epidermix 372

Epoxy adhesive, filler and grout

DESCRIPTION

epidermix 372 is a two-component, solvent-free, thixotropic, polyamide cured epoxy adhesive.

USES

As a general purpose adhesive for most materials, excluding certain plastics and stainless steel. If required in structural load bearing applications the **abe** Technical Department should be consulted and supplied with full details of the design.
As a filler where it may be bodied with fine materials such as wood flour, silica sand and talc, to match the material being filled.
As a grouting medium for fixing dowels and bolts, horizontally into concrete and rock.

FEATURES & BENEFITS

- Solvent-free.
- Non-slump.
- Easy to mix.
- Bonds most materials.
- Can be filled for use as a grout.
- Economical.

SURFACE PREPARATION

Any surface to be treated must be clean, sound and dry. It must be free of foreign matter such as oil, grease, paint, dust, debris of preparation and any other form of contamination. Smooth surfaces should be roughened by some appropriate method.
Preparation of specific surfaces:

- Cast concrete and pockets in concrete – free of all laitance and shutter release.
- Drilled concrete and rock – if wet drilled, free of all traces of dry slurry; if dry drilled, free of all drilling debris.
- Fibre cement – free of all dust.
- Smooth steel – free of millscale, rust and other foreign matter. Ideally abrasive blast cleaned.
- Deformed and threaded steel – free of oil, grease and rust.
- Aluminium – free of grease. Abrade and degrease. Bond immediately.
- Stainless steel – is not a candidate material.
- Timber – roughen by rasping. Oily woods (e.g. teak) should be acetone washed.
- Glass – detergent wash, clean water rinse, alcohol rinse.
- Glass fibre laminates – abrade to expose fibres and solvent wash.
- Ceramic (unglazed) – contamination free and dry.
- Stone – free of contamination.
- Rubbers – degrease and roughen.
- Thermoplastic plastics (except polystyrene) – are not candidate materials.
- Polystyrene – must be free of foreign matter.

TYPICAL PHYSICAL PROPERTIES OF WET MATERIAL	
Colour	Base: White Activator: Amber Mixed: Creamy-yellow
Density	1,15 g/cm³
Pot life (minutes)	15°C 120 20°C 90 25°C 60 30°C 45 35°C 30
Flashpoint	+ 120° C
Dilution	Do not dilute
Consistency	Thixotropic paste

TYPICAL PHYSICAL PROPERTIES DURING APPLICATION	
Volume solids	100%
Curing time @ 25°C	Touch dry: 6 hrs Practical use: 24 hrs Full cure: 7 days
Sanding time @ 25° C	If used as a filler requiring smoothing, sand after 24 hours cure
Overcoating time @ 25° C	Minimum :12 hrs Maximum 48 hrs if being over-coated with an epoxy system
Fire resistance of wet material	Non-flammable

TYPICAL PHYSICAL PROPERTIES OF CURED MATERIAL	
Toxicity	Non-toxic
Compressive strength @ 25° C	70 MPa
Tensile strength @ 25° C	±30 MPa
Maximum service temperature	Dry: 60° C Wet: 40° C
Modified Arizona Shear test	55 MPa prisms fail in concrete
Grouting test at 15 diameter embedment	12 mm HT bar fractured
Lap shear (double overlap) strength on grit blasted steel	16 MPa
Shrinkage during cure	Negligible
Water resistance	Excellent
Solvent resistance	Resists aliphatic solvents, vegetable, mineral oils greases and petroleum fuels

BONDING / PRIMING

No priming required.

MIXING

Mixing ratio:
2 base to 1 activator by volume.
Carry out mixing on a flat clean surface, such as a board or plate.

Set up carefully measured quantities (2 volumes base and 1 volume

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activator) of each component, side by side on the mixing plate. Do not mix until application site operations are ready.
Use separate tools to remove each component from its container thus preventing contamination.
With putty knives, paint scrapers or similar flat tools, mix the two components until a completely homogeneous material results. The larger the volume of the mix the longer should be the mixing time.
If a filled material is required, add the filler only after complete mixing of the base and activator has been achieved.
Remove mixed material to a clean surface and carry on mixing to ensure no unmixed material from the first mixing area is incorporated in the final product.

COVERAGE

Application rate:
* In general 1 l mixed **epidermix 372** covers 1 m² to a thickness of 1 mm.
* As a grout 1 l mixed **epidermix 372** filled with an equal volume **abe coarse No. 1 silica sand** will yield approx. 1,3 l of mortar.
Note: This information makes no allowance for site wastage.

Maximum application rate:
* As an adhesive: Use thinnest possible film allowing for full wetting of adherents.
* As a filler: Up to 15 mm thickness.
* As a grout: Do not grout unfilled **epidermix 372** into a hole larger than 1,5 times bar diameter. When grouting with filled **epidermix 372** hole should be kept as small as possible.

APPLICATION

Application by putty knife, trowel or mastic gun.

As an adhesive: Mixed material should be spread onto the face of one adherent, thickly enough to extrude when both faces are mated. Bonded mating faces must be kept under compression until the adhesive layer has set. On heavy assemblies excess adhesive should be removed immediately and may be reused on other units. In delicate work such as jewellery bonding, extruded material should be left to obtain initial set and then cut off with a fine sharp blade.
If prevention of staining of faces is important a release agent should be used, care being taken to see that it does not affect the mating faces.
As a filler: Mixed material should be smoothed into place using a trowel or similar tool. If filling requires feather edging, release agent may be applied to surrounding areas to preserve cleanliness.
Use a mastic gun equipped with a length of tubing long enough to reach the back of the hole, which must be suitably vented. Once sufficient grout is in the hole, insert the bar using a rotary motion to ensure wetting all faces. Seal the mouth of the hole with a little very dry mortar grout to retain the epoxy grout during setting time.

GROUTING WITH epidermix 372

Basis for strength calculations:
Given adequate concrete strength and provided that a bar of deformed or threaded steel, either mild or high tensile, is embedded to a depth of at least 15 diameters, it can be expected that any failure of the assembly will be due to tensile rupture of the steel.
Thus **epidermix 372** grouting allows the steel and the concrete to operate at full design strength.
Regarding the diameter ratio of hole to rod, it has been shown that the ultimate average bond stress is at its maximum at a ratio of 1,3:1.
Ultimate average bond stress reduces as the hole:rod ratio increases to a value of 1,67:1. Thereafter it remains constant. An increase of diameter ratio from 1,3:1 to 1,67:1 will reduce bond stress.

CLEANING

Tools, brushes and mixing equipment should be cleaned immediately after use and before material has set with **abe super brush cleaner** followed by washing with soap and water.

PROTECTION ON COMPLETION

If used as a filler and an epoxy coating is required allow a minimum of 12 hours and a maximum of 48 hours before commencing with epoxy coating.

TEMPERATURE AND RELATIVE HUMIDITY

Application temperature range: +10° C - +40° C. If metal is being grouted, its surface should not exceed 25° C at the time of grouting.

MODEL SPECIFICATION

General-purpose thixotropic epoxy adhesive.

The adhesive/grout will be **epidermix 372**, a two-component, solvent-free, thixotropic, polyamide cured epoxy system applied in accordance with the recommendations of **abe Construction Chemicals.** The compound will have a 7 day compressive strength of 70 MPa and a lap shear strength on grit blasted steel of 16 MPa.

PACKAGING

epidermix 372 is supplied in 90 ml, 500 ml, 1 l and 5 l containers.

HANDLING & STORAGE

This product has a shelf life of 12 months if kept in a dry cool place in the original packaging. In more extreme conditions this period might be shortened.

HEALTH & SAFETY

Wet **epidermix 372** is toxic but non-flammable. Ensure the working area is well ventilated during application and drying. Always wear gloves when working with the material and avoid excessive inhalation and skin contact. If material is splashed into the eye, wash with plenty of clean water and seek medical attention.

Cured **epidermix 372** is inert and harmless.

IMPORTANT NOTE

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

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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. **abe 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.