

## Technical Note #4 – Coating Concrete and Terrazzo

Decorative concrete flooring overlays, poured concrete floors, tilt slabs, terrazzo floors and bench tops can be successfully sealed and well protected with selected high performance non-yellowing polyurethane systems. Some have excellent resistance to hot pots, others have excellent performance under heavy foot trafficking, and are suitable for public open spaces and shopping malls. Such protection can dramatically improve the service life of these sometimes expensive substrates.

Application methods range from roller, brush or applicator bar for flooring, to airless or conventional spray for high value fittings requiring a high standard of finish. The Uroxsys product range includes single pack and two-pack polyurethanes, in both water based and solvent based formulations.

It is important to note that for these systems to perform well, there are essential preparation steps and priming procedures that must be followed to achieve proper bonding.

Products currently used are listed below.

Product Data Sheets and MSD sheets are available on our website, [www.uroxsys.co.nz](http://www.uroxsys.co.nz)

<u>Product</u>	<u>Type</u>
Duracoat MCL Gloss (Interior/Exterior)	Moisture curing (single pack) solvent based gloss non-yellowing coating for heavy duty flooring. Tyre stain-resistant. Normally applied by brush, roller or applicator bar, but can be sprayed in a booth situation
Duracoat MCL Matt (Interior/Exterior)	Similar to above, but used on a final coat only over MCL Gloss for a matt finish.
Duracoat ZK Gloss & Matt (Interior Only)	Two pack (2:1) aliphatic coating designed to be spray applied, for a furniture quality finish. Gloss & Matt resin components can be blended for intermediate gloss levels.

Watermarque 30 1K  
(Interior only)

Water based single pack polyurethane dispersion for concrete paving and floors.  
May be applied by brush or roller.  
May darken with age.  
Good wear resistance, but recommended for domestic use only.

Watermarque CT Primer  
(Interior use)

Non-yellowing 2 pack water based polyurethane primer. Fast curing, allowing a second coat after 4 hours. Does not darken the substrate as much as a solvent-based coating such as Duracoat MCL. Apply by brush, roller or applicator bar.

Watermarque 2K Gloss or Matt  
(Interior use)

A non-yellowing high performance 2 pack water based polyurethane finish coat, with tough elastomeric properties. Applied on Watermarque CT Primer. Apply by brush, roller or applicator bar. Not tyre-stain resistant.

Polyurethane Adhesion Promoter

A silicone based adhesion promoter that reacts with clean mineral substrates and provides an effective link to the polyurethane build coats.

CCA Acid Etch

A citric acid based etch cleaner that is very effective in removing grinding residues from prepared substrates. These residues can prevent effective penetration and bonding.

Some of the above products can be used in conjunction for special effects.

For instance Watermarque CT Primer can be used over decorative concrete toppings or ground concrete in car parking areas, and finished with the tyre-stain resistant MCL system.

This combination will not darken the substrate as much as MCL directly applied does, but still provides a tyre-stain resistant finish.

All products should be used in accordance with the current product data sheets as published on our website.

It has been clearly demonstrated that all of these systems perform markedly better if fully bonded to the substrate.

The best-by-test procedure is to diamond grind the surface to the desired degree, and then to vacuum to remove grinding dust.

This should be followed by cleaning with suitably diluted CCA Cleaner well scrubbed in (and not allowed to dry). Actively rinse acid treated surface to completely remove acid residues, and allow the surface to thoroughly dry. Good ventilation is essential for this process.

Priming the cleaned substrate with the Polyurethane Adhesion Promoter should then be carried out. The carrier solvent and the reaction by-products of this single pack primer can interfere with the cure of the polyurethane build coats, so the proper coating sequence should not begin until all these solvents have been removed.

Depending on the ventilation and the scale of the job, this may be between 1 – 4 hours or even more.

When the silane primer is fully dry and the solvents gone, then the appropriate polyurethane build coats can be applied.