HYCHEM E300

Epoxy binder for epoxy floor toppings

DATA SHEET

HYCHEM
EPOXY SYSTEMS

HYCHEM E300 is a premium grade, solventless epoxy binder with superior chemical resistance and better quality surface finish than conventional epoxy binders. The product is used to produce a 4-6mm epoxy topping using a spreader box and hand trowelling technique.

USE

HYCHEM E300 is recommended for use as a heavy duty floor topping system for the protection of concrete floor surfaces in food manufacturing plants and retail food handling premises. It is particularly suited to floors which require re-levelling with appropriate falls to drains.

TYPICAL APPLICATIONS

- Assembly plants and factories
- Bakeries
- Battery rooms and warehouses
- Commercial kitchens and bars
- Dairy and cheese processing
- Food and beverage plants
- Meat processing establishments
- Public utilities and sports complexes

FEATURES AND BENEFITS

- **High resistance to vegetable and animal fats**
- **High resistance to petroleum oils**
- Versatile – suitable for all general purpose use
- Abrasion and impact resistant – hard wearing and durable
- Low odour – will not taint food
- Non-flammable, no fire hazard
- Excellent resistance to dilute acids and alkalies
- Excellent trowellability

PHYSICAL PROPERTIES

Mix ratio–volume	2:1 resin to hardener
Specific gravity	1.13:1
Pot life	40 minutes
Tack free time	6 hours
Cure time	24 hours
App. temperature	5 to 30 °C
Service temperature	Up to 65 °C
Compressive strength	60 MPa (6:1) quartz mortar

CHEMICAL RESISTANCE

The chemical resistance of a material can be determined by the wt gain of a sample immersed in the chemical. The greater the wt gain, the poorer the resistance of the material. The table below gives the relative resistance of HYCHEM E300 relative to other available epoxy binders. A value of 100 is equivalent to an absorption of 3%.

CHEMICAL	GP	E300	E300 SL	E300SLF	TL2 Flash
15% Acetic acid	80	60	60	25	25
20% Caustic soda	0	0	0	0	0
20% Phosphoric acid	25	40	40	60	60
12% Hypochlorite	15	15	15	15	15
Xylene/butanol blend	200	200	125	20	20

SURFACE PREPARATION

Epoxy toppings can exert considerable shear forces on the underlying concrete substrate due to differential thermal movements. It is most important that the concrete surface is adequately prepared. The cement paste layer and any surface coatings already in existence need to be removed. This is best carried out using captive shot blasting, grinding or scarifying.

The resultant surface should have a minimum tensile strength of 1.5 MPa and a minimum compressive strength of 25 MPa.

Falls to drains must first be prepared using HYCHEM E300 and a coarse quartz sand mixture.

MIXING

- In a clean container, mix HYCHEM E300 liquid components (Resin and Hardener @ 2:1) using a helical mixer at a speed of 500 rpm until the mix becomes homogenous (1–2 minutes).
- Add HYCHEM Quartz trowelling aggregate aggregates at a ratio of 4:1 by volume, gradually to the mix whilst still mixing.
- Move the mixer around from side to side and top to bottom and scrape the sides of the mixing vessel to ensure thorough mixing.

APPLICATION

The epoxy sand mortar is poured onto the floor and spread out at approximately 5–6mm thickness, using a spreader gauge or gauged application box. The surface is then consolidated by hand trowelling and is allowed to cure. A coarser antislip may be incorporated by casting on to the trowelled surface. The cured topping is then surface sealed using the mixed resin containing appropriate pigment. Addition of a little quartz flower helps to provide coating depth.

JOINTING

Joints in the floor need to be reflected in the epoxy topping. When the topping has cured, the surface needs to be sawcut and an epoxy joint sealant such as HYFLEX NS applied.

CLEAN UP

Xylene can be used for cleaning tools and equipment before the mixed compound begins to harden.

COVERAGE

2 litres of HYCHEM E 300 are required to produce a 5mm epoxy topping.

PACKAGING

Available in 3, 12, 30, 60 and 600 litre kits.

SHELF LIFE

12 months from date of manufacture, stored under shelter at 25 °C in original unopened container.

WARNING – ENVIRONMENTAL CONDITIONS

Epoxy products are sensitive to the prevailing temperature and humidity at the time of application.

- High temperatures will shorten the pot life and application may become difficult due to insufficient time being available to lay the product.
- Low temperatures and high humidity will result in the epoxy reacting with surface moisture to produce a white powdery finish. To avoid this, epoxy coatings and toppings must not be applied if surface temperatures are below the dew point while the material has not yet cured.
- The white surface finish is only an aesthetic consideration and does not affect the performance of the material.
- Chemical spillage of acids and sanitizing agents may attack the pigments used in the coating and result in discolouration.
- Differing epoxy products have differing resistance to chemicals, always ensure that the correct product is chosen for the service environment to be encountered.

SAFETY PRECAUTIONS

Epoxy polymer products may cause allergic reactions through skin contact. Goggles and protective gloves and clothing should be worn at all times. Ensure that there is adequate ventilation and air flow and avoid breathing the vapour.

NOTE: Customer responsibility

The technical information and application advice here given 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 products 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.

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.

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