

Application Guide

EPiC Epoxy 500

This guide has been developed to provide comprehensive preparation and application recommendations for a variety of concrete surfaces. Whilst all endeavours have been taken to provide best practice industry information for all aspects of preparation and the application of our products, the user must understand that all concrete surfaces are unique and not every situation will be covered in this guide.

For reliable and enduring results, Nutech Paint recommends utilising the specified range of Nutech products in this guide. Intermixing different supplier products may result in incompatibility of the systems, potentially resulting in coating failure. For further technical recommendations and advice, please contact Nutech Paint.

Prior to Commencement of works:

Observe all Occupational Health and Safety (OH&S) precautions.

Refer to the relevant Technical Data Sheets (TDS) and Safety Data Sheets (SDS) for product specific and safety related information.

For further information and support: **Nutech Paint 03 9770 3000**
www.nutechpaint.com.au

Recommended Safety Equipment:

Reference copies of the relevant product Safety Data Sheets (SDS), coveralls, safety boots, gloves, suitable respirator, safety glasses, and or face shield.

Recommended Equipment:

Preparation: Plastic watering can with a rose type shower head*, pump pack hand sprayer*, buckets, fresh water supply, high pressure water cleaner (Minimum 2000 psi), moisture meter* or plastic sheet*, masking tape, masking paper, drill mixer, protective drop sheets.

Application Equipment:

Roller (230mm x 22mm nap roller sleeves), or Brush. Clean and empty mixing drum*

Nutech Tip: Preferred application method is by roller. If spray application must be performed, ensure all correct OH&S and Work Safe criteria are observed to minimise overspray. For further detail, refer to the relevant Safety Data Sheet (SDS) and Technical Data Sheet (TDS) for further details.

Clean up and disposal:

Clean Up: Applicator equipment clean up materials, cleaning solvent (**EPiC Epoxy 500 Thinners**).

Disposal: Dispose of all materials in a responsible manner. Consult local authority for suitable disposal recommendations.

* Where applicable based on guidelines

Substrate Recommendations:

All types of concrete such as; driveways, paving, footpaths, s suitable for a wide range of other substrates such as timber, masonry, brick, metal. For further recommendations, contact Nutech Paint.

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1. Concrete Preparation Guidelines - New, bare concrete surfaces:

NOTE: New Bare Concrete must have less than pH10 and had a minimum 28 days cure prior to coating.

1.1 Cleaning:

- Remove all loose contaminants including dust, dirt and debris
- Where required, clean residual grease and oil using **Nu-EcoSafe Degreaser**
- Mix 1 part **Nu-EcoSafe Degreaser** to 4 parts water
- Apply by plastic watering can or pump spray pack, liberally to the soiled area
- Allow the solution to activate on the surface for a minimum of 2 hours
- High pressure clean with a recommended minimum water pressure of 2000 psi

1.2 Etching new, bare concrete:

Note: It is imperative that the concrete

surface is porous prior to application, to improve sealer absorption.

***DO NOT Etch if mechanical grinding has taken place or if the concrete is powdery or soft.*

Further surface treatment may be required. Please contact Nutech Paint for further advice.

1.2.1 Mixing the etch in accordance to surface profile:

- Use a plastic watering can to mix and apply the etch as outlined;
- **Rough stipple finished concrete:**
1 part **Nu-EcoSafe Etch** or **Nu-EcoSafe UltraEtch** to 15 parts clean water
- **Smooth steel trowelled concrete surfaces:**
1 part **Nu-EcoSafe Etch** or **Nu-EcoSafe UltraEtch** to 10 parts clean water
- **Hardened or High MPa Concrete:**
1 part **Nu-EcoSafe Etch** or **Nu-EcoSafe UltraEtch** to 5 parts clean water

Nutech Tip: When mixing **Nu-EcoSafe Etch** or **Nu-EcoSafe UltraEtch**, always add the etch in the recommended ratio to water. The most convenient and effective method to apply **Nu-EcoSafe Etch** or **Nu-EcoSafe UltraEtch** is to use a plastic watering can with a rose type shower head.

1.2.2 Applying the etch

- Use the watering can to evenly wet the entire concrete surface with diluted **Nu-EcoSafe Etch** or **Nu-EcoSafe UltraEtch** solution and allow to activate on the surface for 15 minutes
- After 15 minutes, high pressure clean with a recommended minimum water pressure of 2000 psi
- Allow the concrete surface to dry thoroughly

1.3 Test for porosity and moisture content:

1.3.1 Determine Porosity

- Measure 1 cup of fresh water and pour onto the dry surface
- Observe water absorption noting absorption within 30 seconds
- If water pools or is slow to be absorbed, a second stronger solution of etch will be required. (Refer etch mix ratios in section 1.2.1 and follow directions for Hardened or High MPa Concrete)
- Repeat process for determining porosity

1.3.2 Determine moisture content

- The concrete should have less than 5% moisture content prior to sealing

- A calibrated moisture test meter should be used to assess the percentage of moisture present prior to application

Nutech Tip: If there is no access to a moisture test meter, tape a plastic sheet onto the concrete surface and leave for 30 minutes. After 30 minutes, lift the plastic sheet. If no moisture or condensation is present under the sheet, the concrete is dry enough to apply the sealer.

2. Concrete Preparation Guidelines - Old, bare concrete surfaces:

Prior to commencing, assess the concrete surface for surface contamination and identify areas to be coated which will require thorough cleaning. Evaluate the area to be sealed for surface porosity, cracks and structural issues. Where required, consult an engineer for further advice.

2.1 Cleaning:

2.1.1 – Grease and oil removal

- Remove all loose contaminants including dust, dirt and debris
- Where required, clean residual grease and oil using **Nu-EcoSafe Degreaser**
- Mix 1 part **Nu-EcoSafe Degreaser** to 4 parts water
- Apply by plastic watering can or pump spray pack, liberally to the soiled area
- Allow the solution to activate on the surface for a minimum of 2 hours
- High pressure clean with a recommended minimum water pressure of 2000 psi
- Allow the concrete surface to dry thoroughly

Nutech Tip: For stubborn grease and oil stains, a second undiluted application of **Nu-EcoSafe Degreaser** may be required.

2.1.2 – Moss and lichen removal (where applicable)

- Remove all loose contaminants including moss build up, dust, dirt and debris
- Mix **Nutech Hypo** based on level of contamination;
 - **Lightly Soiled Areas:** Mix 1 to 1 with clean fresh water
 - **Heavily Soiled Areas:** Neat – no dilution required
- Apply liberally to affected areas via watering can or pump spray pack
- Allow **Nutech Hypo** to activate on the surface for a minimum of 2 hours
- High pressure clean with a recommended minimum water pressure of 2000 psi
- Allow the concrete surface to dry thoroughly

2.2 Determine for porosity:

- Refer Section 1.3.1, page 3

Nutech Tip: Old concrete surfaces may exhibit different levels of porosity. A porosity test should be conducted to assess suitability of sealer penetration.

2.3 Determine Moisture Content

- Refer Section 1.3.2, page 3

2.3 Etching old, bare concrete (where applicable):

Note: **EPiC Epoxy 500** MUST penetrate the surface to achieve good adhesion. It is imperative that the concrete

surface is porous prior to application, to improve coating absorption.

NOTE: *DO NOT Etch if mechanical grinding has taken place or if the concrete is powdery or soft. Further surface treatment may be required. Please contact Nutech Paint for further advice.*

2.3.1 Mixing the in accordance to surface profile(where Applicable):

- Refer Section 1.2.1, page 3

2.3.2 Applying the etch

- Refer Section 1.2.2, page 3

2.4 Test for porosity and moisture content:

- Repeat process for determining porosity **Refer Section 1.3.1, page 3**

2.4.2 Determine moisture content

- Repeat process for determining Moisture Content. **Refer Section 1.3.2, page 3**
- A calibrated moisture test meter should be used to assess the percentage of moisture present prior to application.

Nutech Tip: If there is no access to a moisture test meter, tape a plastic sheet onto the concrete surface and leave for 30 minutes. After 30 minutes, lift the plastic sheet. If no moisture or condensation is present under the sheet, the concrete is dry enough to apply the sealer.

3. Concrete Preparation Guidelines - Pre-Painted Concrete Surfaces:

3.1 TEST OF THE EXISTING COATING: Some coating systems are not suitable for overcoating with different finishing systems. Prior to ordering material and commencing works Nutech recommends determining the composition of the existing coating in order to recoat with a compatible paint system. Refer Nutech Coating Test Kit for detailed instructions or contact Nutech Paint.

3.2 Very old, incompatible, delaminating, problem coatings:

Generally, Nutech Paint recommends complete removal of the original coating to minimise any future underlying issues. This can be done by either a mechanical abrade/ grind of the surface back to the bare concrete or alternatively using **Nu-EcoSafe Strip High Strength** paint removal solution. Refer to the relevant Nu-EcoSafe Strip TDS for further details.

Nutech Paint recognises that if the existing finish is in sound overall condition, complete coating removal may not be practical. Outlined below is a guide on the appropriate preparation of a compatible surface.

3.3 Compatible, previously coated surfaces:

Prior to any surface preparation, it is important to ensure the surface is thoroughly clean

3.3.1 Cleaning

- Remove all loose contaminants including dust, dirt, debris and old flaking paint
- High pressure clean with a recommended minimum water pressure of 2000 psi
- Where required, clean residual grease and oil using **Nu-EcoSafe Degreaser**
- Mix 1 part **Nu-EcoSafe Degreaser** to 4 parts water
- Apply by plastic watering can or pump spray pack, liberally to the soiled area
- Allow the solution to activate on the surface for a minimum of 2 hours
- High pressure clean with a recommended minimum water pressure of 2000 psi
- Allow the surface to dry thoroughly
- Repair and fill any areas where the concrete is cracked or damaged with a suitable concrete repair filler. Observe and follow the filler manufacturer's preparation, application and dry time recommendations

3.4 Preparation

3.4.1 Mechanical Abrade

- Mechanical abrade the surface with P80 - P120 Grit sanding discs to create a surface key
- Remove all surface contaminants such as dust, dirt & debris by broom and vacuum
- Where required, clean residual using **Nu-EcoSafe Degreaser** as outlined in the relevant TDS

3.4.2 Chemical Strip

- Refer to the **Nu-EcoSafe Strip High Performance** paint removal solution as outlined in the TDS
- Observe activation times, remove and dispose of residue in accordance with local regulatory guidelines

4. EPiC Epoxy 500 Application:

4.1 Notes prior to application:

- **EPiC Epoxy 500** is supplied in a Part A and Part B kit form to ensure the correct paint to hardener ratio. Observe all the details outlined in the relevant TDS
- Only mix up enough **EPiC Epoxy 500** to complete the existing coat required
- Observe pot life recommendations outlined in the TDS to avoid equipment damage
- The concrete surface should have less than 5% moisture content prior to coating
- Stir **EPiC Epoxy 500** sealer thoroughly PRIOR to Part B and thinner addition
- On very porous concrete, thinning of the first coat may not be required
- Take care to avoid coating pooling in mortar joints and saw cuts

Nutech Tip: Identify and create a safe mixing area ensuring all required equipment and clean up materials are close at hand.

4.2 1st Coat:

4.2.1 Mixing and thinning

It is important to ensure good penetration into the concrete on first coat application.

- **Bare Concrete:** Dilute 25% **EPiC Epoxy 500 Thinner**
- **Existing properly prepared, pre-painted surfaces:** Dilution not required

NOTE: After the addition of the Part B hardener and where required, thinner, drill mix for at least 5 minutes and allow to stand for 10 minutes to ensure thorough activation. Mixing with a stirring stick will not ensure a homogeneous mix and will compromise cure.

4.2.2 Application

- Roller or Brush apply ensuring coverage of 10m² per litre. DO NOT overspread
- Allow a minimum of 4 hours dry time (but within 24 hours) @ 25°C prior to recoating

Nutech Tip: Preferred application method: Avoid using roller trays where practical. Once product is correctly mixed, dip roller directly into drum to ensure complete product coverage.

Nutech Tip: **AntiSlip Cast On** is to be evenly broadcast onto the wet 1st coat at this stage prior to top coating

4.3 2nd Coat:

4.3.1 Mixing and thinning:

The second coat and (where applicable) subsequent coats of **EPiC Epoxy 500** do not require thinning

4.3.2 Application:

- Roller or Brush, ensuring coverage of 10 m² per Litre. DO NOT overspread
- Observe dry time

5. Application Conditions, Drying & Recoat Times:

5.1 Application Conditions:

- EPiC Epoxy 500 should be applied in ambient conditions ranging between 10°C to 30°C
- Do not apply if; rain is likely within 12 hours, it is late in the day or early in the morning
- Failure to observe these directions can result in coating damage and surface clouding

5.2 Touch Dry: 2 hours @25°C

5.3 Recoat: 4 hours @25°C (but within 24 hours)

If the surface has been left for greater than 7 days, the surface must be abraded.

Drying time between coats is dependent on ambient temperatures and time of day. Observe recommendations noted in the **EPiC Epoxy 500** TDS and this application guide (Section 4.2.2).

5.4 Full cure: Not achieved for up to 7 days

NOTE: DO NOT DRIVE OR PARK VEHICLES ON FRESHLY SEALED SURFACE FOR A MINIMUM OF 7 DAYS.

6. Clean Up & Spills

6.1 Clean Up:

Clean up with **EPiC Epoxy 500 Thinners** or dispose of equipment. Do not pour left over paint down drains or in rubbish bins. Unwanted paint should be kept in a sealed container and then disposed of via special waste collection services. Empty paint containers should be left open in a well ventilated area to dry out. Dispose of empty paint containers in accordance with local authority's guidelines. Always check with your local council first.

6.2 Spills:

For the clean-up of minor spills, Nutech Paint recommends utilising a suitably absorbent spill kit following the manufacturer's recommendations and disposing in accordance with local regulatory requirements.

7. AntiSlip:

7.1 AntiSlip Cast On:

In areas of high trafficability or slight incline where added traction and slip resistance are required **Nutech AntiSlip Cast on** should be used. This product should be evenly broadcast onto the 1st wet coat and locked in with the application of the 2nd coat.

Refer to the **AntiSlip Cast On** TDS for further recommendations

7.1.1 AntiSlip Cast On Application Rates and Ratings

| AntiSlip Grade | Application Method | Rating |
|---------------------------|---|--------|
| AntiSlip Cast On - Fine | Broadcast at 2-5m ² /kg onto wet surface. Must be top coated to encapsulate. | P4 |
| AntiSlip Cast On - Coarse | Broadcast at 2-5m ² /kg onto wet surface. Must be top coated to encapsulate. | P5 |

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Disclaimer: The information given in this Application Guide is based on many years' experience and is correct to the best of our knowledge. However, since the use of our products, surface conditions, weather and a number of other factors are completely beyond our control, we can only be responsible for the quality of our product at the time of dispatch. As this information is of a general nature, we cannot assume any responsibility in individual cases. For more information please contact Nutech Paint.

The information contained in this Application Guide is subject to amendments in the light of experience and our policy of continuous improvement and product development.
