

SYSTEM FOR THE RECTIFICATION OF LEAKED UNDERGROUND TANKS



System for the rectification of leaked underground tanks

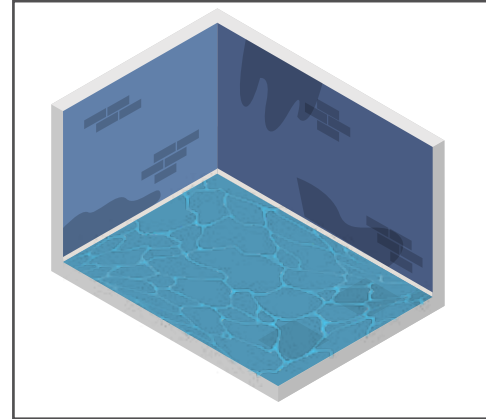
The most common causes of underground tank leaks are pressure created by water in the soil surrounding the foundation. Cracks within the underground tanks, loose plaster, damaged chamfers and dry soil can cause the water leakage outwards similarly during periods of heavy or persistent rain, the soil can become saturated, creating hydrostatic pressure (or water pressure) that can push moisture and water through your underground tank walls and floor. The looser soil around the foundation tends to absorb more water. The area around the structure is often flooded with rainwater from clogged gutters or downspouts that are discharging water right next to the foundation. When the soil expands, it creates lateral (or sideways) pressure against the foundation. This can cause damage to the underground tank & any structure it is supporting.

Water can find its way in and out of the underground tanks several ways, such as:

- Through cracks in the walls or floor.
- At the joint where the poured concrete floor meets the wall (Between the raft and the retaining walls).

Fixing underground tank leaks

Fixing underground tank leaks can be a tricky proposition. A thorough inspection of the tank is essential to diagnose the points through which the leakage is taking place. Once the leakage points have been identified, proper treatments can be made to ensure that the leakage can be stopped from the underground tanks.



Water Guard Crysta Coat 101

Water Guard Crysta Coat 101 is a cementitious slurry waterproofing system by crystallization. The active chemicals in the applied **Water Guard Crysta Coat 101** reacts with the free lime and moisture present in the capillary track in the concrete to form an insoluble crystalline complex. The crystals block the capillaries and minor shrinkage cracks in the concrete to prevent any further water ingress. **Water Guard Crysta Coat 101** can be used for various concrete elements in structures including underground tank raft and retaining walls.

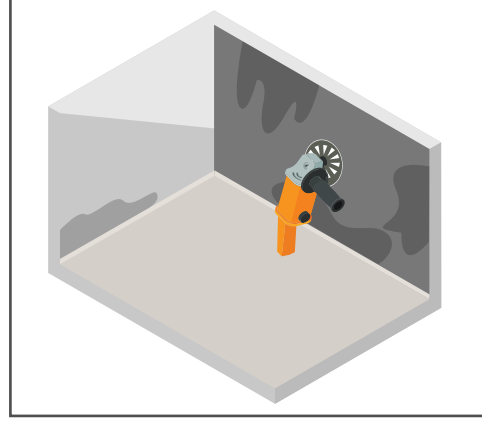
The application of **Water Guard Crysta Coat 101** can be done in a series of steps.



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Step 1: Preparation

It is essential to remove all the Plaster, loose materials & non-cement-based plaster over the concrete surface which has been affected. It is also essential to thoroughly keep the surface slightly moist prior to application of **Water Guard Crysta Coat 101**. The preparation of the surface should extend at least one meter over the sign of leakage. All surfaces should be saturated with water prior to application.



Step 2: Preparation of Water Guard Crysta Coat 101

The Water powder ratio of **Water Guard Crysta Coat 101** is between 0.50 to 0.55. This means for a 2KG bag the water ratio can vary from 1 Ltr to 1.1 Ltr, and for a 20KG Bag 10 Liters to 11 Liters of water can be used. Only potable water is to be used for mixing. Always add powder to water, mix using a slow speed drill fitted with a paddle until a smooth lump free consistency is obtained. Do not rework stiff material by adding more water. Only mix enough material that can be used within 30 minutes.



Step 3: Application of Water Guard Crysta Coat 101

Apply **Water Guard Crysta Coat 101** with a stiff fiber brush. Scrub well into the damp surface, filling all pores and finish with final strokes in one direction. After the first coat has been set but while it is still green, apply a second coat. If this is not possible, prewet the first coat before application of the second coat. It is recommended to apply **Water Guard Crysta Coat 101** in right angled opposite directions. If the first coat has been applied in a top to bottom direction, the second coat should be applied in left to right direction. Please ensure that all the coats are done over all the prepared area and no area is left untreated. For further information on the product, please refer to the product technical datasheet.



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For leaking cracks

Water Guard Crysta Coat 101 can be mixed to the dry mortar consistency and used to fill the cracks. If there is any active water leakage, then **Water Guard Crysta Coat 101** can be mixed with a suitable plugging material recommended by Ressichem at a Ratio of 1:1 and fixed at the point of water leakage to stop the flow of water. Over such treatment two coats of **Water Guard Crysta Coat 101** can be applied at a said rate of application.

Once the material has been properly applied, it is recommended to keep the coating moist for 7 to 10 days. **Water Guard Crysta Coat 101** is effective against negative and positive water pressure. Crystals grow into the concrete creating a water barrier of insoluble crystals which penetrate and go deep into the capillary structure of the concrete blocking the passage of water. The crystals will be dormant in the concrete offering long term protection. Any later contact with water will reactivate the sealing process making the concrete structure watertight.

Note: Two coats of **Water Guard 491** can be applied over the coated surface of **Water Guard Crysta Coat 101** for further protection. Please refer to the product datasheet for further information.

What is a Chamfer?

Is a transitional edge between two faces of an object. Sometimes defined as a form of bevel, it is often created at a 45° angle between two adjoining right-angled faces. (Wikipedia).

In waterproofing systems, making a **chamfer** is of great significance. Water normally gets stuck in areas which have sharp corners of 90° & on several occasions the leakage of water occurs from this the sharp angle of the water retaining bodies or areas where significant waterproofing is required. To minimize the effect of this, a **chamfer** is usually created to make sure that there are no sharp angles in the structure to minimize the effect of water coming in & out of the structure.

