Hychem E300

EPOXY BINDER AND PRIMER FOR EPOXY FLOOR AND WALL TOPPINGS

HYCHEM INFRASTRUCTURE

Product Description

Hychem E300 is a premium grade, solvent-less epoxy binder with superior chemical resistance and better quality surface finish than conventional epoxy binders. The product is used to produce a 4–6 mm epoxy topping using a spreader box and hand troweling technique. E300 is also used as a primer system. 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. E300 is commonly used as an effective primer system in the water industry for products including Hychem E500T and TL5. Hychem E300 is Certified to AS/NZS 4020:2018 for potable water use.

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
- Concrete water industry assets

Advantages

- Certified to AS/NZS 4020:2018 for potable water use
- 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 by 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	5ºC to 30ºC
Service Temperature	Up to 65ºC
Compressive strength	60 MPa (6:1) quartz mortar

HYCHEM
Head Office: 1/30 Bluett drive
SMEATON GRANGE NSW 2567
PH: 1300 HYCHEM
WWW.HYCHEM.COM.AU

Hychem E300

EPOXY BINDER AND PRIMER FOR EPOXY FLOOR AND WALL TOPPINGS

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	E300 SLF	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

Application Guidelines

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. Prior to the application of E300, the substrate must be thoroughly prepared.

- The concrete substrate must be firm, clean and dry with a minimum compressive strength of 25 MPa and a minimum surface tensile strength of 1.5 MPa.
- New concrete must be allowed to cure for a minimum of 28 days.
- Ensure moisture content of concrete is less than 6%.
- Remove all surface laitance, contaminants, existing coatings, curing compounds and any weak or loose materials.
- Prepare the concrete surface by Grinding, Shot Blasting, Scarifying, Ultra High Pressure Water Jetting or Scabbling to provide the appropriate concrete surface profile (CSP) for optimum mechanical keying.
- The extent of surface preparation required is dependant upon but not limited to the thickness of the coating system to be applied. It is highly recommended that all surface preparation is carried out in accordance with industry standards and publications such as NACE 02203 item No. 22420 or ICRI Technical Guideline No. 03732.

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 troweling 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.

HYCHEM
Head Office: 1/30 Bluett drive
SMEATON GRANGE NSW 2567
PH: 1300 HYCHEM
WWW.HYCHEM.COM.AU

Hychem E300

EPOXY BINDER AND PRIMER FOR EPOXY FLOOR AND WALL TOPPINGS

Application

The epoxy sand mortar is poured onto the floor and spread out at approximately 5–6 mm thickness, using a spreader gauge or gauged application box. The surface is then consolidated by hand troweling and is allowed to cure. A coarser anti-slip 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 flour helps to provide coating depth.

Pre-Conditioning Product

It is important to note that even when the application environment is warm, products which have been stored in cold or cooler conditions should always be pre-conditioned ideally to 20–25°C to ease mixing, application and help avoid other potential issues such as amine bloom or blushing. Applying a cold product in a warm environment is not recommended.

Roller Application

- For priming add the mixed product at approximately 4–7 m^2 depending on surface porosity.
- To assist workability in certain conditions, a solvent such as Xylene can be added to the mix at a maximum of 10% by volume if necessary. Please note this may affect the pot life and cure times slightly.

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 E300 are required to produce a 5 mm 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.

HYCHEM®
Head Office: 1/30 Bluett drive
SMEATON GRANGE NSW 2567
PH: 1300 HYCHEM
WWW.HYCHEM.COM.AU