

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/cm³

Component B: colour: colourless – slightly yellow, milky
density: ca. 1.13 g/cm³

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 ²
tensile strength (DIN 53455):	30 - 40 N/mm ²
modulus of elasticity:	2500 - 3000 N/mm ²

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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