



CRYSTOSEAL

WATERPROOFING BY “CRYSTALLISATION”

DESCRIPTION

Crystoseal is a ready-for-use (merely add water) concentrated, high strength, cement-based waterproofing slurry incorporating active chemical constituents which, when applied, become active in cementitious substrates and by a crystallisation process provides a waterproof seal within the substrate. **Crystoseal** waterproofs sound concrete or cement surfaces against water ingress, dampness, ground water and hydrostatic pressure. **Crystoseal** is suitable for waterproofing both the positive and negative sides of the substrate.

It consists of a blend of cements, graded quartz and active chemical constituents and gives a render-like appearance. **Crystoseal** works by the conversion of free lime in the concrete to insoluble calcium compounds. These seal against capillary ingress of water. Compounds within **Crystoseal** penetrate the substrate where they in turn 'crystallise' on contact with moisture and create a waterproof barrier.

USES

Crystoseal is an economical, easily applied method of providing a waterproof barrier to sound and stable concrete or cement-based products such as:

- Cement filled block work.
- It may be used on both new and existing structures.
- **Crystoseal** finds particular use on concrete structures where access is only available to negative side of the structure such as the internal side of retaining walls.

SUITABLE SURFACES

Crystoseal is suitable for applications in concrete and cementitious substrates such as:

- Foundations
- Basements
- Tunnels
- Retaining Walls
- Water Retaining Structures
- Ponds
- Pools
- Silos
- Underground Structures

Advice from Duram should be sort for the most appropriate priming method for these surfaces; Duram has a recommended system for all the above.

***Note:** Particle Board is not regarded as a suitable substrate for wet areas and particularly shower recesses and should be replaced with CFC sheeting. As a minimum, Particle Board should be sealed with one to two coats of **Duram Primeseal MC**. All joins and corners must be sealed with a polyurethane sealant and a reinforced fabric used in conjunction with the membrane. Surfaces must be made good and should be sound, stable, dry, clean and free of dirt, dust and contaminants and suitably primed.

SPECIFICATION

The information contained in this product data sheet is typical but does not constitute a full specification as conditions and specific requirements may vary from project to project. The instructions should be considered as a minimum requirement, but the applicator or contractor must use their skill, knowledge and experience to carry out additional works as may be necessary to meet the requirements of the project. Specification for specific projects should be sought from the Company in writing.

LIMITATIONS

- **Crystoseal** is formulated for concrete and cementitious substrates only which must contain high levels of concrete or cement.
- **Crystoseal** acts within the tissue of the substrate and is dependent upon its soundness. If the substrate cracks, then the **Crystoseal** will crack in sympathy and it will not seal or bridge cracks. Cracks and joints must be independently waterproofed by alternate means before applying **Crystoseal**.
- **Crystoseal** relies on the soundness and density of the substrate. If the substrate contains internal or external voids or is honeycombed, then the effectiveness of the product may be negated or diminished. It is highly recommended that block work be filled and compacted.
- **Crystoseal** must not be exposed to water pressure, running water or rain until it has set.
- **Crystoseal** is not a vapour barrier.
- When sealing the negative side of a structure, if there is hydrostatic pressure or a buildup of water on the other side of the structure, there is a risk that water will find other areas of penetration.
- Since the **Crystoseal** system is based on a chemical reaction taking place inside the concrete, some moisture penetration can be expected until voids are sealed by the crystallisation process which can take some time.
- **Crystoseal** is dependent upon the application of sufficient product to effectively convert the free lime in the substrate.

BENEFITS AND ADVANTAGES

Crystoseal has application where conventional membranes would be unsuitable such as:

- On damp cementitious surfaces.
- There is only access to the negative side of the structure, i.e. inside surface of a retaining wall or outside of water retaining structures.
- Easy to use. Simply add water, mix and apply by brush or roller.

PRECAUTIONS IN USE

Crystoseal must not be exposed to water pressure, running water or rain, until it has fully set. The treated surface must be protected from heat and wind and drying should be as slow as possible.

Note: Since the **Crystoseal** system is based on a chemical reaction taking place inside the concrete, some moisture penetration can be expected until voids are sealed by the crystallisation process. Refer to limitations above.

SURFACE PREPARATION

Good preparation is essential. Surfaces must be sound, stable, dry, clean and free of dust, loose, flaking, friable material and substances that may diminish adhesion.

Crystoseal is designed for use on porous, concrete or cementitious surfaces.

All surfaces must be clean, sound, free of laitance, form work release agents, paint, coatings, dust, loose particles and any other foreign matter including fungal growth. **Crystoseal** must be applied directly to the clean concrete surface.

PRIMING (SELF PRIMING) MIXING INFORMATION

Large cracks and honeycombing should be made good with thin coating of **Crystoseal** mixed as described below and then be filled with a non-shrink mortar prior to applying the overall **Crystoseal** treatment.

Crystoseal only needs the addition of water to be ready for use. Mix **Crystoseal** with water to produce a viscous, creamy consistency (1-part clean water to approximately 2.5 parts **Crystoseal**). Mixing may be done by hand or mechanical mixer and should be continued until a homogenous, lump free product results. In manual mixing lumps may be broken down with a gloved hand. On completion of mixing, material must be used within 30 minutes.

Never attempt to reconstitute the mixed product by further dilution after mixed material has become too stiff to apply. Discard this product.

DETAILING PREPARATION

A fillet should be formed using **Crystoseal** in a slightly stiffer version in all floor/wall joints prior to applying the **Crystoseal** in the specified manner.

APPLICATION

Any surface to be treated with **Crystoseal** must be fully saturated with water beforehand, preferably the day before. Surfaces such as floors must be free of ponded water or running water and verticals must be free of water running down the face. Apply **Crystoseal** using either a medium-hard block brush, trowel, broom or roller.

Treatment must be applied in a minimum of two or three coats as indicated below. A second coat must be applied as soon as the first coat can no longer be disturbed by brushing. If a third coat is required it must follow within 24 hours, with the surface having again been pre-dampened.

The final coat of a system, be it two or three coats, must be left as smooth as possible.

IMPORTANT: The applied **Crystoseal** must be protected from heat and wind and drying should be as slow as possible. Do not let the surface dry quickly and can be sprayed with water to dampen it.

Do not attempt to reconstitute the mixed product after it has become too stiff to apply by adding water. This product should be discarded.

COVERAGE

The stated average coverage rate may vary depending upon type, condition, porosity, texture of the surface and application technique.

- For waterproofing external surfaces against water ingress from damp earth and mist ground apply a minimum of two coats applied at 1kg to 2 kg per m² per coat.
- Waterproofing internal surfaces against rising damp up to 1m head of water apply a minimum two coats applied at 2kg to 4kg per m² per coat.
- Waterproofing water retaining structures internally apply a minimum two coats applied at 2kg to 3kg m² per coat.
- Waterproofing externally against more than 1m head of water pressure apply a minimum of 3 coats applied at 2.5kg per m² per coat.

COLOURS

Crystoseal has a 'cement' colour and gives a render-like finish.

DRYING AND CURING

Drying and curing of the product is affected by type, dryness and porosity of the surface, temperature, humidity, ventilation, climate conditions and application technique and therefore drying and curing can only be given as a guide.

For best results drying should be as slow as practically possible. Post dampening is an advantage.

STORAGE

Stores in dry, cool areas. Damaged bags or material that is water or moisture effected should not be used. Available in 20 kg bags.

TILING, TOPPING OR TOP COATING

Generally, **Crystoseal** is not topped.

If area is to be topped, then adequate time should be given to ascertain that the desired effect has been achieved and then should be membraned by priming with **Duram Primeseal MC** followed by the application of the selected Duram waterproofing membrane such as **Durabit Range, Azcothane Range Multithane, Duram 195** or **Crystoflex**.

If area is to be painted, then adequate time should be given to ascertain that the desired effect has been achieved and then primed with **Duram Primeseal MC** and then painted.

SAFETY AND PRECAUTIONS

The product is considered low risk if used properly as intended. The product has fine cement- like dust and inhalation should be avoided. Until properly wetted, an adequate dust mask should be worn. If inhaled, remove person to fresh air and if required perform artificial respiration and seek urgent medical help. The product contains cement and hence may burn or irritate skin. If contact occurs wash with soap and water. Eye protection should be worn. If in eye, thoroughly wash holding eye lid open to remove any grit under the lid. Rubber gloves should be worn. If swallowed, give plenty of water to drink. Seek medical assistance.

For full safety data refer to the products Safety Data Sheet. Observe precautions as per label.

CONDITIONS OF USE AND DISCLAIMER

The information contained in this TDS is given in good faith based upon our current knowledge and does not imply warranty, express or implied. The information is provided and the product is sold on the basis that the product is used for its intended purpose and is used in a proper workmanlike manner in accordance with the instructions of the TDS in suitable and safe working conditions. Under no circumstances will the Company be liable for loss, consequential or otherwise, arising from the use of the product.

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The Ultimate in Waterproofing & Protective Coating Technology

Duram Offices:

NEW SOUTH WALES:	51 Prince William Drive, Seven Hills, NSW 2147	Tel (02) 9624 4077 Fax: (02) 9624 4079
QUEENSLAND:	63 Radley Street, Virginia, QLD 4014	Tel (07) 3255 6478 Fax: (07) 3255 6258