

**Technical Instruction Sheet**

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**Characteristics:**

AKEPOX® 5010 is a gel-like, two-component adhesive, is free of solvents, is based on epoxy resins and has a cycloaliphatic polyamine hardener. The product is characterised by the following properties:

- it has a very neutral colour
- little yellowing
- easy measuring and mixing by use of cartridge system
- because of it's gel-like consistency it has a high creep strength
- during hardening there is very little shrinkage, and therefore minimal tension within the adhesive joint
- the bonding are very weather resistant
- can be excellently coloured with AKEPOX® colour pastes
- the adhesive layer retains it's from well
- it's tendency to fatigue is slight
- it has a very high stability in contact with alkalis and is therefore very suitable for bonding with concrete
- because it is free of solvents, it is especially suitable for bonding materials which are impermeable to gas
- it is suitable for bonding load-bearing constructional elements
- it adheres well to stone even if it is slightly damp
- it is suitable for bonding materials which react in contact with solvents (e.g. polystyrene, ABS)
- after being hardened the product is harmless to health upon contact with food products – certified by the "LGA Nürnberg"

**Field of Application:**

AKEPOX® 5010 is mainly used in the stone-working industry for the weather-resistant bonding and glueing of natural stone (marble, granite) as well as artificial stone or building materials (terrazzo, concrete). By means of the application of high-quality raw materials it was possible to develop a system which hardly yellows. It is thus possible to use it in combination with light-coloured or even white natural stone without the usual intensive yellowing of conventional epoxy-resin systems. Because of it's supple, gel-like consistency the product has a high creep strength on vertical surfaces. It is nevertheless possible to attain thin adhesive joints. Other materials can also be glued with AKEPOX® 5010, e.g. plastics (hard PVC, polyester, polystyrene, ABS, polycarbonates), paper, wood, glass and many other materials. AKEPOX® 5010 is not suitable for the gluing of polyolefins (polyethylene, polypropylene), silicones, hydrocarbon fluorides (Teflon), soft PVC, soft polyurethane and butyl rubber.

**Instructions for Use:****A. Product in cans**

1. Contact surfaces must be thoroughly cleaned and lightly abraded.
2. Two parts (by weight or volume) of component A are to be thoroughly mixed with one part of component B until a homogeneous colour is attained.
3. A coloration is possible by adding AKEPOX colour pastes up to a maximum of 5 % of the total volume.
4. The mixture remains workable for ca. 20 – 30 minutes at 20° C. After ca. 6 – 8 hours (20° C) the bonded parts can be transported, after 12 – 16 hours (20° C) they can bear loads and be tooled. The maximum strength is reached after 7 days (20° C).
5. Tools can be cleaned with AKEMI's Nitro Dilution.
6. Warmth accelerates and cold retards the hardening process.

**B. Cartridge System**

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. 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.

**Special Hints:**

- The optimal mechanical and chemical properties can only be attained by adhering to the exact mixing proportions; excess of component A or B has the effect of a plasticizer and can cause discolouration of the marginal area.
- Single-Mix cartridges are not suitable for compressed-air guns or guns with mechanical pistons.
- Use AKEMI Liquid Glove to protect your hands.
- Component A and B should be extracted with separate spatulas.
- The adhesive is no longer to be used of, if it has already thickened or has jellied.
- The product is not to be used at temperatures below 10° C because it will then insufficiently harden.
- At constant temperatures above 50° C the hardened adhesive is inclined to yellow.
- 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 adhesive has been correctly worked it presents no hazard to health when the hardening process is completed.
- The A-component tends slightly to crystallise (honey effect). The product can be made workable again by warming it.
- The stability of the bonding is highly dependent upon the natural stone which is to be bonded.: Silicate-bound stones react better than carbonate-bound stones.

**Safety Measures:**

see EC Safety Data Sheet

**Technical Data:**

1. Component A: colour: colourless – slightly yellow, milky  
density: ca. 1.17 g/cm<sup>3</sup>

Component B: colour: colourless – slightly yellow, milky  
density: ca. 1.13 g/cm<sup>3</sup>

2. Working time:

a) 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: 15 - 20 minutes
- at 40° C: 5 - 10 minutes

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b) at 20° C with varying amounts

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. The hardening process (Shore D hardness) of a 20 mm layer at 20° C

3 hours	4 hours	5 hours	6 hours	7 hours	8 hours	24 hours
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4. Mechanical properties

bending strength (DIN 53452):	60 - 70 N/mm <sup>2</sup>
tensile strength (DIN 53455):	30 - 40 N/mm <sup>2</sup>
modulus of elasticity:	2500 - 3000 N/mm <sup>2</sup>

5. 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

6. Shelf life: 1 year approx. if stored in cool place free from frost in its tightly closed original container.

**Notice:**

The above information is based on the latest stage of technical progress It is to be considered as a non-binding hint and does not release the user from a performance test, since application, processing and environmental influences are beyond our realm of control.

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