

## Technical Data Sheet

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**Properties:**

AKEPOX® 2000 is a liquid, solvent-free, two-component adhesive based on an epoxy resin containing 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
- easy colouring with AKEPOX® Colouring Pastes or Concentrates
- 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
- 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, ABS)
- the product is not liable to crystallize, therefore no problems in storing and processing

**Application Area:**

AKEPOX® 2000 is mainly used in the stone processing industry for bonding of natural stone (marble, granite), artificial stone or building material (concrete, terrazzo). Very thin joints are possible due to the low-viscid consistency. In combination with glass fabric also lamination work can be done. Other materials s.a. plastics (rigid PVC, polyester, polystyrene, ABS, polycarbonate), paper, wood, glass and many other materials can be bonded. The product is as well used in the field 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, flexible PU, butyl rubber and metal cannot be bonded with AKEPOX® 2000.

**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 concentrates can be used for colouring if required (max. 5%).
4. The mixture remains workable for approx. 20 to 30 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® Nitro-Thinner.
6. Warmth accelerates and cold retards the hardening process.

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### 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.
- 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 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 jellying.
- 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.
- 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: | light yellow |
| comp. B: | honey yellow |
2. Density:
 

|          |                                |
|----------|--------------------------------|
| comp. A: | approx. 1.15 g/cm <sup>3</sup> |
| comp. B: | approx. 1.06 g/cm <sup>3</sup> |
3. Working time:
 

|  |                          |
|--|--------------------------|
| a) mixture of 100 g 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 varying amounts:                        |                          |
| 20 g comp. A + 10 g comp. B:                           | 35 - 45 minutes          |
| 50 g comp. A + 25 g comp. B:                           | 25 - 35 minutes          |
| 100 g comp. A + 50 g comp. B:                          | 20 - 30 minutes          |
| 300 g comp. A + 150 g comp. B:                         | 15 - 25 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> |
| --           | 22           | 30           | 53           | 64           | 75           | 83            |
5. Mechanical properties:
 

|                             |                               |
|-----------------------------|-------------------------------|
| Bending strength DIN 53452: | 100 - 110 N/mm <sup>2</sup>   |
| Tensile strength DIN 53455: | 50 - 60 N/mm <sup>2</sup>     |
| E-module:                   | 3000 - 3500 N/mm <sup>2</sup> |

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|                               |                      |
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| 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 |
| 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 trials of the product, in an inconspicuous area or fabrication of a sample piece.

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