**NOTES:**

The purpose of this product Tech-Dry specification is to provide specification information where concrete is to be treated with a penetrating densifier that is required to have water resistant properties and that is non-film forming and enables a dust free, tough and durable finish; that is set out as ‘additional clauses’ to be incorporated into a Project Specific building specification, such as CONCRETE and CONCRETE FINISHES.

**??** in the margin indicates text to opt-in or opt-out in the specification as applicable.

**RECOMMENDED USES:**

**Tech-Dry LITHIUM DENSIFIER is used as a concrete surface densifier, hardnener and dust-proofer for concrete flooring, including residential floors and garages, commercial car parks, restaurants, retail and warehouse floors, The applications alos include treating polished concrete floors and sealing onld concrete for strengthening, dust-proofing and water-proofing. LITHIUM DENSIFIER may also be used for sealing other masonry substrates including natural stone pavers, clay bricks and ceramic tiles. However, a test should be conducted prior to application to determine the suitability of this product for the purpose.**

The key features of LITHIUM DENSIFIER include:

- Lithium silicates allow quick application with low risk of unwanted residues

- Penetrates into the concrete beneath the surface ensuring durable protection

- Accelerates the concrete polishing process, and therefore saving in time and costs

- Strengthening and dust-proofing concrete surfaces

- Maintains appearance and slip resistance of the original concrete finish

- Reduces water absorption and water borne staining

- Environmentally friendly formulation and easy clean up with water

- Ready-to-use low viscosity formula enables good penetration and easy application

**DISCLAIMER:**

The information given in this specification is based on many years of experience by Tech-Dry and is correct to the best of our knowledge. As the storage, handling and application of this material is beyond the manufacturers control, the responsibility for the quality of our product at the time of dispatch. We reserve the right to alter certain product parameters within the spectrum of properties in order to keep abreast of technical advances. It is the responsibility of the end user to determine the suitability of this material for any particular application.

**\*\* These notes highlighted in red do not need to be incorporated into the specification and are added as guide only to the preparation of the Specification.**

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# LITHIUM CONCRETE DENSIFIER/SEALER

## LITHIUM DENSIFIER MATERIAL

###  Description:

 Manufacturer’s Code: **RPLDR**

 General: TECH-DRY “Lithium Densifier” is specially formulated penetrating sealer containing active lithium silicates. The sealer is formulated to penetrate the concrete surface and block the concrete capillaries by formation of calcium silicate hydrate. The calcium silicate hydrate binds within the concrete matrix and hardens the concrete surface resulting in a hard, dense, dust free and traffic resistant surface finish. Furthermore, unlike traditional sodium silicates, “Lithium Densifier” does not leave any visible residues or efflorescence after the treatment.

?? Polished concrete finishes: Due to the high activity of lithium silicates, “Lithium Densifier” accelerates the concrete polishing process, thus saving time and costs. A smooth or gloss finish to the concrete surface may be achieved by concrete polishing as specified elsewhere.

###  Typical material data:

 Appearance: Colourless clear liquid

 Solids content: <20% by weight

 Density: 1.03 – 1.05g/ml

 pH value: 10 – 11

 Solubility in water: Soluble in water

## CONCRETE SURFACE PREPARATION

###  Cleaning and preparation of concrete:

 Requirement: Prior to application of the “Lithium Densifier”, the concrete surface should be completely cleaned of any surface contaminants that may impede the penetration of “Lithium Densifier” and allowed to dry before application.

?? New concrete: Allow new concrete to cure for 28 days prior to application. Curing compounds, release agents, or coatings/membranes shall be removed from the concrete surface, cleaned and allowed to dry before applying “Lithium Densifier”. In the case of acid treated concrete, the concrete surface shall be completely neutralised and thoroughly rinsed with water, then allowed to dry prior to application.

?? Polished concrete: In preparation for polished concrete the surface of concrete slab is to be firstly removed by grinding to a minimum 200 grit or desired surface finish to expose the aggregate before applying the “Lithium Densifier”. This will ensure maximum absorption of the sealer and make it easy to further polish to finer grades due to the densification achieved by the application of the “Lithium Densifier”.

## APPLICATION OF THE LITHIUM DENSIFIER TREATMENT

###  Handling and storage:

 Description: “Lithium Densifier” is an alkaline solution. Skin or eye contact should be avoided by wearing proper protection. The risk of vapour inhalation of this product is low, however, an air-purifying respirator should be worn if there is a risk of exposure to high vapour concentrations. Wash hands after handling. The sealer should be kept in the sealed original container under 25°C. The product must not be used after the “Best Before” date. The sealer should be used up as soon as possible after the original container is opened.

 Protection: Keep out of reach of children.

 Packaging: “Lithium Densifier” is available in 20 litre plastic drums. Other sized plastic containers are available on request.

###  Consumption Rate:

 Requirement: The application rate of “Lithium Densifier” varies depending on permeability of the concrete and climatic conditions. Dense, smooth or new concrete may have a low absorption rate, whereas porous and old concrete my absorb significantly more sealer. The consumption rate varies from 5-25/m2 per litre per coat; or could be out of this range significantly.

###  Application methodology:

?? Protection: Adjacent surfaces and finishes such as glass and aluminium shall be protected from overspray or splashing of the “Lithium Densifier”, Any contact with glass or aluminium should be immediately washed down with potable water.

 Mixing: The material container shall be well shaken or stirred immediately prior to use to ensure that all components are properly mixed.

 Applying the material to concrete surfacers: The “Lithium Densifier” should be applied with either a low-pressure hand sprayer, mop or soft bristle brush/broom. The sealer should be flood coated evenly onto the surface and puddling shall be avoided. Ensure the material is present on the surface as a mirror-like wet liquid film for up to 5-10 minutes to ensure maximum absorption. A second coat should be applied immediately if the first coat is quickly absorbed by the surface while the surface is wet; i.e. a wet-in-wet method. Avoid applying the sealer if the surface sealer has dried. Remove any excess sealer from the surface after 10 minutes as the excess sealer my dry and cause unwanted residue on the surface, which may only be removed by mechanical scrubbing.

?? Waterproofing: In the case of water-proofing applications, the above application may be repeated several times to ensure fully blocking of the pores/capillaries.

 Thinning: It may help to achieve better penetration by pre-dilution of the sealer at 1:1 with clean potable water before application; more wet-on-wet applications may be required to ensure enough sealer is applied. A test of the diluted material shall be conducted before application.

###  Post application:

 Protection of concrete: Curing starts immediately, with full curing is achieved after 24 hours or longer. It is recommended by the manufacturer that areas treated should not be subjected to any traffic for at least 24 hours after the last coat of the product has been applied to the concrete surface.

 After application: Clean equipment by washing in potable water.

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## POLISHING LITHIUM DENSIFIED CONCRETE

###  Polishing where indicated:

 Requirement: The area of concrete where indicated to be polished should be polished or buffed after the surface treated with “Lithium Densifier” has dried and cured. For additional water or stain resistant treatment, TECH-DRY Oil and Stain Resistant Sealers may be used. Please contact Tech-Dry on (03) 9699 8202 for further information.