Technical Instruction Sheet

Characteristics:

AKEPOX® 2010 is a gelly-like, 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 bondings
- easy colouring with AKEPOX® Colouring Pastes
- 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
- excellent laminating resin for preparation of sandwich parts
- 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.

Application areas:

AKEPOX® 2010 is mainly applied in the stone processing industry for bonding natural stones (marble, granite) and cast stones or building material (terrazzo, concrete). Due to its gelly-like, smooth consistency the product has a good vertical stability, yet, also thin joints can be reached. In addition other materials s. a. plastics (rigid PVC, polyester, polystyrene, ABS, polycarbonate), paper, wood and glass can be bonded. Materials s.a. polyolefine (polyethylene, polypropylene), silicone, fluorohydrocarbons (Teflon), flexible PVC and butyl rubber cannot be bonded with AKEPOX® 2010.

Instructions for use:

A. Cartridge System
- without mixing nozzle: dosing apparatus only
- with mixing nozzle: dosing and mixing apparatus at the same time

1. Thoroughly clean and slightly roughen surfaces to be bonded.
2. Remove the clasp from the cartridge and put the cartridge in the gun; work the grip until material emerges from both openings; then eventually screw up the mixing nozzle.
3. AKEPOX® Colouring Pastes can be added up to max. 5 %.
4. Both components must be thoroughly mixed when working without mixing nozzle.
5. The mixture remains workable for approx. 20-30 min (20°C). After 6-8 hours (20°C) the bonded parts may be moved, after 12-16 hours (20°C) approx. they may be further processed. Max. stability after 7 days (20°C).
6. Tools can be cleaned with AKEMI Nitro-Dilution.
7. The hardening process is accelerated by heat and delayed by cold.
8. If stored in cool place, approx. shelf life is 1 year.

B. Product in cans

1. Thoroughly clean and slightly roughen surfaces to be bonded.
2. Thoroughly mix 2 parts (volume or weight) of adhesive with 1 part (volume or weight) of hardener 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 hours (20°C) the bonded parts may be moved, after 12-16 hours (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 notices:

- 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 adhesive and the hardener.
- 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).
- Use AKEMI original mixing nozzle only.

Technical specifications:

1. Component A — Colour: light yellow; Density: approx. 1.18 g/cm³
   Component B — Colour: honey yellow; Density: approx. 1.11 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 minutes
50 g of component A +	25 g of component B:	25 - 35 minutes
100 g of component A +	50 g of component B:	20 - 30 minutes
300 g of component A +	150 g of component B:	15 - 25 minutes

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:	60	-	70 N/mm²
E-module:	3500	-	4000 N/mm²

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: 1 year approx. if stored in cool place free from frost in its tightly 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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