Application Process for Sealing Concrete

Purpose.

One of the most important parts in the process of having concrete installed is to seal it. Concrete sealer is like car wax and most people don't realise that they should have used it until it is too late, generally as the paint is peeling from their car. Likewise, after a few years of surviving the elements, your concrete will become discoloured, stained, dusty and even start flaking.

Concrete Sealers can protect your concrete against;

- Oil stains
- Tyre marks
- Fading
- Water damage
- Dirt, mud, grime and mould
- Chemical staining

Topical concrete sealers work by applying a layer of acrylic resin dissolved in solvent on the surface of the concrete, the solvent evaporates leaving the acrylic resin. The more coats that you apply, and the more acrylic which translates to the surface becoming more slippery when it gets wet.

Just like the car wax, your concrete sealer will need recoating in 3-5 years depending on many factors including the environmental elements, wear and tear. The life of your concrete sealer can be greatly enhanced by regularly cleaning it to reduce the abrasive debris that acts like grinding paste under constant foot or vehicle traffic.

Safety First.

Handling any type of solvent is hazardous and should only be done with the appropriate safety equipment, handling knowledge and procedures. Before you do anything make sure that you have read the Safety Data Sheet and understand the personal and environmental risks, precautions and equipment required when using CTI Concrete Sealer. You can download the Safety Data Sheet from our website https://concretetools.co.nz/product/cti-concrete-sealer under downloads

At a minimum you should wear gloves, boots, protective glasses and clothing that leaves no skin exposed. Use of a respirator is highly recommended and advised particularly if you are working inside or in a confined area.

Be careful of the fumes from the sealers container when decanting or using it.

Only decant in a safe, well-ventilated area that can be washed down quickly.

The concrete sealer and vapour are irritating to eyes and can cause stinging, tearing, blurred vision and redness. If the fumes are inhaled, they may cause irritation,

coughing, sneezing, wheezing and difficulty breathing as well as possibly dizziness, nausea and vomiting.

Splashes on your skin may cause irritation or redness.

Precautions:

CTI Concrete Sealer will go milky white if there is any moisture present either in the concrete or the environment.

CTI Concrete Sealer will go milky white if the ground temperature is below 10^{o}C

CTI Concrete Sealer will form bubbles if the air or ground temperature is too hot.

CTI Concrete Sealer will form bubbles if it is applied too thick.

CTI Concrete Sealer may not dry if it is applied too thick.

CTI Concrete Sealer will melt plastic that is not compatible or resistant to solvents including brooms, brushes, sprayers and trays.

CTI Concrete Sealer is not compatible with normal household paints and is not necessarily compatible with other concrete sealers and should not be mixed or applied over others without our recommendation.

It is important to note that CTI Concrete Sealer is not a water proofer, repellent or sealant and should not be used to attempt fixing permeating water.

What you need:

Safety gear
Large paint tray
Solvent resistant rollers, brushes, broom or sprayer
CTI Solvent X for clean up
Masking Tape
Masking Film

Preparation:

- Make sure that the concrete is at least 28 days old before sealing, this is the industry standard for concrete curing.
- Acid wash and neutralise the surface prior to sealing, preferably two days before.
- The concrete must have been completely dry for a minimum of two days prior to sealing.
- Make sure that there are no leaking taps, dripping guttering, sprinkler systems or any other sources of water present.

- **Do Not** dilute the CTI Concrete Sealer.
- Use CTI Solvent X to clean up, **Do Not** use water.
- Ensure that the concrete is clean and free of dirt, grime, grease, oil and other debris
- Check the weather forecast, and sky before sealing, do not seal if the weather is threatening.
- Avoid using sealer when it is windy or there are other environmental factors that may cause foreign objects to settle on the freshly coated surface e.g., times when large amounts of pollen are in the air or Autumn with leaves falling etc.
- Ensure that you mask off and protect any areas that you do not wish to treat or that can be affected by splashes.
- Make a plan of how you will apply the concrete sealer so that you can treat the entire area without having to walk on the recently applied sealer.

Application

- Decant an appropriate amount of CTI Concrete Sealer into a roller tray, smaller bucket or sprayer. Do not work from the pail.
- Using a paint roller, brush, broom or sprayer, apply the sealer evenly to the concrete surface working in the same direction keeping a wet edge. You are aiming to get as thinner coat as possible, around 1/60th the thickness of a credit card.
- Allow the CTI Concrete Sealer a minimum of four hours in summer (in winter you will need to leave it up to 24hours) to dry before recoating as described previously, applying in a different direction to the previous coat. It will not matter if you leave it several days or weeks between coats. You can apply as many coats as is needed to achieve the result that you require following these steps but generally two coats are appropriate.
- You can test if you have sufficient coverage once the sealer has dried by pouring water on the surface, it should bead and not wet the concrete below the sealer. If the concrete changes colour, you will need more coats. (Leave it to dry two days before recoating).
- In summer, allow to dry for at least 24 hours before light foot traffic and at least 7 days for vehicle traffic. In the colder months you will need to allow longer.

Moisture Test.

Cut a square of clear piece of plastic sheet and tape it to the concrete in the sun so that all of the edges are sealed to prevent air getting under the plastic.

Leave for a couple of hours in the direct sunlight and inspect.

If there is moisture on the inside of the plastic the concrete is NOT dry enough to seal.

Or as a quick check.

Place and hold your hand on the concrete surface for a minimum or 30 seconds. If there is moisture on your hand after you remove it DO NOT seal.

Temperature Test.

Place the back of your hand on the concrete, if it feels uncomfortably hot or cold, DO NOT seal.

Pitfalls and Myths.

"One thick coat is sufficient."

Wrong. Acrylic sealer should be thin if a coat is too thick, particularly in warm weather, the surface can dry (crust over) before all the solvents have evaporated. The remaining solvent can then vaporise in the heat and form bubbles in the sealer. A thin coat is also harder and more durable than a thick coat.

"The surface looks patchy, glossy in some areas and not in others. The product must be faulty."

Wrong. This is due to the porosity of the concrete. Gloss is a reflection of light from the surface to your eye. If a surface looks glossy it is because all the light is reflecting to your eye i.e., it is smooth. If an area is not as glossy it is because the light is being reflected in all directions i.e., it is rough (to whatever degree). With concrete sealer this means the sealer has either soaked into the concrete or the concretes' finish is rough and the sealer has not filled all the valleys on the surface to make it smooth. More coats to fill the surface valleys or to fill the holes in the concrete that make it porous may be needed.

"My sealer failed."

Wrong. *If the preparation is correct the sealer cannot fail. Big statement? Not really. Think about what we have, acrylic and solvent, that's it. The acrylic is made somewhere overseas no doubt many tonnes at a time, same with the solvent. All we have done is melt the acrylic in solvent then let it evaporate out. There is no way that the 4.5kg of acrylic in the pail was faulty. Usually when someone complains it is even more unrealistic as they say part of the job is faulty, 50gms out of 4.5kg out of 1000's kg made.*