

Technical Data Sheet

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Properties:

AKEPOX® 2040 is a paste-like, solvent-free, two-component adhesive based on an epoxy resin containing fillers and a modified polyamine hardener. The product characterized by the following properties:

- extremely low shrinkage during the hardening process and therefore low tensions in the bonding layer
- extremely weather-resistant bondings
- 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
- good electrical insulating property
- good adhesion on slightly humid stones
- suited for bonding materials which are sensitive to solvents (e.g. expanded polystyrene, ABS)
- the product is not liable to crystallize, therefore no problems in storing and processing
- classification according to the Berufsgenossenschaft der Bauwirtschaft (Accident Prevention and Insurance Association of the German Building Industry): GISCODE: RE 01

Application Area:

AKEPOX® 2040 is mainly used in the stone processing industry for bonding of natural stones (marble, granite), artificial 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, flexible PU, butyl rubber and metal cannot be bonded with AKEPOX® 2040.

Instructions for Use:

1. Thoroughly clean and slightly roughen surfaces to be bonded.
2. Two parts by weight or volume of Component A are to be thoroughly mixed with one part by weight or volume of Component B until a homogeneous shade of colour is achieved.
3. AKEPOX® colouring pastes or colouring tints can be used for colouring if required (max. 5%).
4. The mixture remains workable for approx. 45 to 55 minutes (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® Universal Dilution.
6. Warmth accelerates and cold retards the hardening process.
7. Empty the container fully before disposing of it.

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Special Notes:

- Metallic surfaces should be ground in a short interval before bonding to avoid a decrease in adhesion.
- The optimal mechanical and chemical properties can only be attained by adhering to the exact mixing proportions; excess adhesive or hardener has the effect of a plasticizer.
- Use AKEMI® Liquid Glove to protect your hands.
- Use separate vessels when component A and B are being extracted from their containers.
- The resin is no longer to be used if it has already thickened or is jelling.
- The product is not to be used at temperatures below 10°C because it will not sufficiently harden.
- The hardened adhesive tends to yellowing when exposed to sunlight and is therefore not suited for fillings or visibly bonded joints on light-coloured or white surfaces.
- The hardened resin can no longer be removed by means of solvents. This can only be achieved mechanically or by applying higher temperatures (> 200°C).
- If the resin has been correctly worked it presents no hazard to health when the hardening process is completed.

Technical Data:

1. Colour:

comp. A:	grey-white
comp. B:	khaki-grey
2. Density:

comp. A:	approx. 1.71 g/cm ³
comp. B:	approx. 1.72 g/cm ³
3. Working time:

a) mixture of 100 g 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 varying amounts:	
20 g comp. A + 10 g comp. B:	60 – 70 minutes
50 g comp. A + 25 g comp. B:	50 – 60 minutes
100 g comp. A + 50 g comp. B:	45 – 55 minutes
300 g comp. A + 150 g comp. B:	40 – 50 minutes
4. Hardening process (shore D-hardness) of a 2 mm layer at 20°C:

<u>3 hrs</u>	<u>4 hrs</u>	<u>5 hrs</u>	<u>6 hrs</u>	<u>7 hrs</u>	<u>8 hrs</u>	<u>24 hrs</u>
--	35	38	55	66	73	80
5. Mechanical properties:

Bending strength DIN 53452:	40 – 50 N/mm ²
Tensile strength DIN 53455:	20 – 30 N/mm ²
E-module:	8500 – 9000 N/mm ²
6. 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

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Petrol:	stable
Diesel oil:	stable
Lubricating oil:	stable

Storage: 2 years approx. under cool conditions in the firmly closed original container.

Health & Safety: Read Material Safety Data Sheet before handling or using this product.

Important Notice: The above information is based on the latest stage of 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.

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