HYCHEM E300SL

Epoxy binder for floor toppings requiring good overall chemical resistance

DATA SHEET

HYCHEM
EPOXY SYSTEMS

HYCHEM E300SL is a premium grade, solventless epoxy binder with good resistance to mineral acids and caustic solutions.

It also has good resistance to oils and fats at ambient temperatures. The product is used to produce a 4–6mm epoxy topping using a broadcast aggregate technique. Completed toppings are then generally top sealed with HYCHEM SF12.

HYCHEM E300SL may also be used as a smooth finish SL topping in situations where the topping is then overcoated with an antislip finish.

USE

HYCHEM E300SL is recommended for use as a heavy duty floor topping system for the protection of concrete floor surfaces in most industrial situations.

TYPICAL APPLICATIONS

- Bakery floors
- Bars and food service counters
- Battery rooms
- Breweries and wineries
- Dairies
- Electroplating works
- Industrial plants
- Loading docks
- Soft drink manufacturers
- Smallgoods manufacturing
- Supermarkets

FEATURES AND BENEFITS

- High resistance to mineral acids
- High resistance to caustic and salt solutions
- High resistance to petroleum oils
- Versatile, suitable for all general purpose use
- Abrasion and impact resistant
- Hard wearing and durable
- High compressive strength
- Low odour, will not taint food
- Non flammable, no fire hazard
- Cures rapidly
- Adheres to damp concrete
- Excellent blush resistance, high gloss

PHYSICAL PROPERTIES

Mix ratio–volume	2:1 (resin to hardener)
Specific gravity	1.15:1
Pot life	30 minutes
Tack free time	6 hours
Cure time	12 hours
App. temperature	10 to 30 °C
Service temperature	Up to 60 °C
Compressive strength	65 MPa (6:1 w/w) 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 E300SLF relative to other available epoxy binders. A value of 100 is equal to an absorption gain 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.

Weaker surfaces need to be upgraded with a sub layer of a HYCHEM GP epoxy mortar.

MIXING

- In a clean container, mix HYCHEM E300SL 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 SL aggregates at a ratio of 1:1 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

Sub layer

Apply a sub layer of HYCHEM GP Epoxy mortar to achieve the desired falls to drains.

E 300SL surface topping

- Apply the resin aggregate mix to the floor using a notched trowel at a coverage rate of 2 litres/sqm.
- Into the wet E300SL, broadcast antislip quartz aggregate generously into the surface until a dry beach finish is obtained without surface humps. Aggregate size should be 16/30 or 18/40.
- Once cured, sweep off and vacuum excess loose aggregate.
- Apply a sealcoat of E300SL in the desired colour at a coverage rate of 2 sm/l.
- Lightly broadcast hard wearing aluminium oxide non-slip aggregate into the wet surface.
- Apply a final top coat of HYCHEM SF12, SF20 or SF20FG at a coverage rate of 6-8 sqm/l.

Antislip Rating: The above method will yield an antislip rating of a minimum R11 when tested according to the ramp method.

A rating of R12 to R13 can be gained by broadcasting small amounts of 24–36 grit alumina into the E300SLF seal coat.

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

COVERAGE

Using the correct amount of epoxy is critical to the performance of the final floor. A tendency to often overload the aggregate relative to the resin component can have dire effects on the longevity of the finished topping.

A 5mm floor will require a minimum of 1.75 litres of E300SL per sq. metre plus an additional 0.2 litres of HYCHEM SF12 per sq. metre.

PIGMENTATION

Epoxy pigments are available from HYCHEM to provide a range of colours to flooring finishes. These pigments can be affected by chemical reagents, it is the responsibility of the user to ensure that the pigments used are suitable for the project being considered. Pigments supplied are meant for industrial use and will not necessarily comply with architectural colour standards.

PACKAGING

Available in 6, 12, 30, 60 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 however is only an aesthetic consideration and does not affect the performance of the material.
- Chemical spillage of acids and sanitizing agents may attack the resin or pigments used in the coating and can 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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