

Technical Data Sheet

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Properties:

AKEPOX® 5010 is a gel-like, solvent-free, two-component adhesive based on an epoxy resin containing a cycloaliphatic polyamine hardener. The product is characterized by the following properties:

- very neutral colour
- very low tendency to yellow
- easy dosing and mixing by use of cartridge system
- high creeping strength due to gel-like consistency
- very low shrinkage during the hardening process and therefore low tensions in the bonding layer
- weather-resistant bondings
- easy colouring with AKEPOX® Colouring Pastes or Colouring Concentrates
- good dimensional stability of the bonding layer
- low 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 adhesion on slightly humid stones
- suited for bonding materials which are sensitive to solvents (e.g. expanded polystyrene, ABS)

Application Area:

AKEPOX® 5010 is mainly used in the stone-working industry for the weather-resistant bonding and glueing of natural stone (marble, granite), Techno Ceramics 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 its supple, gel-like consistency the product has a high creeping 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 glueing of polyolefins (polyethylene, polypropylene), silicones, hydrocarbon fluorides (Teflon), soft PVC, soft polyurethane, butyl rubber and metal.

Instructions for Use:A. 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. 20 - 30 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.

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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 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. 20 - 30 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).
6. Tools can be cleaned with AKEMI® Nitro-Dilution.
7. 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.
- 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.
- Single Mix cartridges are not suitable for compressed-air guns or guns with mechanical pistons.
- 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 jellying.
- 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).
- 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 stone reacts better than carbonate-bound stone.

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| 1. Colour (A and B): | transparent CC 2200 |
| 2. Density (A and B): | approx. 1.16 g/cm ³ |
| 3. Working time: | |
| mixture of 100 g component A | at 10°C: 60 – 70 minutes |
| + 50 g of component B: | at 20°C: 20 – 30 minutes |
| | at 30°C: 10 – 15 minutes |
| | at 40°C: 5 – 10 minutes |
| 4. Mechanical properties: | |
| Bending strength DIN EN ISO 178: | 60 - 70 N/mm ² |
| Tensile strength DIN EN ISO 527: | 30 - 40 N/mm ² |

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5. 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%:	conditionally stable
Formic acid 10%:	conditionally stable
Petrol:	stable
Diesel oil:	stable
Lubricating oil:	stable

6. Hardening process (Shore D hardness) of a 2 mm layer at 20°C:

<u>4 h</u>	<u>5 h</u>	<u>6 h</u>	<u>7 h</u>	<u>8 h</u>	<u>24 h</u>	<u>7 d</u>
--	44	67	74	76	82	83

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.