



HYCLAD E

Epoxy Polyurea waterproofing membrane

Description

HYCLAD E is designed for use as a liquid applied, heavy duty, wet area waterproof membrane. Hyclad E complies with waterproofing standards AS 3740 and AS 4858 as a Class II membrane. Hyclad E can be used as part of a Hychem recommended coating system to provide compatible waterproofing in combination with other epoxy finishes or to provide compatible waterproofing in combination with highly chemically resistant and durable protective coatings in harsh environments.

Typical Applications

- Bathrooms
- Showers
- Laundry's
- Kitchens
- Plant rooms
- Water features

Features & Benefits

- Long pot life, easy hand & spray application.
- High elasticity.
- Excellent adhesion to concrete.
- Compatible with a wide range of Hychem coatings.
- Convenient mix ratio.
- Impact resistant.
- High resistance to water, bleach and detergent solutions.
- Very low water vapour transmission.
- Suitable for various substrates including concrete, particleboard and compressed fibre cement sheet.

Certifications

- Passes requirements for AS/NZS 4858 Wet area membranes.
- Passes requirements for APAS 4003 VO – Liquid membrane – unreinforced. Waterproofing membranes for wet areas (buildings).
- ASTM D3960-05 Standard Practice for Determining Volatile Organic Compound (VOC) Content of Paints and Related Coatings. ASTM D3960 as detailed for paints as well as South Coast Air Quality Management District (SCAQMD) Rule 1168.

Physical Properties	
Mix Ratio	1:1 Part A Resin to Part B Hardener by volume
Specific gravity	1.10
Solids content	100%
Pot life	40 minutes @ 23°C
Tack free time	12 hours @ 23°C
Cure time	24 hours @ 23°C
App. Temperature	-20 to 35°C
Service Temperature	-20 to 50°C
Tensile strength	3.2 MPa @ 23°C
Elongation	118% @ 23°C
Adhesion	>3 MPa
Water vapour transmission	1.2g/m ² /24hrs
Water impermeability	1.88g
Water absorption	1.6%
VOC content	9g/L



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Chemical Resistance

The chemical resistance of a material can be determined by the weight gain of a sample immersed in the chemical. The greater the weight gain, the poorer the resistance of the material. A value of 100 is equal to an absorption gain of about 3% after 7 days immersion.

10% Hydrochloric acid	110	50% Sodium Hydroxide	10	10% Ethyl alcohol	125
Petrol	800	Xylene	2000	Water	50
Detergent	150	Bleach	75		

Application Guidelines

Surface Preparation

Prior to the application of Hyclad E, the substrate must be thoroughly prepared. The concrete substrate must be firm, clean and dry with a 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. Moisture content in concrete must be below 5%. 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 dependent upon but not limited to the thickness of the coating system to be applied. It is highly recommended 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.

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. **Do not apply a cold product.**

Mixing

In a clean container, mix Hyclad E Part A Resin & Part B Hardener at 1:1 by volume using a mechanical stirrer at slow speed to minimise air incorporation. 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

Hyclad E can be applied directly to relatively low porosity concrete. However, porous substrates e.g. screeds, concrete block, poorly finished concrete, overly grinded concrete or particularly soft and porous concrete etc. should be primed. Consult a technical sales representative for recommendations.

Apply Hyclad E to achieve a minimum of 1mm total thickness. This may be achieved by spray, trowel, brush or roller. When applied with a brush or roller, apply 2 coats at a coverage of 0.5L/sqm per coat. Apply the 2nd coat at 90o to the 1st coat. The 2nd coat would generally be applied the day after 1st coat. In warm conditions > 25°C it is possible to apply 2 coats in one day.

Hyclad E is a relatively thick liquid designed for vertical applications as well as floors. Application with a roller should be done slowly to minimize air in the coating. A long nap roller should be used with a slow roll/spread technique to achieve 0.5mm per coat.

Hyclad E is a non-UV internal membrane. For trafficable or abrasive environments, a protective wearing layer and/or topcoat, screed or slip resistant coating should be applied over Hyclad E. In areas with no UV exposure and/or wear and tear, Hyclad E may be used without subsequent coatings.

Note: For compliance with certified waterproofing of domestic wet areas, Hyclad E must be applied and detailed in accordance with AS3740. This includes but is not limited to the use of bond breakers suitable for a class II membrane.

Clean Up

Xylene (Solvent X) or isopropanol (Solvent IPA) can be used for cleaning tools and equipment before the mixed compound begins to harden.

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Coverage

8L kit - 8m² at 1mm40L kit - 40m² at 1mm

Packaging

Available in 8 Litre and 40 Litre packs.

Shelf Life

24 months from date of manufacture, stored under shelter at 23°C in original un-opened container.

Warning - Environmental Conditions

Temperature and the surrounding atmospheric conditions will play a part in the curing process of all epoxy products. Under conditions of low temperatures and high humidity the final cured surface finish can be adversely affected potentially resulting in poor gloss retention, discoloration over time, poor overcoat ability and inter-coat adhesion. Quite often these conditions will result in the formation of a white film over the surface, often evident after contact with water. This chemical reaction with the atmosphere is commonly referred to as “amine bloom” or “amine blush”. If this occurs, then the existing coating will need to be abraded to completely remove the affected surface to ensure the adhesion of subsequent applications. In some cases, partial or complete re-priming may be necessary. To minimise an unsatisfactory cure, the following indicative application conditions should be observed with respect to temperature and humidity levels.

21° C and less than 85% humidity

10° C and less than 75% humidity

Attention also needs to be paid to the substrate temperature which should be at least 3-5° C above the dew point during the curing phase. Industry standards recommend the accurate recording of environmental conditions such as substrate & air temperatures, humidity levels and dew point readings during both the application & curing processes. Full material warranties cannot be provided unless all the relevant data has been recorded accurately.

If in doubt consult the Hychem technical department for advice.

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. If skin contact occurs wash skin with soap and water. If eye contact occurs wash immediately with copious amount of clean water.

Warranties and Disclaimers

Hychem warrants that this product shall conform to the technical specifications published in the product literature. The quality and fitness of the product is dependent upon the proper use and application of the product by the applicator. Hychem has no role in the application of the finished polymer other than to manufacture and supply its components. It is vital that the person applying this product understands the product and is fully trained, experienced and competent in the use of epoxy grouting products. There are no warranties that extend beyond the description on the face of this instrument, except when provided in writing, directly by Hychem and executed under seal by a company officer.

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.