DULUX TRADE HI-CHEM EPOXY ENAMEL

TECHNICAL DATA SHEET
Version 3 – 2019 AUGUST
THIS ISSUE SUPERSEDES ALL PREVIOUS PUBLICATIONS

PRODUCT DESCRIPTION

Semi-gloss epoxy enamel for interior industrial and home use (e.g. garage floors, etc.)

PRODUCT USES

- Can be applied on walls, floors and suitably primed metal surfaces.

FEATURES AND BENEFITS

- Good resistance to a wide range of chemicals and most solvents.
- Cures to a hard film with good adhesion and abrasion resistance.
- Provides an economical alternative to tiling in bathrooms, showers, kitchens, toilets and low cost housing.
- Suitable for surfaces that require frequent cleaning with solvents, detergents or alkaline cleaners.
- The cured film is non-toxic. When properly applied and cured, the product is completely safe for direct or accidental food contact on floor and wall applications.

PRODUCT INFORMATION

Appearance	Semi- gloss
Colour	White, Light Grey, Dark Grey and Brilliant Green
Binder Type	Polyamide cured Epoxy
Density at 23°C	Approx. 1.30
Solids Content	By weight: Approx. 60%
	By volume: Approx. 44%
Packaged Viscosity	Viscosity at 23°C: Approx. 70 KU
Spreading Rate at 35µm DFT	Brush: Approx. 9 m² per litre, depending on surface porosity, profile and application method
Recommended DFT per coat	Min. 50µm. Max. 60µm.
Recommended WFT per coat	Min. 110µm. Max. 140µm
	(Higher film build will increase resistance)
Flash Point	25ºC

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APPLICATION INFORMATION

Mixing	Stir the Base and Curing Agent separately until homogeneous with a flat paddle. Then add the Curing Agent to the Base and stirring until homogeneous with a flat paddle
Mixing Ratio	4 parts Base to 1 part Curing Agent by volume.
Application Surface conditions	Surface Temperature between 10 - 35°C. Relative Humidity between 10 - 85 % OR 2ºC above dew point minimum.
Application methods	**Dulux Trade Hichem Epoxy Enamel** is packaged in two components in the proper proportions which must be mixed together until homogenous before use. See Mixing Airless Spray: Ready for use after induction period of 30 minutes. Air Spray: After mixing, thin 10% by volume and allow induction period of 30 minutes. Brush: Can be used on small areas where joining is not a problem e.g. signs, pipes, colour bands, etc. Roller: Short nap roller may be used on tanks and silos taking precautions to pick up the wet edge to avoid “window-paning”. **Self-Priming on porous masonry**: The product can only be over coated with itself. If a primer is required, **Dulux Trade Hichem Epoxy Enamel** thinned 10% by volume can be utilised as a primer coat. **N.B.** Mix the paint first, then stir in the thinners.
Thinner	**Dulux Trade Heavy Duty Thinners** for spraying to maximum of 10% of product volume and should only be added after mixing the Curing Agent with the Base and stirred homogeneous with a flat paddle.
Induction Period	**30 minutes at 25°C (i.e. do not paint immediately after mixing).**
Pot Life to gelation	Approx. 8 hours at 25°C
Drying Time	Dry to handle: 24 hours at 25ºC.
Recoating Time	6 hours minimum; up to 7 days maximum at 25°C. (Drying times will be extended during cold, wet or humid conditions.)

APPLICATION INFORMATION

Cleaning of equipment	After use, remove as much product as possible, and then clean immediately with **Dulux Trade Heavy Duty Thinners**.
Substrates	Correctly prepared cement plaster, concrete and correctly prepared and primed mild steel and iron

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APPLICATION INFORMATION

Precautions:	Do not apply during cold (below 10°C) or wet weather. Do not apply directly to bare metal surfaces. Recommended for interior surfaces only, as the film will chalk on exterior exposure. Cure is slow at low temperatures; below 15°C it takes some days to reach handling and recoating hardness. The pot life is short above 35°C; shield pressure pots and fluid lines from direct sun. Equipment and brushes must be cleaned immediately. Heat resistant to ± 120°C (continuous) although some yellowing occurs above 100°C. Not suitable for direct application to powdery or friable surfaces whether previously painted or not.
Coats Required	Apply two to three finishing coats to new surfaces to achieve a minimum continuous film of 70µm microns to produce closed film and solid colour. For non-skid pedestrian areas, three full coats will be required. See “SURFACE PREPARATION”.

SURFACE PREPARATION

Ensure that surfaces are sound and free from dust, oil, grease, dirt, and debris. Surfaces must be thoroughly dry - no more than 12% moisture content.

NEW SURFACES

Cement Plaster, Concrete (non-friable)

- Freshly rendered concrete should have dried/cured for a minimum of 6 weeks, the moisture content of the concrete should be below 12% before any preparation and painting is attempted.
- It is recommended that fresh plaster should be allowed 1 week drying for every 5mm thickness; and longer in cold or damp weather.
- Ensure the entire surface is sound and clean. Remove any plaster spills, and all loose debris from the surface, ensuring an even and clean surface.
- Acid etch the surface with a solution of hydrochloric acid to remove laitance, uncured cement, etc. as follows: On steel or power floated concrete (very smooth), use one volume hydrochloric acid to two volumes water. More than one application may be necessary to achieve a paintable surface. On wood floated concrete (rough), use one volume hydrochloric acid to four volumes water. **N.B.** Hydrochloric acid is corrosive - please wear protective clothing, gloves, masks and eye goggles against splashes.
- Allow the acid solution to react for 15 minutes and then wash away all acid with copious amounts of clean water.
- Remove excess water and allow thorough drying – no more than 12% moisture content.

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SURFACE PREPARATION

NEW SURFACES

Floors Concrete – NON-SKID Pedestrian areas (walkways and passages)

- Follow the cleaning and etching instructions under surface preparation, new surfaces, Cement Plaster, Concrete (non-friable)
- Coat 1 – Apply and, while it is still wet, sprinkle dry, silica sand over the surface. (The silica sand should be sifted through a 250µm sieve and retained on a 210µm sieve. A practical spreading rate is 500 grams of sand per square meter of painted floor.)
- Coat 2 - The following day, sweep off any excess sand and apply a further coat to seal the surface. Allow overnight drying again
- Coat 3 – Apply 3rd coat
- Observe chemical curing times as stated in this technical data sheet.

Mild Steel and Iron

- Remove all shop-primer and corrosion products from the steel. Sand blast steel to achieve a bright metal condition, and a cleanliness standard of Sa2½ minimum.
- Clean bare steel with a solvent wash (rags dipped in lacquer thinner). Change rags frequently.
- Apply one or two coats **Dulux Trade Corrocote 1 Metal Etch Primer**, depending on the severity of the conditions. Two coats are preferred for coastal conditions.

PREVIOUSLY PAINTED SURFACES

- The existing coating system should be dry and free of contaminants such as oil, grease and loose paint.
- Test that the surface will accept epoxy by allowing a cloth soaked with **Dulux Trade Heavy Duty Thinners** to rest on it for 15 minutes - it must not lift or wrinkle. If lifting or wrinkling occurs, the paint must be removed with paint stripper or any other suitable means.
- Abrade damaged or failed areas back to a sound substrate and treat as new.
- Aged or weathered epoxies or urethanes must be well sanded to a matt finish to provide a profile for adhesion.

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HEALTH AND SAFETY INFORMATION

Solvent based paints are flammable.

This product contains no added lead. Avoid contact with skin or eyes. Keep out of reach of children. If accidently swallowed, seek medical advice immediately and show this container to the doctor. Dry sanding, flame cutting and/or welding of the dry paint film will give rise to dust and/or hazardous fumes. Wet sanding should be used wherever possible.

If exposure cannot be avoided by the provision of local exhaust ventilation, suitable respiratory protective equipment should be used. Do not empty into drains or watercourses.

Ensure good ventilation during application and drying. It is recommended to use suitable protective clothing and equipment. To avoid the risk of spillage, always store and transport containers in a secure upright position. Refer to Material Safety Data Sheet for complete information.

ADDITIONAL INFORMATION

Packaging	5 Litre (4L base in large tin, 1L curing agent).
Storage Conditions	Store under cool dry conditions away from direct sunlight, heat and extreme cold.
Disclaimers	Colour references are as accurate as modern printing will allow. Please refer to colour cards for an accurate representation of the colour. Among others, the following factors may affect final colour appearance: product sheen and texture, colour and light reflections, application, surface texture and preparation. For best colour and sheen consistency, it is advisable to use containers of the same batch number, to mix different batches together in a large container, or to finish in a corner before starting a new container.

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