

Conseal Pure

Silane surface treatment for concrete

A clear, penetrating, breathable VOC-compliant surface treatment for use on concrete. The unique 100% silane treatment (no solvent) penetrates the substrate and chemically bonds with silica to form a permanent attachment of the water repellent molecule. Creates a deep hydrophobic layer that prevents water and waterborne contaminants from entering the substrate and causing premature deterioration. By combining low surface tension with a tailored rate of reaction, Conseal Pure is able to move through the moisture boundary layer that lines the pore structure of the substrate. This permits the development of uniform gradient permeation — a consistent level of protection throughout the entire depth of penetration — allowing for longer treatment life, especially on wearing surfaces.

APPROPRIATE APPLICATIONS:

For use on cast-in-place, precast, GFRC and high-strength concrete, to protect the reinforcing steel from corrosion due to the effects of water, deicing salts and other waterborne contaminants.

Alleviates deterioration of concrete due to alkali-silica reactivity.

For use on bridge decks where fast drying is needed to minimize lane closures.

For treating heavy-traffic wearing surfaces or areas that receive high salt concentrations (piers, coastal buildings), to provide a high-performance, long-lasting chloride screen.

ADVANTAGES:

Conseal Pure is a solvent-free, 100% active alkyltrialkoxysilane. Conseal Pure penetrates deeper than traditional silane and siloxane solvent- or water-carried systems. This deeper penetration gives a long-lasting, resistance against water and chloride intrusion.

Conseal Pure's breathable system greatly reduces the amount of water that enters a substrate, thus promoting a "drying out" of the substrate. Reduces the deteriorating effects of water, such as alkali silica reactivity. By incorporating Conseal Pure into your integrated design, you can earn vital Leadership in Energy & Environmental Design (LEED) credits for both new and existing construction projects.

IMPORTANT BENEFITS:

- Excellent resistance to chloride ion ingress
- 100% Moisture vapor transmission
- Mitigation of AAR & ASR deterioration
- Deep penetration into substrate
- No change in surface appearance
- High resistance to alkali attack
- Long service life
- Excellent performance on wearing surfaces
- Quick Dry time after application(1 Hour)
- Keeps substrates cleaner

CONSIDERATIONS:

Not intended for below-grade waterproofing. Should not be applied if the surface temperature is below 20°F (-7°C) or above 100°F (40°C), if rain is expected within 2 hours following application, or if high winds or other conditions prevent proper application. If rain has preceded the application, the surface should be allowed to dry for at least 24 hours.



Conseal Pure

Silane surface treatment for concrete

TECHNICAL DATA:

Conseal Pure is a liquid alkyltrialkoxysilane.

Colour	Water White
Active Substance	Alkyltrialkoxysilane
Active Content	100%
Solvent	None
Flash Point	63°C
Density	874g/kg
VOC	390g/Lt

TEST DATA:

Alberta DOT Penetrating Sealer Type 1b

Initial water repellency	80.7%
First abrasion cycle	89.3%
Second abrasion cycle	91.1%
Third abrasion cycle	86.3%
Fourth abrasion cycle	79.3%

TEST DATA:

**Alberta DOT Penetrating Sealer Type 1c
(0.35 w/c ratio)**

Water repellency after heavy abrasion	87.3%
---------------------------------------	-------

NCHRP #244 Series II

Reduction in water absorption

@125ft ² /gal	88%
@250ft ² /gal	86%

Reduction in chloride ion ingress

@125ft ² /gal	88%
@250ft ² /gal	87%

NCHRP #244 Series IV

Reduction in chloride ion

@125ft ² /gal	99%
@250ft ² /gal	99%

TEST DATA:

Equivalent thickness of concrete needed to give same chloride ion protection as treatments (150 days of salt exposure)

Treatment Type	Concrete thickness
Conseal Pure	88.9mm
Methyl Siloxane	6.35mm
Iso-Octyl Siloxane	30.48mm
Iso-Octyl Silane/Siloxane	30.48mm

AASHTO T277

Rapid Determination of the Chloride Permeability of the concrete.

Untreated concrete	3800 coulombs
Conseal Pure	90 coulombs
Improvement: 98%	

ASTM G85,G53 "Accelerated Weathering":

3500 hours	No change
Penetration, OHD L-34	
Concrete 0.5 w/c ratio	3/8 - 5/8 inch
Concrete 0.42 w/c ratio	3/8 - 1/2 inch



Conseal Pure

Silane surface treatment for concrete

INSTALLATION:

Concrete must be allowed to cure for a minimum of 28 days. Concrete repair and replacement must be completed prior to application of Conseal Pure. Patching materials, caulking, sealing materials and traffic paint must be fully cured before applying Conseal Pure. All surfaces must be cleaned to remove all traces of dirt, dust, efflorescence, mold, salt, grease, oil, asphalt, laitance, curing compounds, paint, coatings and other foreign materials. Acceptable surface cleaning methods include shot-blasting, sandblasting, water-blasting and using chemical cleaners. Check with your Actichem representative to verify that surface preparation is adequate.

Conseal Pure should be applied using low-pressure (15 to 25 psi) pumping equipment with a wet fan type spray nozzle. Alternate methods include using either a power roller with a 1" nap or a brush. Do not alter or dilute the material. Do not apply to a wet or damp substrate. A test patch should be applied to the substrate by a trained applicator to verify coverage rate and application conditions. On vertical surfaces, apply the Conseal Pure in a flooding application from the bottom up, so the material runs down 6 to 8 inches below the spray pattern. Coverage rates on horizontal concrete surfaces are between 100 and 350 ft²/gal. Coverage rates on vertical surfaces depend on the type of substrate to be treated. Your Actichem representative can give exact coverage rates for your particular project. Please refer to the "Penetrating Sealer Application Instructions" for more detailed information.

Precautions: Conseal Pure is a combustible liquid and should be kept away from heat, sparks, open flame and other sources of ignition. Conseal Pure containers should be

kept closed when not in use and should be stored at temperatures between 0°F (-18°C) and 120°F (50°C), away from rain and standing water. When working in an enclosed area, an air respirator should be used. Please refer to the material safety data sheet for more detailed information.

TECHNICAL SERVICE:

Technical service engineers and scientists are available to answer questions about product performance, application methods and compatibility with other building materials. You can speak to one of our team directly, by calling our freecall number 1800 108 800.

MANUFACTURER INFORMATION:

Conseal Pure is manufactured for Applied Products Australia Pty Ltd under the Actichem brand, by: Evonik Corporation in Theodore, Alabama, under a quality system certified to ISO-9001 and ISO-14001 requirements. Conseal Pure is sold in the USA and Europe under the Evonik brand: Protectosil BHN.

AVAILABILITY:

Conseal Pure is available throughout Australia and New Zealand in 5Lt, 15Lt and 200Lt drums.

