Technical Data Sheet

Properties:

AKEPOX® 2020 is a viscous, solvent-free, 2-component adhesive based on an epoxy resin containing fillers and a modified polyamine hardener.

The product characterized by the following properties:
- easy dosing and mixing by use of cartridge system
- 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
- 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

Application Area:

AKEPOX® 2020 is mainly used in the stone processing industry for bonding of natural stone (marble, granite), artificial stone or building material (concrete, terrazzo) with each other or with iron, steel or aluminum. Due to a certain stability conditioned by its structure the product can be applied as well vertically up to a layer thickness of about 2 mm; even extremely uneven surfaces can be bonded or for anchoring of slabs or railings. Other materials s.a. plastics (rigid PVC, polyester, polystyrene, ABS, polycarbonate), paper, wood, glass and many other materials can be bonded. Metal parts coated with AKEPOX® 2020 are very well protected against corrosion. Materials e.g. polyolefin (polyethylene, polypropylene), silicone, fluorohydrocarbons (Teflon), flexible PVC, flexible PU and butyl rubber cannot be bonded with AKEPOX® 2020.

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 or Colouring Concentrates 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. 40 - 50 minutes (20°C). After approx. 6 - 8 hours (20°C) the bonded parts may be moved. After 12 - 16 hours (20°C) approx. they may be further processed. Maximal stability after 7 days (20°C).

AKEMI GmbH · Lechstraße 28 · 90451 Nürnberg · Germany
Tel. +49(0)911-64296-0 · Fax +49(0)911-644456 · www.akemi.com

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6. Tools can be cleaned with AKEMI® Nitro-Thinner.
7. The hardening process is accelerated by heat and delayed by cold.

B. Products in cans

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 or Colouring Concentrates can be added up to max. 5%.
4. The mixture remains workable for approx. 40 - 50 minutes (20°C). After approx. 6 - 8 hours (20°C) the bonded parts may be moved, after 12 - 16 hours (20°C) approx. they may be further processed. Maximal stability after 7 days (20°C).
5. Tools can be cleaned with AKEMI® Nitro-Thinner.
6. The hardening process is accelerated by heat and delayed by cold.

Special Notes:

- For professional use only.
- Suitable for bonding of load-bearing construction parts, however, the relevant standards such as DIN 18516 part 1 and part 3 or DIN 2304 must be observed during application.
- Metallic surfaces should be ground in a short interval before bonding to avoid a decrease in adhesion.
- Single Mix cartridges are not suitable for pneumatic guns without mechanical pistons.
- 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 and can cause discolouration in the marginal zone.
- An adhesive is no longer to be used if it has already thickened or is jellying.
- The product is not to be used at temperatures below 10°C because it will not sufficiently harden.
- The hardened adhesive tends to considerable yellowing when being exposed to sunlight and is therefore not suited for fillings or visibly bonded joints on light-coloured or white surfaces.
- The hardened adhesive can no longer be removed by means of solvents. This can only be achieved mechanically or by applying higher temperatures (> 200°C).
- For cartridges use AKEMI® original mixing nozzles only.
- For proper waste disposal the container must be completely emptied.
- Recycling in accordance with the guidelines of EU Decision 97/129 EC on the Packaging Directive 94/62/EC.

Technical Data:

1. Colour (comp. A + B):	light grey
2. Density:	approx. 1.52 g/cm³
3. Working time:	at 10°C: 110 - 120 minutes
a) mixture of 100 g component A + 50 g of component B:	at 20°C: 40 - 50 minutes
	at 30°C: 20 - 30 minutes
	at 40°C: 10 - 20 minutes

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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:	40 - 50 minutes
300 g comp. A + 150 g comp. B:	35 - 45 minutes

4. 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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5. Mechanical properties:

Bending strength DIN EN ISO 178:	50 - 60 N/mm²
Tensile strength DIN EN ISO 527:	20 - 30 N/mm²

6. Chemical Resistance

Water absorption:	< 0.5%
Sodium Chloride Solution 10%:	stable
Salt water:	stable
Ammonium 10%:	stable
Soda lye 10%:	stable
Hydrochloric acid 10%:	stable
Acetic acid 10%:	stable
Formic acid 10%:	conditionally stable
Petrol:	stable
Diesel oil:	stable
Lubricating oil:	stable

Storage: If stored in dry and cool condition (5-25°C/41-77°F) in its closed original container at least 24 months from production.

Health & Safety: Read 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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