Technical Instruction Sheet

Characteristics:

AKEPOX® 2040 is a paste-like, solvent-free 2-component adhesive based on an epoxy resin containing fillers and 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 bandings
- a good thermal stability: approx. 60-70°C for bonded parts exposed to weight, approx. 100-110°C for bonded parts not exposed to weight
- a good dimensional stability of the bonding layer
- a small tendency to fatigue
- a 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
- 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 crystallise, therefore no problems in storing and processing.

Field of Application:

AKEPOX® 2040 is mainly used in the stone processing industry for bonding of natural stones (marble, granite), cast stones or building material (concrete, terrazzo) and steel. Due to its paste-like consistency the product is very stable in a vertical position and is suitable for filling holes or modelling corners or edges. In addition surfaces which are relatively uneven can thus be connected and facade coverings or railings can be anchored. Other materials s. a. plastics (rigid PVC, polyester, polystyrene, ABS, polycarbonate), paper, wood and glass can be bonded. Metal parts coated with AKEPOX® 2040 are very well protected against corrosion. Materials s. a. polyolefine (polyethylene, polypropylene), silicone, fluorohydrocarbons (teflon), flexible PVC and butyl rubber cannot be bonded with AKEPOX® 2040.

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. 45-55 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.

Special Hints:

- Metallic surfaces should be ground in a short interval before bonding to avoid a decrease in adhesion.
- Only if the right mixing ratio is kept, optimal mechanical and chemical properties can be obtained. A surplus of adhesive or hardener has the effect of a softener.
- Use AKEMI Liquid Glove to protect your hands.
- Two separate spatulas should be used for the hardener and the adhesive.
- 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.

Safety Measures: see EC Safety Data Sheet

Technical Data:

1. Component A — Colour: grey-white; Density: approx. 1.71 g/cm³
   Component B — Colour: khaki-grey; Density: approx. 1.72 g/cm³

2. Working Time

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

at 10°C:	110	-	120 minutes
at 20°C:	45	-	55 minutes
at 30°C:	20	-	30 minutes
at 40°C:	10	-	20 minutes

b) at 20°C and different quantities

20 g of component A +	10 g of component B:	60 - 70 min
50 g of component A +	25 g of component B:	50 - 60 min
100 g of component A +	50 g of component B:	45 - 55 min
300 g of component A +	150 g of component B:	40 - 50 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
--	35	38	55	66	73	80

4. Mechanical Properties

Bending strength DIN 53452:	40	-	50 N/mm²
Tensile strength DIN 53455:	20	-	30 N/mm²
E-module:	8500	-	9000 N/mm²

5. Chemical Resistance

Water absorption DIN 53495	> 0.5 %
Sodium Chloride Solution 10%	stable
Salt Water	stable
Ammonium 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: 1 year approx. if stored in cool place free from frost in its tightly closed original container.

Notice: The above information is based on the latest stage of our development and application technology. Due to a multiplicity of different influencing factors, this information – as well as other oral or written technical advises – must be considered as non-binding hints. The user is obliged in each particular case to conduct performance tests, including but not limited to trails of the product, in an inconspicuous area or fabrication of a sample piece.

TIS 02.02