a.b.e.® Construction Chemicals

epidermix 365

LIQUID (NON-STRUCTURAL) EPOXY ADHESIVE

DESCRIPTION

Two-component, solvent-free, polyamide cured epoxy.

USES

General purpose liquid epoxy compound. Adhesive for various substrates. Binder for epoxy mortar. Crack injection compound. Coating for expanded polystyrene, primer for epoxy mortar, fibre glassing compound.

ADVANTAGES

- Solvent free.
- Easily applied liquid.
- Can be injected.
- Mix with aggregates to form mortar.
- Liquid general purpose adhesive.
- Coating for polystyrene.

SURFACE PREPARATION

Any surface to be treated must be CLEAN, SOUND and DRY. It must be free of foreign matter such as grease, oil, old paint, dust, debris of preparation and any other form of contamination. Smooth surfaces should be roughened by some appropriate method. **epidermix 365** will not adhere to most thermoplastics and should also not be used to bond stainless steel, glass or non-ferrous metals.

BONDING/PRIMING

Self priming.

PROPERTIES OF WET MATERIAL	
Mixing ratios	1,5 base to 1 activator by volume
Density (typical)	1,04g/cm^3
Colour: Base Activator Mixed	 Pale Amber Dark amber Amber translucent
Flash point	+120°C
Dilution	Do not dilute
Consistency	Medium viscosity liquid
Mixed viscosity	2800 cP
Toxicity	Uncured material is toxic
Shelf life	2 years from date of manufacture
Finish	Gloss
Storage conditions	Store under cover in cool conditions
Packaging	500ml, 5L kits

PROPERTIES DURING APPLICATION	
Application by	Brush, short fibre roller, trowel for mortars, gun for crack injection
Application temp	10°C to 40°C
Overcoating time @ 25°C	Not less than 6 hours Not more than 48 hours
Curing time @ 25°C	Touch dry – 12 hours Practical cure – 24 hours Full cure – 7 days
Volume solids	100%

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PROPERTIES OF CURED MATERIAL	
Toxicity	Cured film nontoxic
Max service temp.	Dry: 60°C Wet: 40°C
Compressive strength @ 25°C	Unfilled: 75 MPa with 3 volumes silica filler: 100 MPa
Tensile strength @ 25°C	Unfilled: 6,5 MPa with 3 volumes silica filler: 9 Mpa
Lap shear strength on gritblasted steel	Unfilled: 9 MPa with 3 volumes silica filler: 4 Mpa
Modules of rupture	Unfilled: 15 MPa with 3 volumes silica filler: 27 MPa
Modified Arizona shear test	Unfilled: 55 MPa prisms failed in concrete
Grouting test 15 diameter embedment annulus 25% of diameter	12mm HT bars fractured
Shrinkage during cure	Negligible
Creep: Where low creep is a design parameter **epidermix 365** should not be used. In such applications **epidermix 395** should be used.	
Solvent resistance	Resists aliphatic solvents
Chemical resistance	Dilute mineral acids limited resistance. Resists: 40% sodium hydroxide

POT LIFE (MINUTES)			
	15°C	**25°C**	**35°C**
500ml kit	150	105	70

MIXING

Stir each component separately and then add the activator to the base and stir with a flat paddle for at least FIVE MINUTES. It has been found that mechanical mixing gives better dispersion than manual mixing.

A suitable mixing method would be a slow speed electric drill (approximately 200 r/min) fitted with a paddle. If only part of a kit is to be used add 1 volume of activator to 1,5 volumes of base. Measuring must be accurate and separate stirrers and containers used for proportioning each component. If being used as a mortar binder combine base and activator as above and when fully mixed add in slowly, with agitation, up to 3 volumes dry, clean, **abe® graded silica sand** to give the consistency required. Under no circumstances exceed 3 volumes of silica. If impermeability is a prime requirement, fill in the range of 2,5:1.

PRACTICAL COVERAGE RATES	
Adhesive	1 – 4m²/L (dependant on surface texture and porosity)
Crack injection	1m²/L in 1mm wide crack
Tile pointing mortar	1L mixed epoxy liquid yields approx 3L mortar (when mixed 1:3 with **abe® silica sand**)
Hold down bolt grout	1L mixed epoxy liquid yields approx 1,9L grout (when mixed 1:1,5 with **abe® silica sand**)
Epoxy concrete	1L mixed epoxy liquid yields approx 3,4L epoxy concrete (when mixed with 2L **abe® graded silica sand** and 2L 10 – 19mm washed and dried stone)
When using **epidermix 365** as a grout, the hole diameter should be 1,3 – 1,5 times the diameter of the steel. When metal is being grouted, its surface temperature should not exceed 25°C at the time of grouting.	

GROUTING - QUANTITY CALCULATIONS

The quantity of **epidermix 365** required may be calculated from the formula:

$$\frac{0{,}8\,(D + d)\,(D - d)HN}{1000} = \text{litres required}$$

where D = diameter of hole (in cm)
d = diameter of metal (in cm)
H = depth of hole (in cm)
N = number of holes

This gives the total number of liters of grout required, without any allowance for wastage.

When a grout comprising of 1 volume **epidermix 365**: 1,5 volumes of **abe® silica sand** is used, **epidermix 365** will comprise 60% of the final volumes. Diameter ratio of hole to rod should ideally be 1,3:1.

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SAFEDECK SYSTEM

Where used as a bonding coat in the safedeck system, the concrete surface should be primed with **abe.®cote 386**. This must be left overnight and then overcoated with **epidermix 365**. The grit layer which provides the non-slip finish must be evenly broadcast into the wet **epidermix 365** at the rate of approximately 1 kg/m².

This is left overnight and excess, loose grit swept off the following morning whereupon sealing with the selected top coat system may proceed. **abe.®cote 320** or **abe.®cote 441** are usually selected as the finish coat on safedeck systems. Always use **abe.®cote 441** if the system is going to be exposed to ultra violet light.

APPLICATION

epidermix 365 may be applied by brush or short fibre roller when it is used as a primer. Its resulting film must be overlaid with epoxy mortar while still wet or at least tacky. **epidermix 365** when used as an adhesive, should be applied by brush. The face of the one adherent should be lightly coated and all excess compound scraped off.

Apply a full coat of **epidermix 365** to the second adherent and sandwich the faces together maintaining necessary compression across the bond line. Remove all extruded material immediately and take care to pre-mask any areas which could be disfigured by excess adhesive. Strip masking as soon as adhesive flow ceases. **epidermix 365** mortar is normally trowelled into place onto a coat of still wet **epidermix 365** primer. Plastic wrapped shutters will be needed on vertical faces to retain the mortar until it sets.

Horizontal mortars may also need shuttering depending on the particular use of the material. If a very smooth open face is required work with a steel float moistened with white spirit to achieve the final polish. Details of crack injection procedures will be found in the relevant technical data sheet.

CLEANING

abe® super brush cleaner before dried/cured.

PROTECTION ON COMPLETION

Against traffic ad spillage until cured. Most epoxies chalk and degrade in extensive sunlight.

TEMPERATURE AND RELATIVE HUMIDITY

See properties of cured and wet material.

MODEL SPECIFICATION

Two-component, general-purpose liquid epoxy adhesive. Crack injection epoxy and tile pointing grout when mixed with blended silica sand.

The adhesive/grout shall be **epidermix 365**, a two component, solvent free, polyamide cured epoxy system applied in accordance with the manufacturers recommendations, **a.b.e.® Construction Chemicals**. The compound shall have a 7 day compressive strength of 75 MPa.

PACKAGING

epidermix 365 is supplied in 500ml and 5L metal containers.

HANDLING & STORAGE

This product has a shelf life of 24 months if kept in a dry cool place in the original packaging. In more extreme conditions this period might be shortened.

HEALTH & SAFETY

Uncured **epidermix 365** is toxic and flammable. Always ventilate a working area well during application and curing. Avoid naked flames in the vicinity. Always wear gloves and eye protection when working with the material and avoid excessive inhalation and skin contact. If material is splashed in the eye, wash with copious quantities of clean water and seek medical advice.

Cured **epidermix 365** is inert and harmless.

When transporting liquids and semi liquids by aircraft, ask for material safety data sheet.

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IMPORTANT NOTE

This data sheet is issued as a guide to the use of the product(s) concerned. Whilst **a.b.e.® Construction Chemicals** endeavours to ensure that any advice, recommendation, specification or information is accurate and correct, the company cannot - because **a.b.e.®** has no direct or continuous control over where and how **a.b.e.®** products are applied - accept any liability either directly or indirectly arising from the use of **a.b.e.®** products, whether or not in accordance with any advice, specification, recommendation, or information given by the company.

FURTHER INFORMATION

Where other products are to be used in conjunction with this material, the relevant technical data sheets should be consulted to determine total requirements. **a.b.e.® Construction Chemicals** has a wealth of technical and practical experience built up over years in the company's pursuit of excellence in building and construction technology.

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