CANZAC® GROUP

Improving the performance of concrete worldwide©



DENSIFIERS & SEALERS

COVERAGE RATES

Steel trowelled concrete = 12m2 per litre
Exposed aggregate and broom finished concrete = 8m2 per litre

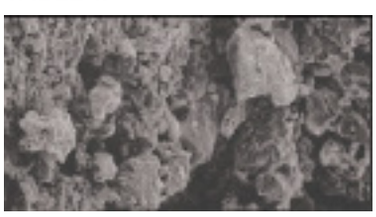
UNIQUE CHEMISTRY

(For visual descriptions of magnified views.) Pentra-Sil 244+ formulation is a colourless Nano Lithium silicate that is crosslinked with a proprietary silane technology that allows it to chemically react with siliceous materials and free-lime, forming extremely strong tri-calcium silicate compounds. Its unique penetrating chemistry forms an insoluble, permanent bond creating a hydrophobic, abrasion and chemically resistant surface for architectural concrete and masonry substrates.

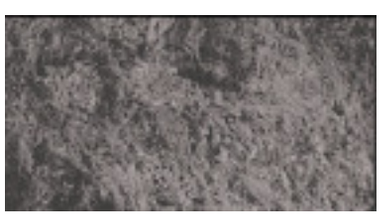
Pentra-Sil's 244+ technology's unique atomic structure (Particle Size) and lower viscosity to conventional treatments provide superior penetration within the capillary channels providing a more consistent and uniform cure. The Advanced Nano Lithium (NL) will not absorb water or affect alkalinity and is suitable for both interior and exterior applications on new or existing concrete.

Because both the Nano Lithium and the Silane molecules are very small, Pentra-Sil 244+ is able to penetrate deeply into the concrete pores where it forms a barrier against water and water-borne salts that can cause reinforcing steel corrosion. It also helps substantially reduce efflorescence by preventing the large salt particulates from leaching and migrating to the surface with wet/dry cycles. By further reducing moisture permeation and water in the wall system, there is less likelihood of soluble salts in the concrete of being dissolved and brought to the surface. Reducing the moisture penetration also lessens the possibility of fungi and mildew in or on the wall or floor.

TABLE 1.



Magnification x200 untreated



Magnification x200 treated

SALT & MOISTURE EXPOSED AREAS

- Adobe
- Granite
- Natural Stone
- Sandstone
- Clay Brick
- Mortars
- Limestone
- Terracotta
- Architectural Concrete
- Cast-In-Place Concrete
- Concrete masonry units
- Exposed aggregate substrates
- Portland cement stuccos
- Precast prestressed concrete products
- Stamped / coloured concrete
- Acid stained concrete
- Terazzo

USES

- Park garages
- Stadiums
- Buildings
- Marinas
- Sea walls
- Dams
- Bulkheads
- Loading docks
- Foundations
- Bridge decks
- Highway sound barriers
- Brick
- Stone veneers
- Cast-in-place concrete
- Precast
- Overpass tunnels
- Pedestrian walkways
- Driveways
- Pavement
- Monuments

CANZAC® Under Slab - In Slab - On Slab | LESA SYSTEMS | MONSTA-SLAB | converge | ROMBUS INDUSTRIES | CANZAC® LTD Concrete Lifting Systems©

CANZAC® GROUP

Improving the performance of concrete worldwide©



DENSIFIERS & SEALERS

The Most Significant Advance in Chemical Concrete Sealer and Hardening Technology in Fifty Years. Pentra-Sil™ Nano Lithium (NL)™ is a patented Lithium Silicate compound that cures at room-temperature into an inorganic, clear, glass-like compound that is insoluble and extremely hard. The technology is unsurpassed by alternative technologies and is the superior surface treatment for concrete floors.

Pentra-Sil penetrates deeper than sodium or potassium- based sealers, but more importantly, Pentra-Sil penetrates more evenly throughout the surface matrix of the concrete, with substantially better particle distribution during absorption. See Table 2a.

By nature, sodium and potassium react violently in concrete. These rapid reactions create uneven clumps of untreated calcium throughout the surface layer. These clumps form weak, erratic bonds that can allow water to enter the substrate over time contributing to reduced life cycle from potential surface wear and tear, dusting, staining, chemical deterioration or environmental erosion. Furthermore, the sodium and potassium bonds are soluble, and actually, attract moisture and expand, which can lead to surface crazing (among other causes). See Table 2b.

The Nano-Lithium chemistry engineered into Pentra-Sil buffers these reactions, allowing the Nano Lithium to react more entirely with the calcium compounds -creating denser, harder bonds and leaving far fewer untreated calcium molecules protecting against mechanical wear and chemical attack. The Nano Lithium bond is insoluble, so it will not attract and absorb moisture, leaving the surface more stable and less likely to craze. See Table 2c.

TABLE 2a.

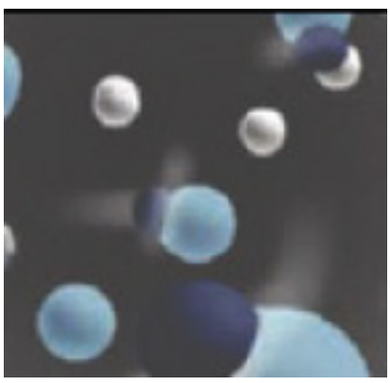


TABLE 2b.

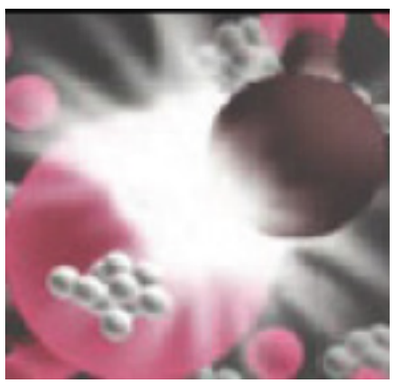
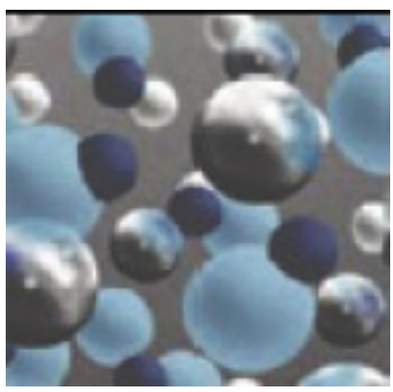


TABLE 2c.



UNIQUE CHEMISTRY

Pentra-Sil treatments provide enhanced chemical resistance on the following, but not limited to

CANZAC® Under Slab - In Slab - On Slab | LESA SYSTEMS | MONSTA-SLAB | converge | ROMBUS INDUSTRIES | CANZAC® LTD Concrete Lifting Systems©

CANZAC® GROUP

Improving the performance of concrete worldwide©



DENSIFIERS & SEALERS

Table I ACI Standard 302.1R-89 Chemical hardeners can be used to increase concrete resistance to chemicals Including, but not limited to the following:

- Aluminium sulfate
- Ammonium chloride
- Barium hydroxide
- Beef fat
- Calcium hydroxide
- Calcium nitrate
- Carbon dioxide
- Carbonic acid
- Castor oil
- Coal tar oils
- Cottonseed oil
- Creosote
- Cresol
- Distillers slop
- Ethylene glycol
- Ferric chloride
- Ferric sulfate
- Ferrous chloride
- Ferrous sulfate
- Fish oil
- Fruit juices
- Glucose
- Glycerine
- Hydrogen sulfide
- Iodine
- Lactic acid 25%
- Lead refining solutions
- 10% Lignite oils
- Magnesium chloride
- Magnesium sulfate
- Manganese sulfate
- Manure
- Mash fermenting
- Mercuric chloride
- Mercurous chloride
- Mine water, waste
- Mineral oil
- Molasses
- Mustard oil
- Nickel sulfate
- Oleic acid, 100%
- Olive oil
- Parrafin
- Phenol, 25%
- Phosphoric acid, 85%
- Pickling brine, 10%
- Poppy seed oil
- Potassium aluminium sulfate, 10%
- Potassium carbonate
- Potassium chloride
- Potassium dichromate
- Potassium persulfate
- Potassium sulfate
- Rapeseed oil
- Sea water
- Silage
- Sodium bromide
- Sodium carbonate
- Sodium chloride
- Sodium dichromate
- Sodium nitrite
- Sodium sulfate, 10&
- Sodium sulfite, 10%
- Sodium thiosulfate
- Soybean oil
- Sugar
- Sulfate liquor
- Tallow & tallow oil
- Tannic acid
- Tanning liquor, 10%
- Tobacco
- Walnut oil
- Zinc chloride
- Zinc sulfate

This information contained herein, is to the best of our knowledge and belief, accurate and is to be used as a guide to product selection. However, since the conditions of handling, installation and use are beyond our control, we make no guarantee of results. When in doubt, please test first.

LIMITATIONS

- Pentra 244+ is designed to react with acidic or alkaline siliceous substrates. The active ingredients in the sealer treatment may not chemically react with neutral pH or acidic substrates
- Not suitable for asphalt surfaces
- Do not apply to glazed brick or tiles
- Pentra-Sil will not bridge water intrusion of visible cracks of 10mls (0.25mm) or larger and is not designed for use on surfaces experiencing hydrostatic pressure
- The sealer is not intended to serve as a waterproofing material
- Do not use below grade or for extension beow grade

CANZAC® Under Slab - In Slab - On Slab | LESA SYSTEMS | MONSTA-SLAB | converge | ROMBUS INDUSTRIES | CANZAC® LTD Concrete Lifting Systems©