

Hychem WE500

Waterbased self-smoothing epoxy



HYCHEM
EPOXY SYSTEMS

HYCHEM WE500 is a pigmented, water-based epoxy self-smoothing topping. It has very low odour and very low VOC (volatile organic compound). It offers excellent early water resistance, good curing at low temperature and excellent adhesion to green concrete.

USE

WE500 is recommended for use as a medium - heavy duty floor topping for industrial and commercial applications.

TYPICAL APPLICATIONS

- Schools, hospitals and public buildings
- Prisons
- Retail areas
- Domestic and commercial garages
- Back of house areas
- Stock & Plant rooms
- Workshops
- Pharmaceutical Industry
- Laboratories
- Areas of higher than normal moisture

FEATURES AND BENEFITS

- Water based
- Excellent adhesion to damp concrete
- Good curing properties at low temperatures
- High water vapour permeability
- Very good early water resistance
- Very good heat resistance
- High impact resistance
- Very low VOC emission (Green Star VOC content certificate available)
- Very low odour
- Good UV resistance
- Matt finish
- Wide colour range

TECHNICAL PROPERTIES (25°C)

Application thickness	4mm
Pot life	20 minutes
Recoat time	8 - 72 hours
Application Temperature	5 - 30°C
Humidity	80% - Sufficient air exchange needed to maintain appropriate moisture levels
Cure time - lower temperatures will increase these times.	24 hours - foot traffic 3 days - light mechanical traffic 7 days - full cure

Hardness Shore D - 7 days	75
Adhesion	>3 MPa
Compressive strength	40 MPa

APPLICATION GUIDELINES

Substrate Preparation

Prior to the application of WE500, the substrate must be adequately 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. WE500 may be able to be applied to concrete earlier than 28 days, contact Hychem for advice.
- Remove all surface laitance, contaminants, existing coatings, curing compounds and any weak or loose materials.
- Prepare the concrete surface by Grinding, Light Shot Blasting or High Pressure Water Blasting to provide the appropriate concrete surface profile (CSP) for optimum mechanical keying. The choice of preparation method will depend on the finish of the concrete.
- 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 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.

Applying

Prior to the application of WE500, prime the concrete with 2 coats of WE70. Please see WE70 TDS for more details.

Self-smoothing floor topping

1. Mix the hardener and ESL500 aggregate together thoroughly until a uniform consistency is achieved, and no clumps or dry powder exist in the mix. Mix at low speed to minimise the incorporation of air.
2. Now add the resin to the hardener/ESL500 mixture, and mix thoroughly until a uniform consistency is achieved, Mix at low speed to minimise the incorporation of air for 3 minutes.
3. Pour the wet mix on the floor. Spread evenly over the floor area to a thickness of 4mm using a notched or flat blade trowel or a pin-rake set to the correct thickness.
4. Ensure to maintain continuity of wet material between pours.
5. Roll the surface with a spike roller immediately to remove entrapped air.

It is recommended to topcoat WE500 with WE90. if increased slip resistance is required then an appropriate grit and size needs to be selected. Please see WE90 TDS for more details.

COMPONENT MIXING RATIOS

Part A Resin	2 Litre
Part B Hardener	5 Litre
Part C ESL500	15 Kilograms

PACKAGING

WE500	11.5 Litre kit
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CONSUMPTION RATES

1 Kit of WE500 will cover 2.85 m² when applied at 4mm.

SAFETY PRECAUTIONS

Wear appropriate personal protection equipment. Gloves, eye protection, mask and overalls should be used during mixing and application.

SHELF LIFE

4 months from date of manufacture, stored under shelter at 25°C in the original un-opened container. Store the material in a stable stationary environment to reduce the settling of fillers and aggregates.

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, discolouration over time, poor overcoatability and intercoat 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 80% 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.

CHEMICAL RESISTANCE

Different epoxy products vary in their resistance to chemicals. Always ensure that the correct product is chosen for the service environment to be encountered. If in doubt contact your Hychem

representative or the Hychem technical department for advice. Chemical spillage of acids and sanitizing agents may attack the pigments used in the coating and result in discolouration.

COLOUR

WE500 is an industrial flooring finish which may discolour on exposure to UV light from the sun or an artificial source. The severity of discolouration is dependant on colour choice. Any such discolouration has no effect on the performance of the product.

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.

