

Lithium Densifier Datasheet

July 2011

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Cemcrete's **Lithium Densifier** is a non VOC, cost-effective and environmentally friendly chemical densifier and hardener that will enhance, strengthen and beautify polished concrete floors and significantly reduce maintenance costs. It comes in liquid form and works by deeply penetrating the surface where it chemically reacts with components already present in the concrete or PolishCrete creating a denser and harder surface.

By using it in conjunction with diamond grinding and polishing equipment it is possible to achieve a very high degree of reflection and shine in addition to better abrasion resistance, higher surface compressive strength and reduced dusting.

Purpose

To enhance, strengthen and beautify polished concrete floors and significantly reduce maintenance costs.

Features & Benefits

- Extends the life of concrete floors
- Densifies, hardens and dustproofs concrete floors
- Fast reaction with concrete upon application
- Easy to apply
- Reduces water absorption
- Produces surface gloss which improves with age
- May be applied to new or old concrete floors
- Non VOC
- Easy to maintain
- This product is mineral based and thus unaffected by UV exposure

Applications

Cemcrete's **Lithium Densifier** is ideal for use with Cemcrete's PolishCrete & Countertop Mix, new construction, existing concrete and commercial applications such as warehouses, school projects, stadiums, shopping malls, residential and commercial applications etc.

Types

One type only.

Specifying

"Apply Cemcrete's **Lithium Densifier** to suitable concrete floors or Cemcrete's PolishCrete or Countertop Mix surfaces at a rate of 10m²/L in accordance with the manufacturer's instructions."

Weather

Apply at substrate temperatures above 5°C and below 38°C. Protect from freezing. Allowing product to freeze can cause the container to rupture as well as separation of the active components, resulting in poor product performance. Product which is suspected of freezing should not be used.

Site Work

Storage

Cemcrete's **Lithium Densifier** can be stored unopened for 9 months. Protect from freezing; product which is suspected of freezing should not be used.

Cemcrete provides a comprehensive technical service based on over 3 decades of experience in the field of surface applications and cement technology. Cemcrete believes, to the best of its knowledge, that the information contained herein is true and accurate at the date of issuance and is subject to change without prior notice. For further clarification of these instructions, contact Cemcrete.

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Suitable Surfaces

Cemcrete's PolishCrete and Countertop Mix, as well as existing concrete floors. Where floors are over three years old, the surface should be diamond ground to remove carbonation and expose unreacted free lime before application of **Lithium Densifier**. Not recommended for application to wet concrete. New concrete surfaces should be dry, clean and at least 7 days old.

Surface Preparation

Penetration of the densifier into the surface is critical to product performance. Do not apply in direct sunlight. Best results are obtained when **Lithium Densifier** is applied in the shade or at oblique sun angles (early morning or early evening).

Protect all surrounding areas especially glass and metal from exposure by using plastic sheathing or any other suitable protection. Clean floor with floor scrubber and an adequate concrete cleaner or lightly grind off a layer to expose clean concrete. Make sure the surface is free of oil, laitance, paint grease or any other contaminant that would prevent **Lithium Densifier** penetration. Allow the surface to fully dry before application; water near the surface will also limit penetration.

Sample Area

Before application and polishing, a mock up area is necessary to ensure the final product conforms to the specifications including appearance, slip resistance and overall performance. This mock-up area must be of adequate size to be representative, must be done on the same floor, by the same contractor and using the same equipment that will be used on the rest of the job.

Mixing

Shake or roll drum to thoroughly mix contents before opening.

Application

Apply **Lithium Densifier** using a quality pump up sprayer or by hand with a mop. Follow up with a mop or push broom and work into the surface. Allow 10 minutes for product to penetrate and react. Do not allow the product to pool and dry on the surface as it may leave unwanted marks that can only be removed by diamond grinding.

Application to Cemcrete PolishCrete & Countertop Mix

Apply **Lithium Densifier** twice to a dry surface after the 400 and 800 grit stages using a quality low pressure sprayer or by hand with a roller or microfiber mop. Keep the surface wet for 15 to 20 minutes for the product to penetrate and react. If the surface dries out before this time, apply more **Lithium Densifier**. After 20 minutes mop up the excess **Lithium Densifier** and allow to dry. Then proceed with the respective polishing grits right up to 3000 as required. Follow the final diamond polishing stage with a dry number 3 diamond cleaning pad to buff the floor. Use the diamond grinding equipment and procedure as directed in the equipment manufacturer's instructions.

Coverage

The coverage rate of **Lithium Densifier** will greatly depend on the porosity of the concrete and the diamond grinding stage at which it is applied. Average coverage is 10m²/1L.

Maintenance

Surfaces treated with **Lithium Densifier** require very little maintenance. Make sure to use a pH neutral cleaner and use the appropriate scrubbing pads so the surface is not damaged.

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Limitations

Floors treated with **Lithium Densifier** remain porous and should not be cleaned or exposed to cleaning chemicals containing ammonia or acid or any substance that may harm the surface. **Lithium Densifier** is not a film forming product and cannot be used as a curing compound. Even though **Lithium Densifier** reduces water penetration it does not offer water or oil repellency. Spills should be cleaned up promptly.

NB NOTE: the **Lithium Densifier** is a low viscosity (water like) substance and must be spread rapidly and with care to avoid puddling which can result in unwanted marks.

Precautions

- Do not use on latex or epoxy polymer modified concrete.
- Product is not suitable for use on surfaces previously treated with waxes, resins, curing compounds or chemicals that may neutralize the product or prevent penetration.
- **Lithium Densifier** is highly alkaline; users should protect all glass and aluminium surfaces from exposure. If exposure occurs, immediately flush with water. Failure to do so may result in permanent surface discoloration.
- Application over acid stained concrete requires the surface be neutralized, thoroughly rinsed and allowed to adequately dry prior to application.
- Application to water saturated concrete floor surfaces or during periods of high humidity may prolong the dry time and susceptibility to water staining.

Safety Warnings

Eye, skin and digestive tract irritant. Inhalation causes irritation to respiratory tract. Use only with adequate ventilation. Do not take internally. Keep out of the reach of children. Contains silicic acid and lithium salt, which may adversely affect the developing foetus. If you experience eye watering, headaches or dizziness wear eye protection and a properly fitted organic vapour respirator during and after application, until vapour is no longer present. Follow respirator manufacturer's directions for respirator use.

Packaging

Available in 1L & 5L drums. 25L package available on request only.

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