Technical Instruction Sheet

Characteristics:

AKEPOX® 2000 is a liquid, solvent-free 2-component adhesive based on an epoxy resin containing a modified polyamine hardener. The product is distinguished by the following qualities:

- extremely low shrinkage during the hardening process and therefore low tensions in the bonding layer
- extremely weather resistant bonding.
- easy colouring with AKEPOX® Colouring Pastes
- good thermal stability: approx. 60-70°C for bonded parts exposed to weight, approx. 100-110°C for bonded parts not exposed to weight
- good dimensional stability of the bonding layer
- small tendency to fatigue
- very good alkali-stability, thus the adhesive is very well suited to bond concrete.
- excellently suited for bonding gas-impermeable materials as it is a solvent-free product suited for bonding load-bearing construction parts
- excellent laminating resin for preparation of sandwich parts
- good electrical insulating property
- good adhesion on slightly humid stones
- suited for bonding materials which are sensitive to solvents (e.g. expanded polystyrene, acrylonitrile butadiene styrene)
- the product is not liable to crystallize, therefore no problems in storing and processing.

Application areas:

AKEPOX® 2000 is mainly used in the stone processing industry for bonding of natural stones (marble, granite), cast stones or building material (concrete, terrazzo). Very thin joints are possible due to the low-viscid consistency. In combination with glass fabric also lamination works can be done. Other materials s. a. plastics (rigid PVC, polyester, polystyrene, ABS, polycarbonate), paper, wood and glass can be bonded. The product is as well used in the filed of mechanical engineering and body work (motor vehicles, caravans, boats) for producing glass fibre plastics and in the electrical industry for casting or sealing electrical components (coils, motor coils, transformers). Materials s.a. polyolefine (polyethylene, polypropylene), silicone, fluorohydrocarbons (teflon), flexible PVC and butyl rubber cannot be bonded with AKEPOX® 2000.

Instructions for use:

1. Thoroughly clean and slightly roughen surfaces to be bonded.
2. Thoroughly mix 2 parts (volume or weight) of component A with 1 part (volume or weight) of component B until a homogeneous shade of colour is achieved.
3. AKEPOX® Colouring Pastes can be added up to max. 5 %.
4. The mixture remains workable for approx. 20-30 min (20°C). After 6-8 hrs (20°C) the bonded parts may be moved, after 12-16 hrs (20°C) approx. they may be further processed. Max stability after 7 days (20°C).
5. Tools can be cleaned with AKEMI Nitro-Dilution.
6. The hardening process is accelerated by heat and delayed by cold.
7. If stored in cool place, approx. shelf life is 1 year.

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Special notices:

- Only if the right mixing ratio is kept, optimal mechanical and chemical properties can be obtained. A surplus of component A or component B has the effect of a softener or may cause discoloration.
- Use AKEMI Liquid Glove to protect your hands.
- Two separate spatulas should be used for the component A and B.
- An adhesive which is already thickened or just gelling should not be used anymore.
- At temperatures below 10°C the product should not be used anymore as there is no sufficient hardening.
- The hardened adhesive is liable to yellowing when exposed to sunlight and is therefore not suited for fillings or visibly bonded joints on light-coloured or white surfaces.
- Once hardened, the adhesive can no longer be removed by solvents. Removal is only possible mechanically or by higher temperatures (> 200°C).
- When worked correctly, the hardened adhesive is not damaging to health.

Technical specifications:

1. Component A	Colour:	light grey
	Density:	approx. 1.15 g/cm³
Component B	Colour:	honey yellow
	Density:	approx. 1.06 g/cm³

2. Working Time

a) mixture of 100 g of component A + 50 g of component B

at 10°C:	60	-	70 minutes
at 20°C:	20	-	30 minutes
at 30°C:	10	-	15 minutes
at 40°C:	5	-	10 minutes

b) at 20°C and different quantities

20 g of component A +	10 g of component B:	35 - 45 min
50 g of component A +	25 g of component B:	25 - 35 min
100 g of component A +	50 g of component B:	20 - 30 min
300 g of component A +	150 g of component B:	15 - 25 min

3. Hardening process (shore-D-hardness) of a 2 mm layer at 20°C

3 hrs	4 hrs	5 hrs	6 hrs	7 hrs	8 hrs	24 hrs
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4. Mechanical Properties

Bending strength DIN 53452:	100	-	110 N/mm²
Tensile strength DIN 53455:	50	-	60 N/mm²
E-module:	3000	-	3500 N/mm²

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5. Chemical Resistance

Water absorption DIN 53495	< 0.5 %
Sodium Chloride Solution 10%	stable
Salt water	stable
Ammonia 10%	stable
Soda Lye 10%	stable
Hydrochloric acid 10%	stable
Acetic acid 10%	conditionally stable
Formic acid 10%	conditionally stable
Petrol	stable
Diesel oil	stable
Lubricating oil	stable

6. Shelf life: approx. 1 year under cool conditions in the firmly closed original container.

Safety notices: Please refer to the EC safety data-sheet

Notice: The above specifications were made in accordance with the present-day stage in development and the application technology research of our firm. Because the ways and means of application are beyond our control, the manufacturer cannot be made liable for the contents of this specification sheet.

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