psi
Tensile Strength	ASTM D-638	3,200-3,900 psi
Tensile Elongation	ASTM D-638	45-60%
Flexural Strength	ASTM D-790	3,400-5,800 psi
Percent Solids		100%
Adhesion to Concrete	ACI 503R	> 500 psi (concrete failure)
Flexural Creep, 7 day	Caltrans 419	0.008 inch

**Appearance of Components:** A - Blue, B - Yellow

**Shelf Life:** 2 years in original unopened container

**Storage:** 50°F to 95°F in dry dark conditions

**Temperature Considerations: IMPORTANT!** Epoxy resins are temperature sensitive and care should be taken to condition all components between 65°F to 95°F for a minimum of 24 hours prior to mixing and placement. Temperatures colder than stated range increase viscosity of resins and inhibit mixing and flow of materials. Temperatures warmer than stated range decrease viscosity of resins, hasten the cure and reduce the working time. Mixing and curing at less than ideal temperatures, <60°F or >95°F, will require special considerations.

#### Limitations

- For Professionals only
- Do not thin with solvents
- Minimum age of concrete must be 28 days before applying as an overlay
- Consult with an Advanced Chemical Technologies, Inc. representative when used on exterior slabs on grade subject to freezing
- DECK-SIL® EP-3700 is a vapor barrier after curing
- Substrate temperatures must be 50°F and rising prior to installation; 50°F must be maintained minimum of 8 hours post installation or meet curing guidelines stated above for proper cure
- Consult with an Advanced Chemical Technologies, Inc. representative when mixing or placing outside of the temperature recommendations listed.

#### Cleanup

**EQUIPMENT:** Uncured material can be removed with an approved solvent. Cured material can only be removed mechanically.

#### WARRANTY

The information contained herein is offered in good faith and is believed to be accurate. However, because conditions and methods of use of our products are beyond our control, this information should not be used in substitution for customer's tests to ensure: That ACT's products are safe, effective, and fully satisfactory for the intended end use. ACT's sole warranty is that the product will meet the ACT's sales specifications in effect at the time of shipment. Your exclusive remedy for breach of such warranty is limited to refund of purchase price or replacement of any product shown to be other than as warranted. ACT's specifically disclaims any other express or implied warranty of fitness for a particular purpose or merchantability, unless ACT provides you with a specific, duly signed endorsement of fitness for use. ACT disclaims liability for any incidental or consequential damages. Suggestions of use shall not be taken as inducements to infringe any patent.

**MATERIAL:** Collect with absorbent material. Flush area with water. Dispose of in accordance with local, state and federal disposal regulations.

#### Packaging

- 2 gallon kit (1 gallon Part A & 1 gallon Part B)
- 10 gallon kit (1-5 gallons Part A & 1-5 gallons Part B)
- 104 gallon kit (1-52 gallons Part A & 1-52 gallons Part B)
- 520 gallon kit (1-260 gallon Part A & 1-260 gallon Part B)

#### First Aid

**EYE CONTACT:** Flush immediately with water for at least 15 minutes. Contact physician immediately.

**RESPIRATORY CONTACT:** Remove person to fresh air.

**SKIN CONTACT:** Remove any contaminated clothing. Remove epoxy immediately with a dry cloth or paper towel. Solvents should not be used as they carry the irritant to the skin. Wash skin thoroughly with soap and water. **IF INGESTED:** Do not induce vomiting. If swallowed give water to drink. Seek medical treatment immediately.

**GENERAL:** Remove contaminated soaked clothing immediately. In the event of persistent symptoms, receive medical treatment.

**CURED EPOXY RESINS ARE INNOCUOUS.**

#### Caution

- Part A: Irritant
- Part B: Irritant
- Product is a strong sensitizer. Use of safety goggles and chemical resistant gloves are recommended.
- Use of a NIOSH/MSHA organic vapor respirator is recommended if ventilation is inadequate.
- Avoid skin contact.

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Technical Binder

