Liquid Plastics

Uniclass L525	EPIC E34
CI/SfB (47) Lu6	

DECOTHANE CLEARGLAZE

TECHNICAL DATA SHEET

DESCRIPTION

Decothane Clearglaze is a clear aliphatic, polycarbonate polyurethane coating which forms an effective barrier to water penetration and the ingress of atmospheric chemicals. Its transparent finish renders it suitable for applications where it is desirable to retain the appearance of the underlying substrate. It is particularly suitable for protecting porous stone, decorative aggregate panels and brickwork against water penetration and subsequent frost damage. In addition, it provides an effective barrier to carbon dioxide diffusion, making it ideal for protecting reinforced concrete against carbonation.

Decothane Clearglaze has a high solids formulation which uses moisture to trigger the curing process but, unlike conventional moisture cured systems, will not foam when excess moisture is present. Consequently, it will continue to cure normally, even in wet conditions and therefore helps to keep contract time to a minimum. The cured membrane enhances natural substrate colours - producing a "wet look" finish which will not discolour with age or prolonged UV exposure.

Decothane Clearglaze is also suitable for use as a waterproof, anti-shatter coating over glass and rooflights. Combining toughness with excellent adhesion, the coating will prevent glass fragments splintering in the event of an impact or explosion.

TECHNICAL DATA

Typical Test Data – General

T.B. numbers refer to specific Technical Bulletins which are available on request.

Water Vapour Permeability

BS.3177 (0 - 75% R.H)

9.02 g./m^2/day at 600 microns (unreinforced). TB 318/DCG

Impact Resistance

BS.3900: Part E3.

Withstands 5mm indentation without damage to film. TB 386/DCG

Glass Shatter Resistance

BS.6206: Class B (unreinforced) at a coverage rate of 1 l./m^2.

Accelerated Weathering

QUV ASTM G53.77 – 5000 hours. TB 404/DCG

No deterioration; clarity retained.

Service Temperature

-50°C to +80°C.

No change after 500 hours at 80°C other than slight discolouration.

Chemical Resistance

Resistant to standard 10% solutions of mineral acids, most alkalis, acid rain and detergents.

Some oils and solvents may soften the surface.

Salt spray to BS.3900 Part 4 and ASTMB117 - 500 hours. No rusting, blistering or delamination.

Anti-Carbonation

Equivalent carbonation barrier to 55.36 metres of air at 600 microns.

Effective barrier = 50 metres. TB 321/DCG

Approximate Solids Content

64.9% by weight.

59.5% by volume.

Specific gravity: 1.20.

VOC content: 360 g/L

Drying Times

At approximately 20°C/50% R.H., touch dry at 6 to 7 hours; through cure at a minimum of 8 hours.

At approximately 2°C, through cure at 24 hours.

Minimum Application Temperatures

2°C providing that this is above dew point.

Note: When applying Decothane Clearglaze by spray equipment, the material must be kept above 10°C.

Maximum Substrate Moisture Content

28% wood moisture equivalent, as measured by a Protimeter.

STORAGE

All primers and coatings should be kept dry and protected from frost and excessive heat. Previously opened tins should be used as soon as possible – within two or three days at most – and lids should always be replaced securely when the product is not being applied.

Storage Temperatures

Store in dry, frost free conditions. Decothane Clearglaze should be stored above 0°C. and below 30°C.

PACK SIZES

5 litres and 15 litres

SHELF LIFE

12 months under the above conditions.

Approximate Dry Film Thickness
300 microns (for general use).
600 microns (for anti-carbonisation/anti-shatter applications).

Tensile Strength
25 N/mm^2 (unreinforced) TB 385 DCG

Tensile Elongation
250% (unreinforced) TB 385 DCG

Tear Strength
18 N/mm^2 TB 390/DCG

Adhesion (to glass)
Elcometer pull off tests
>3 N/mm^2

Fire Resistance
(BS.476 Part 6 and 7)
Class "O" rating on concrete surfaces. TB 324/DCG, TB 325/DCG

COLOUR
Clear

DESIGN AND SPECIFICATION CONSIDERATIONS
Building regulations
Wind Load – All Liquid Plastics roofing systems are fully bonded and therefore resist wind damage and uplift, and similarly require no ballasting, fixings or welds. Consequently, when applied to a fully bonded substrate or deck, the requirements of BS.6399 Part 2 (and the British Standard Code of Practice CP3 Chapter V Part 3 (1985 amendments)) do not apply.
Fire – the fire rating of Decothane Clearglaze is detailed above under the heading Fire Resistance. However, all systems comply with the requirements of building regulation E16 for most conventional substrates.

SITE WORK AND APPLICATION
UK
The following details are intended to provide a general guide to site preparation, application work and associated considerations. For further details, please consult your local Area Sales Manager or our Technical Customer Services Department.

We recommend the use of our Quality Assured Programme of independently inspected UK contractors. They have high quality systems in place and have received specialist training in the application of our products. Work carried out by quality assured contractors is independently assessed by members of the Institute of Clerk of Works to ensure that the highest possible standards are achieved.

Single point guarantees are available for up to 10 years for Decothane Clearglaze, covering both labour and materials.

If the client wishes to use their own contractors a guarantee for only the product performance is available.

INDIVIDUAL SUBSTRATE TREATMENTS

Asbestos Cement and Asbestos-free Equivalents
General: Always ensure strict compliance with Health and Safety Executive requirements when working with asbestos-containing materials. The coating may be applied direct provided that the surface is dry. Note that extra care must be taken when cleaning since any shading of the surface will show through the coating.

Bricks, Blocks and Stone
Clay and cement bricks may be coated directly after preparation.
Stonework which is clean and free from dirt and other contaminants may be treated directly.

Cementitious Materials
Concrete and screeds etc., must be a minimum of 10 days old before treatment. Please consult our Technical Customer Services Department before applying to highly porous substrates. Adhesion tests should be carried out before overcoating repair mortars.

Glass
Ensure surfaces are clean and degreased before application. Apply to plain and reinforced glass, leaded windows, glazing strips and rooflights, unless total optical clarity must be obtained.
Note: Clearglaze may be lapped onto painted frames but it is not recommended for fully coating external painted surfaces since the paint may discolour and/or flake, resulting in delamination.

Metals
Apply direct to most metals. Please seek advice from Liquid Plastics' Technical Customer Services Department before coating ferrous metals.

Plastics
Clearglaze is particularly suited for use over Liquid Plastics' Decolight®, where the coating protects against water ingress but permits the continued transmission of light into the building.

Usual preparation procedures should be observed. Remove any oxidised layers and use localised reinforcement over joints.
Note: Any reinforcement incorporated within the membrane will be visible.

Slates, Tiles etc.
Sloping slate or tile roofs may be coated directly to prevent water absorption whilst maintaining the original appearance of the substrate. Inspect tiles to ensure that they are firmly adhered. Degrease glazed tiles, clean and allow to dry before applying Decothane Clearglaze.
Do not use for treating bitumen coated tiles or shingles, as severe staining will result.

COVERAGE RATES

The coverage rate for Decothane Clearglaze will depend on the intended function of the coating. Please consult our Technical Customer Services Department for details about specific applications. The following rates are for general guidance only.

System*	Reinforcement Type	First Coat (L/m²)	Total (L/m²)
Unreinforced	None	0.5	0.5

*Two coat applications will require half the quantity of Decothane Clearglaze per coat.

When using a partially reinforced system, the following extra quantities are required for embedment prior to overcoating as above.

Note: In a clear coating, reinforcement will be visible.

Reinforcement Type**	Quantity (L)	To Embed (Length metres)	At Width (cm)
Reemat Flexitape (light duty)	0.5*	15	5
Reemat Flexitape (heavy duty)	1.0*	10	7.5

*Plus wastage/embedment allowance.

**An alternative Reemat reinforcement product is normally used with Decothane Clearglaze; consult our Technical Customer Services Department.

When using a fully reinforced system, apply an embedment coat at 0.5 L/m^2 and embed the glass fibre mesh using light pressure from a roller. Airless spray applications and the incorporation of reinforcement tends to cause a degree of air entrainment, which leads to opacity. Entrapped air maybe expelled whilst the coating is still wet by the use of a roller. Rollers should be pre-wetted with the coating when used for this purpose. Allow to dry and apply a second coat at 0.5 L/m^2.

PREPARATION

Ensure surface is clean and sound prior to application of Decothane Clearglaze. Any areas contaminated with moss or lichen must be treated with Liquid Plastics' Biowash (clear) to prevent re-development.

APPLICATION

Once the relevant system has been selected, please refer to the above for details of coverage rates. Please note that the rates quoted are for smooth, sealed surfaces. Rough, porous, absorbent or undulating surfaces will inevitably increase the quantity of coating required, particularly at the embedment / first coat stage, to achieve the necessary film thickness and a pin-hole free finish.

Surface preparation for a clear coating must be thorough, particularly in relation to the removal of all organic growth.

Always allow primers and any previous coat to dry/cure thoroughly before applying the following coat. Coatings will generally require curing overnight, although under optimal conditions (at higher temperatures and low relative humidity) work may often recommence sooner. Please consult our Technical Customer Services Department for further details.

Note 1: Do not thin or brush out like conventional paints.

Note 2: When using brushes, the first coat should ideally be applied in one direction only, where possible, the second coat should be applied at right angles to the first.

EQUIPMENT

Application is primarily by brush or roller. Use only dry equipment free from water. Airless spray may be used but this must be followed by the use of a roller to de-aerate. Rollers should be pre-wetted with the coatings when used for this purpose.

Rollers

Good quality (non shed) medium pile sheepskin roller: Use on flat or undulating but not rough surfaces. Apply in two coats, using light pressure, to bring up to the required coverage rate. Do not overwork. For applications in excess of 1.0 L/m^2 total coverage, three coats may be required to avoid slump.

Brushes

Always use a soft nylon or bristle brush. Apply in two coats. Apply second coat at right angles to the first wherever possible. Application limits per coat are the same as those quoted for roller applications.

Airless Spray

Up to 0.5 L./m^2 may be applied in a single coat; greater amounts will require two or more coats. Use a roller after each application to remove entrained air.

Use a Graco King 60:1 or equivalent with a tip size of 0.28 to 0.43 mm. The wet coating will not be clear. When not in immediate use, seal off to avoid curing at air exposed points.

CLEANING EQUIPMENT

Before curing, flush/wash equipment with Liquid Plastics' Cleaning Solvent.

ROUTINE CARE AND MAINTENANCE

General

In normal use, Liquid Plastics' roofing systems require no routine maintenance other than periodic inspections to check for damage by accidental impact or by building modifications involving the roof structure. During the course of such inspections, sharp objects such as screws, stones, broken glass and other material should be removed from the surface in order to minimise the chances of accidental damage by subsequent foot traffic.

In order to prevent damage by excessive localised loading, particularly on roofs incorporating soft insulation, planks or other simple load-spreading devices should be placed under ladders or the supports of free standing structures on the roof.

Repairs

In the event of localised damage, or to reinstate a completely seamless barrier following structural modifications, repairs can be made quickly and easily by applying more of the appropriate coating to the affected areas. If treating small punctures, the surrounding membrane should be cleaned, primed if necessary and repaired by the application of additional material (usually by brush or roller).

If treating new joints etc. embed either Reemat GFM or Flexitape into the wet coating and allow to cure before applying a second coat. In all cases, care should be taken to restore the dry film thickness of the original membrane.

LONG TERM MAINTENANCE

Inspection

Towards the end of the anticipated design life of the chosen system, the membrane should again be inspected. In practice, the actual durability of the various Liquid Plastics' roofing systems will often far exceed the quoted life span and maintenance will not strictly be necessary for several years after the termination of the stated period. Nonetheless, it is recommended that the system be overcoated when it has reached the end of its design life in order to ensure effective and continuous protection against water ingress. In all cases, inspections should then be carried out regularly (annually, for example) in order to check for signs of wear or excessive weathering.

Refurbishment

Clean surface and recoat direct.

HEALTH & SAFETY

Please refer to the relevant safety data sheets for Decothane Clearglaze prior to use.

SPECIFICATION ASSISTANCE

NBS is the industry standard specification system, which allows architects, specifiers and engineers to insert clauses into specifications by manufacturer and product, making the process quicker and more efficient. We are members of NBS Plus and therefore detailed up-to-date product information is readily available to create accurate specifications.

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