**NOTES:**

The purpose of this product Tech-Dry specification is to provide specification information where concrete is to be treated with a premium penetrating densifier that is required to have excellent oil and water resistant properties 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 PREMIUM is used as an oil and water-resistant penetrating densifier and strengthener for concrete flooring including residential garages, commercial car parks, restaurants, retail or warehouse floors. Applications also include treating polished concrete floors or bench tops, and sealing old concrete for strengthening, dust-proofing, oil and water-proofing. The Lithium Densifier Premium sealer may also be used for sealing other masonry substrates including natural stone pavers, clay bricks or 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 PREMIUM include:

- Excellent resistance to oil penetration, oil staining and water absorption

- Deeply penetrates into concrete capillaries to ensure durable protection

- Fast reaction with concrete for a fast concrete polishing process

- No visible residues or efflorescence after treatment

- Enhances surface colour without changing the surface characteristics of concrete

- Environmentally friendly water-based technology

- Ready-to-use low viscosity formula enables 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 PREMIUM CONCRETE DENSIFIER/SEALER

## LITHIUM DENSIFIER PREMIUM MATERIAL

###  Description:

 Manufacturer’s Code: **RPLDPR**

 General: TECH-DRY “Lithium Densifier Premium” is an oil and water-resistant concrete densifier containing lithium silicates. The sealer is formulated to penetrate the concrete and blocks the concrete capillaries, this hardening and dust-proofing the surface. Unlike concrete coatings, “Lithium Densifier Premium” also imparts excellent oil and moisture resistant properties to the treated concrete and effectively makes the surface oil-proof without changing the surface characteristics of the concrete finish. Further, unlike other silicate densifiers, “Lithium Densifier Premium” does not leave visible residues or efflorescence after the treatment.

?? Polished concrete finishes: Due to the smaller molecular size and high activity of lithium silicates, “Lithium Densifier Premium” can deeply penetrate into the capillaries and quickly react with concrete resulting in a surface ready for a subsequent concrete polishing process. 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

 Density: 1.0 – 1.1g/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 Premium”, the concrete surface shall be completely cleaned of any surface contaminants that may impede the penetration of “Lithium Densifier Premium” 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 Premium”. 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 the 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 Premium”. 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 Premium”.

## APPLICATION OF THE LITHIUM DENSIFIED PREMIUM TREATMENT

###  Handling and storage:

 Description: “Lithium Densifier Premium” 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 be 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 Premium” is available in 20 litre or other size plastic containers upon request.

###  Consumption Rate:

 Requirement: The application rate of “Lithium Densifier Premium” varies depending on porosity of the concrete and climatic conditions. Dense, smooth or new concrete may have a low absorption rate, whereas porous and old concrete may 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 Premium”. Any contact with glass or aluminium should be immediately treated by washing with potable water.

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

 Applying the material to concrete surfacers: The “Lithium Densifier Premium” should be applied with either a low-pressure hand sprayer, mop or soft bristle brush/broom. The sealer should be flood coated 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 shall be applied immediately if the first coat is quickly absorbed by the surface while the surface it is still wet; i.e. a wet-in-wet method. Avoid applying the sealer if the surface has dried. Remove any excess sealer from the surface after 10 minutes as the excess sealer may dry and cause unwanted residue on the surface, which may only be removed by mechanical scrubbing.

?? Penetrating sealer: If a good oil and water-resistant result is required, the above wet-in-wet application shall be repeated several times all on the one occasion to ensure enough sealer is applied onto the surface.

 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-in-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 may take up to 24 hours or longer. It is recommended by the manufacturer that areas treated not be subject to any traffic for at least 24 hours after the last coat of the product is applied to the concrete surface.

 After application: Clean equipment by washing in potable water.

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## POLISHING LITHIUM DENSIFIED PREMIUM CONCRETE

###  Polishing where indicated:

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