

# SIL-ACT® Product Data

## SIL-COR™



ADVANCED  
CHEMICAL  
TECHNOLOGIES, Inc.  
“Protecting the World’s Infrastructure”

### DESCRIPTION

SIL-ACT® SIL-COR™ is a dual organofunctional surface applied corrosion inhibitor and penetrating sealer. The combination of the proven technologies provides a deep hydrophobic layer of protection to the concrete and anti-corrosion protection to the reinforcing steel.

### USES

SIL-ACT® SIL-COR™ is designed to be applied to concrete surfaces. It is recommended for all steel-reinforced, prestressed, precast and post tensioned concretes.

- Bridges and highways
- Parking garages
- Piers, piles and concrete dock structures
- Seawalls

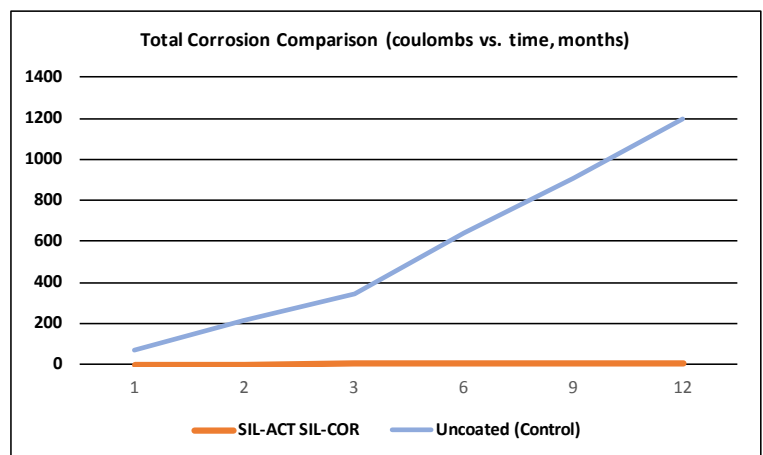
### ADVANTAGES

- Deep hydrophobic layer of protection
- Excellent resistance to water intrusion
- Proven anti-corrosion additive for steel reinforcement
- Easy to apply
- VOC compliant
- Maintains vapor permeability of concrete
- Excellent resistance to chloride ion ingress
- Reduces micro cell and macro cell corrosion
- Ready to use
- Fast dry

### PERFORMANCE DATA

FHWA-HRT-07-043 ASTM G109 - cracked beam testing resulted in SIL-ACT® SIL-COR™ <1% of visible corrosion showing on the top rebar after 12 months of testing while the uncoated specimens resulted in 67% visible corrosion showing on the top rebar after 12 months of testing.

| G109 Cracked Beam                                      |                                  |                 |
|--|----------------------------------|-----------------|
| Corrosion Test Results                                 |                                  |                 |
| Average Corrosion Results (after 12 Month Testing):    |                                  |                 |
|  | Control                          | SIL-ACT SIL-COR |
| Total Corrosion (coulombs)                             | 1,197.0 C                        | 2.8 C           |
| Chloride content at top bar (%)                        | 0.115%                           | 0.051%          |
| Area of top bar corrosion (%)                          | 67%                              | <1%             |
| Individual Corrosion Results (after 12 Month Testing): |                                  |                 |
| SIL-ACT SIL-COR (A1)                                   | <1% corrosion visible on top bar |                 |
| SIL-ACT SIL-COR (A2)                                   | <1% corrosion visible on top bar |                 |
| SIL-ACT SIL-COR (A3)                                   | <1% corrosion visible on top bar |                 |
| Uncoated Control (X1)                                  | 50% corrosion visible on top bar |                 |
| Uncoated Control (X2)                                  | 60% corrosion visible on top bar |                 |
| Uncoated Control (X3)                                  | 90% corrosion visible on top bar |                 |



# TECHNICAL DATA

| PROPERTY                             | TEST                   | SIL-COR™  |
|--------------------------------------|------------------------|---|
| Active Ingredients                   |                        | Alkyltrialkoxysilane<br>Migrating Corrosion Inhibitor |
| Specific Gravity                     |                        | 0.92  |
| Density                              |                        | 7.68 lb/gal   |
| Appearance                           |                        | Clear   |
| Surface Appearance after Application |                        | Unchanged   |
| Drying time at 70°F                  |                        | 30 minutes  |
| VOC Content                          | Method 24, ASTM D-5095 | < 400 g/L   |
| Absorption Reduction                 | ASTM C-642             | 93% @ 48 hours  |
| Chloride Reduction                   | AASHTO T259/T260       | 90.6% @ 0.5 in.<br>87.7% @ 1.0 in.                    |
| Scaling                              | ASTM C-672             | 0 @ 50 cycles   |
| Chloride Reduction                   | NCHRP 244 Series II    | 91.6% @ 5 days air dry                                |
| Water Absorption                     | NCHRP 244 Series II    | 90.5% @ 5 days air dry                                |
| Chloride Reduction                   | NCHRP 244 Series IV    | 90%   |
| Cracked Beam                         | FHWA HRT-07-043        | <1% - 12 months                                       |

## INSTRUCTIONS

- Test a small area prior to general application to ensure compatibility, desired results and coverage rates.
- Treatment is most effective when the surface to be treated is clean and dry. Remove dirt, dust, oil, grease, curing compounds, coatings and other surface contaminants. Water blasting, sandblasting or shotblasting may be required.
- Do not proceed unless surface and air temperature is between 20°F and 100°F. Do not apply on wet concrete or if rain is expected within 5 hours after application. Allow concrete to dry between 24 and 72 hours after rain or cleaning with water. Do not apply if frost, ice, or standing water are visible on the surface to be treated.
- Spray, brush or roll SIL-ACT® SIL-COR™ treatment on surface to be treated at the recommended application rate. Multiple coats are recommended. Most applications require two to three coats at 125 to 250 square feet per gallon. Allow a minimum of 15 minutes between coats (or until visibly dry). Contact your Advanced Chemical Technologies representative for spray equipment options.
- Apply to saturation. When spraying at low pressure, if necessary follow with broom or squeegee for even distribution.
- Avoid unnecessary overspray. If necessary, clean overspray areas with a clean dry cloth, soap and water or alcohol. Protect plants and vegetation from overspray. Prior to SIL-ACT® SIL-COR™ application, check for preexisting contamination.
- Clean equipment with SIL-ACT® Equipment Cleaner .
- Partially used containers should be properly sealed and protected from contamination by water or other foreign substances.

### WARRANTY

Limited warranties are available for all SIL-ACT® products. Contact ACT or your local SIL-ACT® representative for details.

**NOTICE:** This brochure was prepared as an introduction to a product manufactured by Advanced Chemical Technologies, Inc. The information provided herein is based upon typical installation conditions and is believed to be reliable. However, due to the wide variety of possible intervening factors, Advanced Chemical Technologies, Inc. does not warrant the expected results to be obtained. Details concerning product specifications and warranty may be obtained from Advanced Chemical Technologies, Inc. Specifications are subject to change. Sale of subject system is limited to Advanced Chemical Technologies, Inc. and authorized applicator's conditions of sale including those limiting warranties and remedies.

