

## Technical Instruction Sheet

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### Characteristics:

AKEPOX® 4050 coloured or phosphorescent is a gel-like, two-component solvent free adhesive, based on epoxy resins with a modified polyamine hardener. AKEPOX® 4050 Anti Slip Mix phosphorescent meets the requirements of DIN 67510 part 4 with respect to luminescence of 10 – 60 minutes. The product is characterised by the following properties:

- cartridge system provides easy dosing and mixing
- easy spreading because of it's smooth consistence
- can be applied without flute on the stone
- very little shrinkage during hardening
- very weather resistant
- very high stability in contact with alkalis and therefore very suitable for bondings with concrete
- non-slipping characteristic (R11) despite closed surface, enabling easy cleaning.
- good adhesion on mineral surfaces and highly non-abrasive
- no tendency towards crystallisation, therefore no problems with storage and good safety during processing
- Luminescence density of AKEPOX® 4050 Anti Slip Mix phosphorescent meets the minimum requirements according to DIN 67510 part 4
- classification according to the Berufsgenossenschaft der Bauwirtschaft (Accident Prevention and Insurance Association of the German Building Industry): **GISCODE: RE 01**

### Field of Application:

AKEPOX® 4050 Anti-Slip Mix creates a very non slipping surface in the form of a stripe, edge and/or ornament on mineral surfaces on natural stone (marble, lime stone, granite, concrete ashlar or ceramic tiles) on stairs in entrance areas that are exposed to water and/or sloping. AKEPOX® 4050 Anti-Slip Mix is suitable for silicate bounded natural stone (e.g. granite) indoor and outdoor, on limestone and marble only indoor. Due to luminescence properties the safety is increased in case of electrical power failure in areas which are artificially illuminated.

### Instructions for Use:

- without mixing nozzle: applicable as dosing tool
- with mixing nozzle: dosing and mixing tool all in one

1. Thoroughly clean the completely dry surface. Mark off the area to be bonded with AKEMI Adhesive Tape and thoroughly roughen the surface.
2. Remove the clasp from the cartridge. Insert the cartridge into the gun, working the grip until material emerges from both openings. Attach a mixing nozzle.
3. When using without mixing nozzle, thoroughly mix both components.
4. Apply a layer of the product at a thickness minimum 1mm and max. 2 mm. Remove excess material with a spatula flush to the adhesive tape. Remove the adhesive tape latest 10 minutes after application of the product.
5. The mixture remains workable for approx. 100-120 min (20°C/68°F). After approx. 3-5 hrs (20°C/68°F) the surfaces are dry but optimal curing takes 12-16 hrs (20°C/68°F). Foot traffic may be resumed after 8-10 hours. Maximum stability after 7 days.
6. Tools can be cleaned with AKEMI Nitro-Dilution
7. Warmth accelerates and cold retards the hardening process.
8. If stored in a cool place, approx. shelf life is at least 1 year.

**Special Hints:**

- The optimal mechanical and chemical properties can only be attained by adhering to the exact mixing proportions; excess adhesive (comp. A) or hardener (comp. B) has the effect of a plasticizer.
- For hand protection use AKEMI® Liquid Glove.
- The adhesive is no longer to be used if it has already thickened or is jellifying.
- The product is not to be used at temperatures under 15° C because it will then insufficiently harden.
- 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.
- Use only original AKEMI® mixing nozzle.
- Acid-containing products (e.g. Concrete Film Remover and Rust Remover) lighten the colour of the hardened Anti-Slip Mix layer. This particularly applies to the colour anthracite.
- Due to weathering of limestone in outdoor areas, a reduction of adhesion of the product is possible.
- Surfaces with a white film caused by the penetration of humidity during the hardening process can be cleaned with AKEMI® Cleaner I and a solvent resistant brush.
- The hardened product is resistant against petrol and diluted, inorganic acids.

**Technical Data:**

## 1. Component A + B:

Colours: anthracite, yellow, white, red-brown, beige, grey or phosphorescent

Density: ca. 1.92 g/cm<sup>3</sup>

## 2. Working time:

## a) a mixture of 100 g of component A + 50 g of component B

at 20° C: 100 - 120 minutes

at 30° C: 45 - 50 minutes

at 40° C: 20 - 25 minutes

## b) at 20° C with varying amounts

20 g of component A + 10 g of component B: 130 – 150 minutes

50 g of component A + 25 g of component B: 110 – 130 minutes

100 g of component A + 50 g of component B: 100 – 120 minutes

300 g of component A + 150 g of component B: 85 – 95 minutes

## 3. Theoretical coverage:

Breadth of stripes	height of stripes	running meter/cartridge
10 mm	1 mm	38 m
20 mm	1 mm	19 m
50 mm	1 mm	7.6 m
10 mm	2 mm	19 m
20 mm	2 mm	9.5 m
50 mm	2 mm	3.8 m

The theoretical coverage is reduced by refining losses and the use of mixing nozzles.

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

### Safety Measures:

- Both the reactive single components as well as the ready-for-use mixture can be corrosive and can cause irritation or sensitisation until it has hardened.
- Epoxy resins are potential allergens. They can cause skin allergies.

### Marking

- Resin components:
- Irritant; (Xi), dangerous for the environment (N)
  - Irritating to eyes and skin; (R36/38)
  - May cause sensitisation by skin contact (R43)
  - Toxic to aquatic organisms. May cause long-term adverse effects in the aquatic environment (R51/53)

- Hardener components:
- Corrosive; (C)
  - Harmful by inhalation, in contact with skin and if swallowed (R20/21/22)
  - Causes burns (R34)
  - May cause sensitisation by skin contact (R43)

- Direct contact with the skin must be avoided at all costs. This is why personal protective equipment is particularly important.
- When working with epoxy resins, protective gloves and safety goggles must be worn and skin protection and skin care products used.
- Recommended protective gloves (as per laboratory measurements carried out by the company KCL in accordance with EN 374)
  - Butoject ( KCL, item no. 897, 898)
  - Camatril ( KCL, item no. 730, 731, 732, 733)
  - Dermatril (KCL, item no. 740, 741, 742)
- Eye and face protection:
  - Safety goggles (danger of splashes)
  - Face shield when working overhead, when applied by spraying or crack injection
- Breathing protection:
  - The product should only be applied in well-ventilated areas.
  - Respirators: Type A2/P2
- Skin protection: (from the company Stockhausen)
  - Protection of uncovered parts of the body (face, neck area) without contact with epoxy resin products: ARRETIL
  - Preventive skin protection in combination with protective gloves: STOKO EMULSION
  - Skin cleansing after working: SLIG SPEZIAL
  - Skin care after working: STOKO VITAN
  - Do not use aggressive cleaning agents, abrasive agents or solvents
  - In the event of contamination, remove as quickly as possible with a clean cloth or paper towel, then wash with water and soap
- Preventive occupational health examinations
  - To be carried out before a person starts work with epoxy resins and is to be repeated at regular intervals
- Observation of general protection and hygiene measures
  - Avoid contact with the eyes and the skin
  - Do not eat, drink, smoke or take snuff whilst working

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- Use a skin protection ointment as a preventive measure
- Clean skin thoroughly after handling the product
- Remove soaked and soiled clothing immediately
- Do not inhale gases / vapours / aerosols
- Wear protective gloves when cleaning tools or use disposable tools
  
- First Aid
  - Eye contact:
    - Rinse for 15 minutes under running water
    - Then consult a doctor without fail
  - Skin contact:
    - Remove soaked clothing immediately
    - Wash affected parts with plenty of water and mild soap or take a shower
    - If larger areas of skin are affected or in the event of skin redening, irritation or itching, consult a doctor
  - Inhalation:
    - Fresh air and consult a doctor
  
- Please take heed of
  - The **danger notices and safety advice on the container** and the **safety data sheet**
  - The **practical guide for the handling of epoxy resins** issued by the Berufsgenossenschaft der Bauwirtschaft
  - The data sheet **BGR 227: Tätigkeiten mit Epoxidharzen** (“Handling epoxy resins”) issued by the Hauptverband der gewerblichen Berufsgenossenschaften (German Federation of Institutions for Statutory Accident Insurance and Prevention).

### Notice:

The above information is based on the latest stage of our 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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