Technical Data Sheet

Properties:

AKEPOX® 5010 is a gel-like, solvent-free, 2-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
- very good weather-resistant bondings
- good temperature stability: from -20°C up to 60 - 70°C for bondings exposed to weight, approx. 100 - 110°C for bondings not exposed to weight
- 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)
- when properly applied, the hardened product is classified as harmless to health for bondings of natural and artificial stone upon contact with food
- emission class A+ (confirmed by an external testing institute)

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 gluing 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%.

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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.

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 Thinner.
7. The hardening process is accelerated by heat and delayed by cold.

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.
- 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.
- Recycling in accordance with the guidelines of EU Decision 97/129 EC on the Packaging Directive 94/62/EC.

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Technical Data:

1. Colour (A and B): transparent CC 2200

2. Density (A and B): approx. 1.16 g/cm³

3. Working time:
   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

4. Mechanical properties:

Bending strength DIN EN ISO 178:	60 - 70 N/mm²
Tensile strength DIN EN ISO 527:	30 - 40 N/mm²

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:

4 h	5 h	6 h	7 h	8 h	24 h	7 d
--	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 trails of the product, in an inconspicuous area or fabrication of a sample piece.

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