Technical
Data Sheet
December 2024

Crommelin®
Waterproofing & Sealing

Lithium Densifier

Concrete floor densifier, hardener and dust-proofer.

DESCRIPTION

Crommelin® Lithium Densifier is a superior clear concrete surface densifier formulated to harden concrete surfaces, increase abrasion resistance and reduce dusting.

The penetrating lithium silicate formula reacts with the concrete to produce insoluble calcium silicate hydrate within the concrete pores.

Safer, faster and easier to apply than conventional sodium or potassium silicate hardeners, Crommelin® Lithium Densifier will not trigger or contribute to surface ASR (Alkali Silicate Reaction).

ADVANTAGES

Lithium Densifier delivers the following advantages;

- Improves performance, appearance and light reflectance of new or old concrete.
- Strengthens and dustproofs new and old concrete.
- Increases concrete surface strength by up to 6 times.
- Fast penetration and reaction, producing high initial and ultimate hardness.
- Easy, one step application.
- No scrubbing.
- No flushing.
- No caustic wastewater.
- Surface sheen improves with traffic and maintenance.
- Breathable and UV stable. Will not yellow, discolour, peel or flake.
- VOC compliant. Non-flammable. Non-toxic. Low odour.
- Cures quickly. Most floors can be opened to traffic within one hour of treatment.
- Suitable for polishing.
- Speeds up polishing process.

AREAS OF USE

Lithium Densifier is suitable for use in the following areas;

- Concrete Floors
- Shopping Centres
- Warehouse Floors
- Interior and Exterior

SUBSTRATES

Lithium Densifier is suitable for application on;

- New or Existing Concrete

TECHNICAL DATA (@ 25°C)

Number of Coats:	1
Coverage:	See “coverage rates”
Initial Cure:	1 – 3 hours
Full Cure:	7 days
Colour:	Clear
Thinner/Clean Up:	Water
Shelf Life:	12 months

ANCILLARY PRODUCTS

- Crommelin® Contractor Membrane Applicator Brush – 100mm, 75mm
- Medium nap roller.

Lithium Densifier

Concrete floor densifier, hardener and dust-proofer.

COVERAGE RATES

Coverage rates are dependent upon the porosity of the concrete surface to be treated and are offered as a guide only. A sample test area is recommended to determine specific coverage rates.

Concrete Surface	Coverage Rate
Freshly placed, uncured, steel trowelled.	20 – 25 m^2/L
Cured, steel trowelled.	15 – 20 m^2/L
Cured, ground/honed.	12 – 16 m^2/L
Porous old concrete.	4 – 10 m^2/L

APPLICATION CONDITIONS

- Application temperature between 7°C - 35°C.
- Do not apply if relative humidity is above 85% during initial cure phases, or if rain is expected before cure.

SUBSTRATE PREPARATION AND PRIMING

Full substrate preparation instructions can be found at www.crommelin.com.au/full-instructions/

- Surfaces must be clean and free from all contaminants. Use Crommelin® HD Cleaner to remove grease, and as a general surface cleaner.
- Pressure washing or the use of a wet vac is recommended to remove dust etc.
- If acid etching has taken place, ensure neutralisation of the area and thorough rinsing has been conducted.
- Surfaces must be well consolidated and sound.
- If area has been previously sealed, ensure complete removal of existing coating.
- Protect people, vehicles, property, plants and all surfaces not designated to receive Lithium Densifier from splash and wind drift. Use polyethylene or other proven protective material.
- Do not apply to surfaces which are frozen, dirty or have standing water.
- Confirm surface absorbency with a light water spray – surfaces should wet uniformly. If the surface does not wet uniformly, consider mechanical surface grinding with metal bound wet diamond grinding to open the surface and remove stubborn surface contaminants or case hardening.

APPLICATION

Full application instructions can be found at www.crommelin.com.au/full-instructions/

- Apply a single coat of Lithium Densifier using a low pressure sprayer fitted with a 2 L / min. spray tip. Apply sufficient material to thoroughly wet the surface..
- Use a clean, soft-bristle broom, brush or microfiber pad to spread product evenly and ensure uniform wetting. Avoid spreading once drying begins. Scrubbing is not necessary.
- Keep surface wet for 20 minutes, then remove any excess material with a squeegee.
- Adjust rate of application to eliminate surface ponding.
- If surface is extremely porous and dries immediately, apply additional product to ensure surface remains wet for the required time.

NOTE: Do not allow material to puddle and cure on the surface. This will extend drying times and create residues which will have to be removed.

- Allow treated surfaces to dry.
- Remove any dried powder residue using stiff broom, power sweeper or floor scrubbing machine.
- For immediate, enhanced shine, buff or burnish the dry concrete surface in both directions using an orbital floor machine or burnisher equipped with an appropriate polishing pad. This is a dry buffing operation.
- For additional shine and stain protection, refer to "Stain Protection" section.
- If you wish to polish concrete please refer to "Polished Concrete" section.

CLEAN UP

- Uncured material may be removed with warm water and detergent.

Lithium Densifier

Concrete floor densifier, hardener and dust-proofer.

MAINTENANCE SCHEDULE AND REPAIR

To maximise the natural life and protective characteristics of your sealer, general cleaning and maintenance should be followed including;

- Any spills must be cleaned up immediately. Spot cleaning should be carried out with dilute detergents.
- It is recommended that areas treated be scrubbed or mechanically cleaned monthly using appropriate cleaning fluids.
- The placement of mats at all entry and exit points is recommended.
- Repair damage by ensuring the area is clean and dry and apply sealer as per recommended coverage rates.
- Re-coating should only take place as required to maintain the greatest level of performance. Re-application requirements will vary, dependent upon substrate, wear and site conditions.
- When over-coating or re-coating, always ensure product compatibility.

PRECAUTIONS

- Do not apply if the temperature is below 7°C or relative humidity is above 85% or if rain is imminent.
- Ensure adequate ventilation and air flow to optimise curing.

WARRANTIES

Please contact your Crommelin® representative, or the Crommelin® technical support team for detailed specifications applicable to your project and warranty requirements.

TRANSPORT AND STORAGE

- Size: 15L
- DG Class: N/A
- UN Number: N/A
- Poisons Schedule: 5
- Weight: 18.5kg
- Flash Point: N/A
- Cool and dry storage

POLISHED CONCRETE

The following directions are a guide only. Consult with equipment hire partners for correct tooling advice.

Exposed Aggregate

- Coarse grind concrete with either 30/40 grit diamond to expose aggregate. Appropriate metal bond selection is critical to economic diamond tooling costs and labour productivity.
- If concrete is soft and abrasive, use a "Hard Bond" diamond segment.
- If concrete is hard, use a Softer Bonded" diamond segment.

Non-revealed Aggregate

- Grind concrete with either 50 grit resin pads or 120 grit metal bonded diamonds, depending on surface finish.
- If there are trowel marks and ridges, these should be removed with 120 grit metal bonded diamonds.
- Remove first step scratches with 50/70 grit diamonds.
- Remove second step scratches with 100/120 grit diamonds.

Grouting

- Mix 1 part grinding dust with 1 part cement (same cement colour as your concrete slab). Colour matching of grout is critical to the final appearance of the polished floor. Use white cement if necessary.
- Mix **Crommelin® Acrylic Modifier** 1 part with 3 parts of clean water.
- Slowly add and mix the diluted **Crommelin® Acrylic Modifier** (1:3 solution) with the cement and dust. Mix until it is a wet consistency with no lumps. The grout should run off a spoon, not drip.
- Wet the concrete with water to remove the suction/ absorption from the concrete floor. (mop finish)
- Pour the grout mix onto the damp floor and squeegee across the floor. Work in areas of 5-10m^2 as material will cure quickly.

Grouting – Continued

Lithium Densifier

Concrete floor densifier, hardener and dust-proofer.

- Once the grout has dried hard (Approx. 1-2 hours), remove any excess grout with a very quick pass with 50 grit resin pad. Do not spend too long on this as it can start to grind out/remove the grout from the holes.

Note- If you can see the aggregate through the grout, there is no excess grout, proceed to Lithium Densifier application process below.

Lithium Densifier Application

To ensure the hardest possible surface is achieved we recommend application of Crommelin® Lithium Densifier after the final metal bond step when the concrete is most porous.

- Apply **Crommelin® Lithium Densifier** with a short to medium nap roller. Ensure product has even coverage without puddles forming. Exact coverage will depend on concrete porosity, approximately 1 litre per 10m².
- Allow a minimum of 12 hours cure time before commencing polishing steps (time will vary significantly with extreme temperatures – longer for cold environments and shorter for warmer environments).
- Remove excess dried product with 50 grit resin bond diamond polishing pads – ensure process is kept totally dry or excessive wear of the resin pad may be experienced.
- Continue with 100 grit resin bond polishing pads.
- Continue with 200 grit resin bond polishing pads.
- Continue with 400 grit resin bond polishing pads.
- Continue with 800 grit resin bond polishing pads.
- Continue with 1500 grit resin bond polishing pads.
- Continue with 3000 grit resin bond polishing pads.

Note - We do not recommend removal of excess wet product once it begins to gel.

For maximum saturation and hardening of the concrete surface, it is recommended that Crommelin® Lithium Densifier is left in contact with the concrete until totally dry.

Note – Excess dried product left unremoved can cause the following problems:

- Brown/dark marks in the floor when polished by dry resin polishing pads.
- Will reactivate and become very slippery when in contact with water.
- Dull patches in finished product.
- Note - We do not recommend the use of metal bond diamond tools once the **Lithium Densifier** has been applied

STAIN PROTECTION

For water and stain repellence, Lithium Densifier may be over-coated with the following Crommelin Sealers;

Note: The application of a sealer may reduce surface slip resistance characteristics, enhance natural substrate colours and provide a sheen level. A trial patch is recommended to access final finish before full application.

Hardened and Honed Concrete

- Crommelin® Enhance Gloss
- Crommelin® Enhance Satin
- Crommelin® Enhance WB
- Crommelin® Enhance Penetrating
- Crommelin® Enhance WSi
- Crommelin® Stain Repel
- Crommelin® Silane Treatment Si

Hardened, Honed and Polished Concrete

- Crommelin® Enhance Penetrating
- Crommelin® Enhance WSi
- Crommelin® Stain Repel
- Crommelin® Silane Treatment Si

7 Day Technical Support 1800 655 711
72 Divis or Street, Welshpool Western Australia 6106 T +61 8 9458 5711 F +61 8 9451 4749
service@crommelin.com.au www.crommelin.com.au

Lithium Densifier

Concrete floor densifier, hardener and dust-proofer.

SAFETY AND FIRST AID

Lithium Densifier Safety Data Sheet is available from Crommelin® upon request.

Safety

- Ensure good ventilation and avoid breathing vapours.
- Avoid skin and eye contact. Wear gloves and eye protection. Remove splashes on skin immediately and remove contaminated clothing.
- Keep out of reach of children.
- Keep container sealed when not in use.
- Do not swallow.

First Aid

- If poisoning occurs, contact a doctor or poisons information centre: Ph. 13 11 26.
- If swallowed, do not induce vomiting. Give a glass of water to drink.
- If in eyes, hold eyes open and flood with water for at least 15 minutes.
- If not breathing, apply artificial respiration.