

CERTI-VEX[®] PENSEAL 244 O/W

NCHRP-244 • BEST PROTECTION • OIL & WATER REPELLENT

DESCRIPTION

CERTI-VEX PENSEAL 244 O/W is an advanced, breathable, deep penetrating high solids, VOC solvent based silane sealer that combines hydrophobic and oleophobic technologies, providing greater protection over standard water repellents by sealing out water, oil, grease and food staining from concrete and masonry surfaces. The product is breathable and meets the specifications of NCHRP 244.

Surfaces treated with Certi-Vex PenSeal 244 O/W have a totally natural appearance. When properly applied the treatment does not produce a surface build up, darkening or other effect on the natural color or texture of the surface. The material's small molecular structure allows for maximum penetration into new concrete (14 day minimum) or existing concrete and masonry surfaces.

Certi-Vex PenSeal 244 O/W stops the intrusion of water, salts, deicer chemicals, and acids, which often result in efflorescence, mildew growth, corrosion, scaling, spalling, surface erosion, and other costly damage to hard surfaces.

Certi-Vex PenSeal 244 O/W penetrates into the pores and capillaries of the cement based materials reacting with the moisture and chemicals in the substrate, polymerizing and sealing the pores, which prevents water and chloride ion penetration. Treatment of reinforced concrete reduces surface erosion and corrosion of rebar caused by attack of water and water borne salts and alkalis.

BENEFITS

- Extends the life of concrete and masonry surfaces
- Reduces staining caused by motor oils, grease, and food.
- Best long term protection against salt corrosion, deicing chemicals, mildew, water, wind driven rain, airborne contaminants, surface spalling from freeze/thaw cycles and other severe weather conditions
- An effective chloride screen
- Contains long alkyl groups especially suitable for alkaline concrete surfaces
- Prolongs the surface life and prevents damage from within by maintaining vapor permeability
- Can be applied to surfaces which are slightly damp
- Quick formation of surface repellency and chemical resistance
- Can apply to 20°F(-6°C), request Vexcon's Cold Weather Application Guide
- Does not alter natural surface texture or appearance
- Deep penetration
- Keeps substrate cleaner

PHYSICAL PROPERTIES

- Color Clear
 - Dry time 3-4 hours
 - Carrier Aliphatic
 - Active hydrophobic and oleophobic greater than 40%.
- Dry times are based upon 68-77°F (20-25°C). Lower temperatures and the relative humidity will extend dry times

RECOMMENDED FOR

Engineered for infrastructure such as bridges, highways, and ramps, along with parking structures, water treatment facilities, stadiums and pre-cast concrete and many other horizontal and vertical substrates including: concrete, stone, brick, block and other masonry and surfaces.

- Pre-cast concrete
- Concrete block and CMU
- Cast-in-place concrete
- Tunnel walls
- Brick walls
- Bridge decks
- Parking structures
- Concrete ramps
- Median barriers
- Dams
- Athletic stadiums
- Sound walls

PRE-INSTALLATION NOTES

Precaution: Certi-Vex PenSeal 244 O/W contains blended solvent and should be handled accordingly. Do not use near fire or extreme heat and provide good ventilation to avoid buildup of solvent fumes. Applicators should wear NIOSH/MSHA approved respirators. When applying to the exteriors of occupied buildings all exterior air conditioning vents should be covered during application and air-handling equipment should be turned off during application to avoid solvent odors within the building.

- A test application is necessary on each surface to be treated to ensure compatibility and desired performance. Test areas are also useful in determining final application rate and procedures.
- If the material in the test area does not fully penetrate due to coatings or inadequately cleaned surface, use one of **Vexcon's cleaners and stain removal products** to properly clean the surface prior to application
- If a tacky residue remains after 24 hrs, the application rate must be modified. Material which remains tacky on the surface can usually be removed by washing with water or a vinegar solution.
- Tests should be applied using the same equipment and techniques planned for job application.
- Test areas should be available for inspection by the project engineer.
- Adjoining glass, metal and painted surfaces should be protected from over spray and splash. Inadvertent splashes should be removed using **Certi-Vex Equipment Cleaner** before the solution has dried on the surface.

SPECIAL NOTES

- The product should be stored in sealed containers and kept away from extreme heat.
- Shelf life: If properly stored in its original sealed container, 3 years from date of manufacture. Rotate your stock.
- For use by experienced contractors.
- Proper application of Vexcon material is the responsibility of the installer or user. Telephone consultation and/or field visits by Vexcon personnel are for the sole purpose of making technical recommendations only, and not for providing quality control or supervision on location.
- Contact Vexcon for warranty information prior to use.

SURFACE PREPARATION

- All caulking, patching and joint sealants should be installed and fully cured prior to application. Concrete should be properly cured, see Curing Recommendations section.
- All surfaces must be cleaned free of dust, dirt, surface materials, previous coatings and contaminants.
- New concrete normally does not require etching. However, smooth finished concrete that has become heavily contaminated with surface dirt, tire marks, oil, etc., during construction may require thorough cleaning and a mild etch using **Certi-Vex Etch & Efflorescence Remover** for best performance.
- Older concrete surfaces should be power washed with high-pressure water and **StarSeal® Masonry & Brick Cleaner** to assure removal of surface dirt, oil and contaminants that may have built up, and use **Certi-Vex Concrete Stripper** to remove old cure and seals, resin cures, acrylics, adhesives, floor waxes and many urethanes and epoxies.
- To determine that the concrete is penetrable perform a water absorbency test by applying water to a representative portion of the prepared surface. A properly prepared surface when dry will immediately absorb clean water without any surface beading effects.
- If required use Certi-Vex Etch & Efflorescence Remover to improve sealer penetration.
- Surfaces to be treated may be damp but should be absorbent to assure good penetration.
- Application to still damp surfaces is acceptable however free standing water must be removed.

SPECIFICATION/COMPLIANCE

Certi-Vex PenSeal 244 O/W has been tested according to the most current test procedures in the industry. Testing includes water absorption/repellency ratings, penetration and salt spray resistance.

- VOC - < 600 grams/liter or 5.0 #/gal
Meets:
 - USEPA AIM-Waterproofing Sealers and Treatments
- Meets NCHRP 244 Series II & IV
 - Water Loss Reduction, coated samples, 14 days at 50% RH: 86.7%
 - Water Loss Reduction, coated samples, 21 days in 15% NaCl: 93.2%, UV 92.6%
 - Reduction of Chloride Penetration into concrete, (0-1"- Coated 95.3%, - UV 93.6%), (0-2"- Coated 94.6%, - UV 92.6%)
 - Reduces water absorption (ASTM C67 and ASTM C642) by greater than 90%.
- ASTM C672 Scale rating - 100 freeze thaw cycles-0 (no scaling).
- Penetration (1 application) 0.150 -0.26", depending on substrates.
- ASTM E96 - Water Vapor Permeability 95%.
- ASTM D2047 - Coefficient of friction 0.84 average – minimum required 0.50.
- Active hydrophobic and oleophobic greater than 40%.
- CSI reference: 07 19 16

CURING RECOMMENDATIONS

A. Concrete can be cured with **Certi-Vex Envio Cure**, an emulsion resin cure, which will dissipate. Allow to dissipate or remove with Certi-Vex Concrete Stripper.

B. Water cure-burlap

NOTE: Sodium Silicates should not be used to cure concrete.

CONTACT US @

Additional product information, technical assistance and customer service is available by contacting Vexcon Chemicals directly or our distributors.

- www.vexcon.com
- techservice@vexcon.com
- customerservice@vexcon.com
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- Voice: 888.839.2661
- Fax: 215.332.9997

APPLICATION

- Do not dilute.
- Apply with low-pressure (20-PSI) airless industrial spray equipment. Sprayer should be fitted with solvent resistant hoses and gaskets.
- If using brushes or rollers care should be taken to ensure that enough solution is applied.
- Treated surfaces should be protected from rain and foot traffic for 4-6 hours following application.
- Protect from vehicular traffic for 24 hours.

HORIZONTAL SURFACES

- Apply in a single saturating application with sufficient material applied so the surface remains wet for a few minutes before penetration into the surface.
- Surface residues, pools and puddles should be broomed or brushed out until they completely penetrate into the surface.

VERTICAL SURFACES

- Certi-Vex PenSeal 244 O/W should be applied and absorbed on the substrate to the specified coverage rate.
- In the case of extremely dense, mirror finish architectural concrete and similar surfaces, it may be necessary to restrict the amount of material by first applying a light mist coat by the procedure listed below in order to prevent surface darkening.
- Allow the mist coat to penetrate the surface (approximately 3-5 minutes) and apply in the same saturation manner.
- Apply in a flooding application, from the bottom up with sufficient material applied to provide a 6" to 8" run down below the contact point of the new spray pattern with the surface.

COVERAGE RATES/ESTIMATING

Porosity and texture of the surface will affect the amount of material necessary for effective treatment. The following is a guide for estimating material requirements. Always test on the actual surface to get precise consumption rates.

- **Concrete/Horizontal**
 - Broom finish 150-300 sq.ft./gal. (3.6-7.3m²/L)
 - Smooth hard troweled 300-600 sq.ft./gal. (7.3-14.7m²/L)
 - Older concrete (porous) 95-140 sq.ft./gal. (2.3-3.5m²/L)
- **Concrete/Vertical**
 - CIP or Precast 300-600 sq.ft./gal. (7.3-14.7m²/L)
 - Stucco 95-140 sq.ft./gal. (2.4-3.4 m²/L)
- **Architectural Concrete block**
 - Smooth-faced 95-140 sq.ft./gal (2.4-3.4 m²/L)
 - Split-faced 50-100 sq.ft./gal (1.2-2.4 m²/L)
 - Ground-faced 150-300 sq.ft./gal. (3.6-7.3m²/L)
 - Ribbed 50-100 sq.ft./gal (1.2-2.4 m²/L)
- **Brick**
 - Smooth 300-600 sq.ft./gal. (7.3-14.7m²/L)
 - Wire cut 50-100 sq.ft./gal (1.2-2.4 m²/L)

HEALTH AND SAFETY

- Use of respirators is mandatory when using this product in confined areas.
- Use only with adequate ventilation.
- If swallowed, do not induce vomiting.
- Use of gloves, goggles and other protective clothing is advised when using this product.

Vexcon MSDS PS120 is an integral part of the safety and application of our product. A short synopsis is provided in this product data sheet. Before using this Vexcon product it is advisable to obtain a copy of the MSDS from your distributor or by contacting Vexcon Chemicals.

PACKAGING

Certi-Vex PenSeal 244 O/W is available in 55-gallon drums and 5-gallon pails. Contact Vexcon directly to discuss your customized packaging requirements.