



If it's hardcore, it's DuraCore!

DENSI + REPELLER

Densi + Repeller is a single application; spray applied, concrete waterproofer, densifier & cure/seal agent designed for new concrete. It is a colloidal silica with added surface protection that penetrates to extraordinary depths, up to 100mm and beyond. Densi + Repeller is successful in overcoming moisture problems and offers a permanent treatment against moisture vapour emissions and resulting damage to the concrete mass. Densi Crete provides an excellent medium in the prevention of adhesive and or coatings failure due to excessive moisture and does not affect surface bond quality in any manner. It can withstand a minimum of 35mtrs of hydrostatic pressure and can be effectively applied to either the positive or negative side of concrete structures.

Description:

Densi + Repeller is a Colloidal Silica sub-surface membrane with an added Surface Repellent Treatment. Densi + Repeller is a cloudy, white in color (Dries clear), odorless, non-petroleum, colloidal liquid which is environmentally neutral and user friendly.

Basic Use:

When applied to already-set concrete, Densi + Repeller integrally seals, waterproofs, densifies, and preserves, attributes beneficial to concrete of any age, at any point during its useful life span. Densi + Repeller provides concrete an effective chloride ion barrier preserving its embedded steel, removes the potential for hostile contaminant ingress, significantly reduces vapour transmission rate and preserves treated concrete's integrity.

A Densi + Repeller treatment further increases surface abrasion resistance, and surface acid / chemical damage resistance. As Densi + Repeller penetrates extraordinarily deep into concrete, it prolifically reacts with interior ingredients ie; free alkali or unused calcium hydroxide residue etc. These reactions prolifically convert Densi + Repeller's unusually formulated very insoluble precipitate. It instantly provides additional density by becoming an integral part of the concrete, occupying its accessible porosity and other tiny voids.

Densi + Repeller forms a breathable barrier which begins in concrete's transitional porosity, located beneath its large surface porosity, its small micro porosity, and deeper. The uniquely induced barrier generates no heat during its liquid to solids conversion, nor expansion pressures at any time. The internally generated pollutant barrier remains resilient and consists of pore size that are much smaller than concrete micro pores. This significantly diminishes void percentages and permeability, allowing concrete to retain ability to breathe, expand, and contract as it needs to. The internal barrier, complete with its extremely small porosity, greatly reduces or eliminates the transmission of gases such as radon.

Densi + Repeller halts / greatly retards, internal existing corrosive activities, removing electrolyte availability, as it supplements, densifies, waterproofs strengthens and internally detoxifies concrete without deleterious effect

to external appearance or physical characteristics. A Densi + Repeller treatment will not impair concrete's surface traction quality and will further enhance its surface bonding ability. Areas that are to be treated need only closed during treatment, and may be reopened immediately after treating. Since Densi + Repeller is applied to new concrete without effecting surface quality, it may be used for the enhancement of all concrete installations, whether traffic bearing or not. Such as auto traffic pavements, bridge decks, parking garage decks, airport pavements, hydro dams, pavers, footpaths, driveways parking lots etc. Densi + Repeller arrests leakage through concrete even while occurring. For example, water storage reservoirs, water treatment tanks, or below grade concrete, and etc., with or without hydrostatic pressure. Densi + Repeller will travel against water flow, when applied to negative side, permanently arresting the flow of water.

As a Cure Method:

Densi + Repeller is excellent for concrete curing, providing a cure equal to, or better than water curing. Densi + Repeller as a cure method provides concrete the usual benefits of a curing agent, plus, Densi + Repeller provides special ingredients to the yet-available capillary mix water, waiting to participate in hydration reaction rates and processes. In the plastic or semi-plastic mix, reciprocation acceleration of hydration's reaction rates and processes, in turn generating increased volumes of cement paste / hydration product, in a significantly shorter period of time, utilizing all of the remaining capillary water and leaving none to later evaporate and leave void spaces. As a result of utilizing all remaining capillary mix water, the concrete's capillary void spaces become more segmented and smaller than usual. Densi + Repeller provides concrete a superior cure imparting extraordinary strength, surface hardness and impermeability, subsequently translating to greatly improved durability. The Densi + Repeller cure method provides concrete an especially formulated permanent sub-surface precipitate barrier containing pore sizes smaller than concrete's micro pores. Utilizing Densi + Repeller as an alternative cure method produces concrete significantly more waterproof, abrasion resistant, freeze damage resistant, dust resistant, acid / chemical resistant, etc.



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Installation:

On Already-Set Concrete:

Note: In hot climates, mist-wet the surface with water and remove any puddles prior to application.

Apply Densi + Repeller using a medium to high-pressure airless spray unit, with fan spray tip. Holding spray tip 150mm from surface, apply Densi + Repeller at the rate of 4.5m² per litre with an overlapping spray pattern of 50%. Actual Densi + Repeller volume used may vary, depending on concrete's permeability factor, etc. Do not puddle or buildup can occur, causing a darkening effect and/or a white precipitate that is very difficult to remove. Densi + Repeller application should begin at lowest point in elevation. For example, walls or steep slopes should be applied side to side, from the bottom up.

As An Alternative Cure Method:

Apply with a low-pressure non-atomizing, spray apparatus such as a pump-tank sprayer or mechanical cure slurry pump, or alternatively by flooding-on. Densi + Repeller is ideally applied to the newly poured concrete surface as soon as is practical following its surface finishing phase. Should conditions require the surface to be walked on for application, concrete should be allowed the time to adequately harden, so as not to imprint or mar its surface during application. Recommended minimum coverage rate as a cure method is 4m² per litre.

Caution:

Like many construction materials including fresh concrete Densi + Repeller contacting glass should be flushed with water and not be allowed to dry, since glass may etch. Densi + Repeller will dull the shine on shiny aluminum, however, aluminum's integrity will be otherwise unaffected.

Precautions:

1. Any coatings that may restrict access to the concrete's interior must be chemically or mechanically removed for Densi + Repeller to penetrate. If a drop of water does not penetrate into the surface within 60-90 seconds then neither will Densi + Repeller
2. Protect areas not intended for coverage.
3. Use only on green (new) or recently poured, clean concrete. Densi + Repeller will seal in any visible stains and will purge any hidden contaminants to the surface while sealing them in from other surfaces once it dries.
4. Do not apply on frozen substrates or when temperature is near freezing.
5. Densi + Repeller may etch glass or dull shiny aluminium and can be difficult to remove from other surfaces once it dries.
6. Densi Cretes' spray mist is not hazardous to breathe. However, we do recommend the use of a face mask during application. Refer to SDS.

Technical Data

Physical:	Liquid
Colour:	Cloudy White (dries clear)
Odour:	None
Specific Gravity:	1.10
pH:	+/- 12
Flammability:	None
Toxicity:	None
VOC / VOS Content:	None
Surface Bond Quality:	Excellent
Paint ability:	Excellent
Clean-up solvent:	Water
Environmental Impact:	None/Neutral
R-Factor Increase:	Up to 20 percent
Chloride Screen ability:	Excellent
User Status:	Friendly

Some Advantages

- ✓ Permanently Integrally Waterproofs Concrete
- ✓ Provides a Cure Equal to Water Ponding
- ✓ Moisture Barrier for Impervious Floor Coverings
- ✓ Compatible with most Flooring & Coatings Systems
- ✓ Densifies & Hardens Concrete of any Age
- ✓ Further Restricts Vapour Transmission
- ✓ Preserves Concrete's Matrix & Overall Integrity
- ✓ Excellent as a Coating or Topping Primer
- ✓ Improves Thermal Resistance (R-Factor)
- ✓ Increases Tensile & Compressive Strengths
- ✓ Improves Dusting Resistance
- ✓ Improves Acid / Chemical Resistance
- ✓ Retards Efflorescence
- ✓ Stabilises Concrete's pH Levels
- ✓ Can be Used on Vertical or Horizontal Surfaces
- ✓ Minimum Site Disruption, Trafficable After 2 Hours
- ✓ Zero VOC & VOS Content
- ✓ Environmentally Friendly
- ✓ Clean up in Water

