

# WATERPROOFING SYSTEM FOR OVERHEAD TANKS (INDUSTRIAL)



## Summary of application

**STEP 1:** Pouring of the concrete with the addition of **Water Guard P 200**.

**STEP 2:** Filling and repairing of the concrete voids with a mortar made with the inclusion of **Ressi SBR 5850** and **Silmix**.

**STEP 3:** Application of **Water Guard Crysta Coat 102** over the prepared concrete surfaces.

**STEP 4:** Making of internal chamfers with a mortar comprising of **Ressi SBR 5850** and **Silmix** and coating the chamfer with **Water Guard Crysta Coat 102**.

**Note:** Do Water Flood Test with water after Step 4.

**STEP 5:** Internal and External plastering of the OH Tank with the addition of **Silmix** and **Ressi SBR 5850** in the plastering mortar.

**STEP 6:** Internal Coating over the plastered surface of **Water Guard 491**.

## Detailed description

When it comes to industrial applications, we believe that the proposed solution should be both cost effective and durable. A water proofing system for the construction of overhead tanks for industrial use is recommended just for this purpose.

### Step 1: Pouring of the concrete and form work.

Good quality formwork should always be used when pouring an area as sensitive and essential as the overhead tank. It is essential to make note and plan of all the pipe inlets and outlets within the form work to avoid leakage problems from these points when the overhead tank is in use. The concrete to be poured should be of exceptional quality. The addition of a good integral waterproofing admixture is essential to make concrete as water resistant as possible. **Water Guard P 200** is recommended as an integral water resisting admixture for the pouring of overhead tank concrete in this case. 1 KG of **Water Guard P 200** is the recommended dosage per 50 KG bag of cement for the pouring of concrete. It is also essential that all the concrete should be poured in one go to avoid the formation of any joints between the base and the walls of the overhead tank.

### Step 2: Filling & repairing of the concrete voids.

Once the formwork has been removed. It is essential to repair all the defects of the concrete with a suitable repairing material.

When planning for the overhead tank, it is important to make sure that the water pipe sleeves are carefully planned within the formwork to have proper water inlet and outlet points. If there is breaking or hacking of the concrete after the overhead tank has been casted, it becomes difficult to stop the water leakage from pipe inlets and outlets.



For large industrial tanks where the pouring in one go is not possible, please consult with Ressichem technician for solutions of concrete joints for industrial over head tanks.

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be used as an appropriate repairing material for the minor concrete defects and the voids created by the metal strips (Incase wooden formwork has been used). Once the concrete is repaired and of a sound nature subsequent treatment of various waterproofing materials can be done over the concrete surface of the overhead tank. The ratio of Ressi SBR 5850 to be used in this case would be 1 KG of Ressi SBR 5850 with every 50 KG bag of cement.



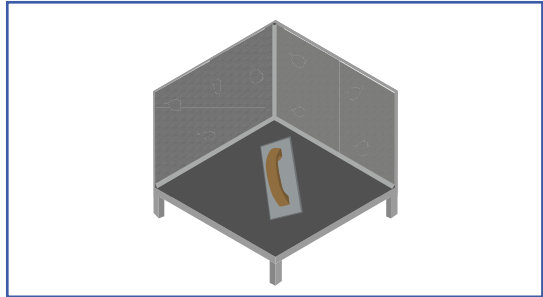
## Step 3: Application of Water Guard Crysta Coat 102 over the prepared concrete surfaces.

**Water Guard Crysta Coat 102** is a crystalline waterproofing slurry coat which is to be coated over the prepared concrete surface on all the exterior and interior surfaces of the overhead tank. At least two coats of **Water Guard Crysta Coat 102** are recommended and are to be applied in in right angled patterns. If the first coat is applied in top to bottom pattern the second coat should be applied in left to right patterns. It is recommended to make sure that all the concrete that has been casted internally and externally is coated properly with **Water Guard Crysta Coat 102** (For further application guidance, please refer to the product datasheet).



## Step 4: Making of internal chamfers.

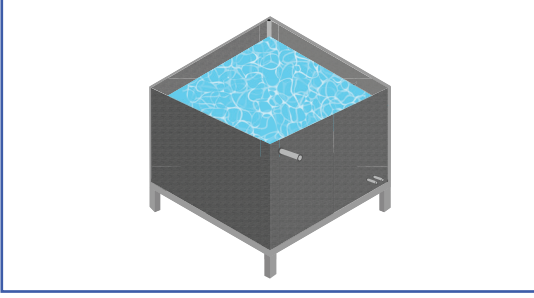
It is recommended to make internal chamfers at the base and on all the walls of the overhead tank. All angles of 90° in the base & the walls of the tank should be neutralized. The chamfer should be at least 6 inches tall & wide throughout the all the corners of the overhead tank. (Please see the illustration for better understanding). The material recommended in this case for the making of chamfer for the overhead tank is a cement sand mortar with the inclusion of **Ressi SBR 5850**. The ratio of the cement sand mortar in this case would be 1:4 (Cement: sand). The amount of SBR to be used in this case would be 1 Ltr of **Ressi SBR 5850** to be used with every 50 KG bag of cement used in the making of the chamfer. Once the chamfers have been completed, they too should be coated with crystalline coating of **Water Guard Crysta Coat 102**.



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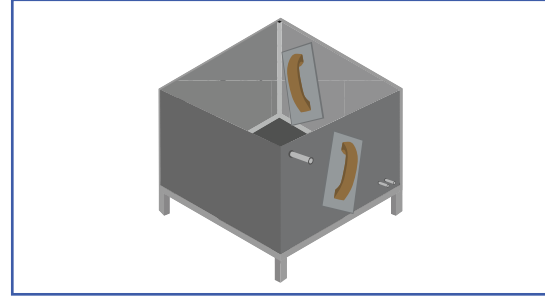
## Flood Test



**Note:** Once the chamfers work has been completed and coating of **Water Guard Crysta Coat 102** has been done both internally and externally over all the concrete surfaces, it is recommended to have a flood test for 72 hours of the overhead tank (Filling up the tank with water) to check if there are any leakages in the tank, the points with leakage should be rectified prior to plastering. It is essential that all pipe inlets and outlets should be checked thoroughly for any water leakage at this time.

## Step 5: Internal & External Plastering

Once all the chamfer work has been properly executed and the flood test has been successfully conducted, the inner and outer surface of the overhead tank should be ready to plaster. It is recommended to use **Silmix** and **Ressi SBR 5850** as mortar admixtures to make sure that there are no cracks in the plaster and the plaster itself is water repellent. It is recommended to add 1 Liter of **Silmix** along with 1 Ltr of **Ressi SBR 5850** with every bag of cement used for the plastering of internal and external areas of the overhead tank. It is to be ensured that the internal plaster of the overhead tank should be finished slightly rough, exposing some grains using a foam (Foam finish plaster). This will provide a good key for the subsequent coating of **Water Guard 491**.



## Step 6: Internal coating of water Guard 491

Once all the internal and external plastering works have been completed, it is recommended to apply at least 2 coats of **Water Guard 491** in all the internal areas of the overhead tank. It is recommended that both the coats are applied in opposite right-angled directions. If the first coat is applied with vertical brush strokes, the second coat is to be applied with horizontal brush strokes. (For further application and mixing guidelines of **Water Guard 491**, please refer to the technical datasheet of the product).



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## 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.

