



HYCHEM
EPOXY SYSTEMS

HYCHEM TL5

High build epoxy sewer lining

HYCHEM TL5 is a sulphuric acid resistant epoxy coating, designed to be applied by 2 component airless spray at coating depths of 3-5,000 micron. The product is fast curing so that coated surfaces can be put back into service within 8 hours.

USE

HYCHEM TL5 is designed to protect water assets which are subject to sulphuric acid attack caused by microbial degradation of sulphur containing amino acids in sewage.

HYCHEM TL5 is also suitable for all other coating applications where concrete is exposed to a wide variety of corrosive chemicals.

TYPICAL APPLICATIONS

- Sewer access chambers
- Waste water storage facilities
- Sewerage pump stations/pump wells
- Waste water inlet works/clarifier spillways
- Potable water storage facilities
- Chemical bunds for acid and caustic products
- Water dissipation structures
- Odour control shafts
- Waste water methane tanks
- Sewerage structure, stairs and landings
- Odour control ductwork
- Waste water re-use pipelines

FEATURES AND BENEFITS

- Fast cure, early return to service
- Rapid application by airless spray
- Can be applied up to 4mm coating depth in multiple passes
- Can be applied by trowel to smaller surfaces such as manholes
- Good adhesion to damp surfaces
- Good intercoat adhesion within 24 hours
- Excellent resistance to dilute sulphuric acid
- Provides structural integrity to the surface
- Proven history with long service life

PHYSICAL PROPERTIES

Appearance	Both resin and hardener are light non-flowing pastes
Mix ratio by volume	2:1 (Resin:hardener)
Pot life	15 minutes at 25°C
Initial cure time	2-3 hours
Recoat time	3-24 hours
Density	1.3 kg /litre
Tensile strength	26 MPa
Resin binder content	80%
Good impact strength	1.3 joules
Adhesion to concrete	4 MPa substrate failure
Chemical resistance	Excellent to dilute acids, alkalies, salts fats, fatty acids, alcoholic beverages and hydrocarbons 112 days immersion in 20% sulphuric acid yields less than 1% wt change
Specification Compliance	Meets Sydney Water Spec 204 Meets AS/NZ 2040-2005 Products approved for contact with drinking water

APPLICATION GUIDELINES

Surface preparation

Acceptable techniques depend highly on whether the structure is new or being rehabilitated. For new structures, water blasting the surface to 4,000PSI is acceptable.

For structures undergoing rehabilitation it is essential to remove all loose material and contamination. This is normally carried out at pressures of 10,000 psi using rotating head equipment with high water flow. Using this method, the surface is ready for coating once it has surface dried.

New structures present a different circumstance as the surface is usually riddled with cavities which contain air and result in blow holes in the coating. These holes need first to be opened up by water blasting and then filled with an epoxy patching mastic. The whole surface is then primed with HYCHEM E500P.

Priming and patching

- All visible holes need to be filled with HYCHEM E500T epoxy patching compound. For large holes an aggregate such as HYCHEM E500T aggregate may be used to blend with the epoxy. Smaller holes are simply patched with pure epoxy.
- After the epoxy patch has hardened, the whole surface needs to be primed twice with HYCHEM E500P epoxy primer. Failure to do this will most likely result in air blow holes in the subsequent lining coat.
- Where the client specification demands a smooth trowelled finish on water blasted surfaces with an irregular profile, HYCHEM E500T can be blended with quartz aggregate to produce an epoxy mortar for vertical and overhead use. No further priming is then required prior to coating.
- Penetration joints are best patched with a HYFLEX NS epoxy mortar. This product provides a flexibilised joint which minimises cracking due to structural movement.

Coating

- HYCHEM TL5 must be applied only when the surface and air temperature is above 5°C and the humidity is below 85% humidity.
- HYCHEM TL5 is applied using 2 component airless spray units with the product being mixed at the head through a static mixer. The feed may be from hand filled hoppers or through a pressure delivery from 200L drums. The lines should be heated to achieve a satisfactory flow of up to 200 litres/hour. At this rate the coating is applied at 65 sqm/hour for a 3mm coating depth. The coating depth is achieved by a number of wet on wet passes.
- At times surface and environmental conditions are such that the no of air blow holes are simply too many to allow for retrofit repairs. In these instances it is highly recommended to apply the coating in 2 separate applications of 1.5 to 2.5mm instead of 1 application at 3-5.

INSPECTION

After completion of the coating works, the lining should be inspected for surface defects, hardness and tensile adhesive strength.

SAFETY PRECAUTIONS

Suitable protective clothes and breathing masks must be worn at all times.

CLEAN UP

Xylene or MEK can be used for clean up prior to the compound having been cured.

PACKAGING

HYCHEM TL5 is available as 3.5 litre repair kits and in 20 litre and 200 litre drums.

Field Support

Field support where provided, does not constitute supervisory responsibility. Suggestions made by HYCHEM either verbally or in writing may be followed, modified or rejected by the owner, engineer or contractor since they and not HYCHEM are responsible for carrying out procedures appropriate to a specific application.

Customer Responsibility

The technical information and application advice given in this publication is based on the best information available at the time of print. As the information herein is of a general nature, no assumption can be made as to the product suitability for a particular use or application and no warranty as to its accuracy, reliability or completeness either expressed or implied is given other than those required by Commonwealth or State Legislation. The owner, his representative or the contractor is responsible for checking the suitability of products for their intended use.



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Head Office
3/19 Burns Road, Heathcote NSW 2233
T 02 9548 2186 F 02 9520 2522 E admin@hychem.com.au W www.hychem.com.au