

Technical Data Sheet

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Properties:

AKEPOX® 5030 is a creamy-stable, solvent-free, two-component adhesive with filling agents based on an epoxy resin containing a cyclophatic polyamine hardener. The product is characterized by the following properties:

- light colour
- very low tendency to yellowing
- excellent colouring with AKEPOX® Colouring Pastes or Concentrates
- very good adhesion on metal
- very low shrinkage during the hardening process and therefore low tensions in the bonding layer
- excellent 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)

Application Area:

AKEPOX® 5030 is mainly used in the stone-working industry for bonding natural stone (marble, granite), ceramics as well as artificial stone or building materials (terrazzo, concrete) with each other or with iron, steel or aluminum in visual range. Due to its creamy-stable consistency the product is very well suited for fillings and for application in vertical areas. Furthermore quite uneven surfaces can be bonded or anchoring of tiles and balustrades can be effected. Other materials can also be bonded with AKEPOX® 5030, e.g. plastics (hard PVC, polyester, polystyrene, ABS, polycarbonates), paper, wood, glass and many other materials. AKEPOX® 5030 is not suitable for bonding of polyolefines (polyethylene, polypropylene), silicones, hydrocarbon fluorides (Teflon), soft PVC, soft polyurethane, butyl rubber and metal.

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 or 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-Dilution.
6. The hardening process is accelerated by heat and delayed by cold.

Special Notes:

- 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.

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- 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 and can cause discolouration in the marginal zone.
- Two separate spatulas should be used for the adhesive and the hardener.
- An adhesive 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.
- At constant temperatures above 50°C the hardened adhesive tends to yellowing.
- 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).
- If the resin has been correctly worked it presents no hazard to health when the hardening process is completed.
- The A-component slightly tends to crystallize (honey effect). The product can be made workable again by warming it up.
- The stability of the bonding depends on the natural stone to be bonded: silicate-bound stones react better than carbonate-bound stones.
- For cartridges use AKEMI® original mixing nozzles only.

Technical Data:

1. Colour (A and B): light beige
2. Density (A and B): approx. 1.50 g/cm³
3. Working time:
 - a) mixture of 100 g component A + 50 g of component B:

at 10°C:	100 – 130 minutes
at 20°C:	40 – 50 minutes
at 30°C:	20 – 30 minutes
at 40°C:	10 – 15 minutes
 - b) at 20°C and varying amounts:

20 g comp. A + 10 g comp. B:	70 – 90 minutes
50 g comp. A + 25 g comp. B:	50 – 70 minutes
100 g comp. A + 50 g comp. B:	40 – 50 minutes
300 g comp. A + 150 g comp. B:	30 – 40 minutes
- 4a. Hardening process (shore D-hardness of a 2 mm layer at 20°C):

<u>5 hrs</u>	<u>6 hrs</u>	<u>7 hrs</u>	<u>8 hrs</u>	<u>24 hrs</u>
34	67	79	81	83
- 4b. Hardening process (shore D-hardness of a 5 mm layer at 20°C):

<u>4 hrs</u>	<u>5 hrs</u>	<u>6 hrs</u>	<u>7 hrs</u>	<u>8 hrs</u>	<u>24 hrs</u>
10	37	71	79	81	84

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4c. Hardness of a 5 mm layer at various temperatures after 1 hour tempering time:

<u>20°C</u>	<u>30°C</u>	<u>40°C</u>	<u>50°C</u>	<u>60°C</u>	<u>70°C</u>	<u>80°C</u>	<u>90°C</u>	<u>100°C</u>	<u>110°C</u>
83	81	79	77	75	72	61	57	54	52

5. Mechanical properties:

Bending strength DIN EN ISO 178:	50 – 60 N/mm ²
Tensile strength DIN EN ISO 527:	30 – 35 N/mm ²
Compressive strength DIN EN ISO 604:	70 – 80 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
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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