

Conductive 2-Component Epoxy Adhesive

# UZIN KR 421 L

Conductive, flexible, epoxy-resin adhesive for heavy-duty floor coverings in interior and exterior locations

## Description:

Electrically conductive, black, 2-component epoxy adhesive for heavy wear, conductive floor coverings in interior and exterior locations.

Suitable for/on:

- ▶ conductive rubber tile flooring
- ▶ conductive PVC sheet and tile flooring
- ▶ conductive linoleum sheet and tile flooring
- ▶ level and non-absorbant substrates
- ▶ smooth and non-absorbent substrates, e.g. UZIN Insulation- and Instalation-Underlays or 2-Component PU Levelling Compound UZIN KR 410
- ▶ flexible substrates or those with deflection, e.g. resilient underlays, metals or wood
- ▶ extremely heavy wear in commercial and industrial locations, hospitals, sports- and heavy-load- areas, e.g. in operating theatres, computer rooms, laboratories, work-shops or in industrial areas where heavy mechanical loading is anticipated
- ▶ use under goods handling equipment with very heavy weight loading up to 50 kp/cm<sup>2</sup>
- ▶ warm water underfloor heating systems and for exposure to castor wheels in accordance with DIN EN 12 529
- ▶ wet-shampoo and spray-extraction cleaning systems
- ▶ not suitable for use on Conductive Priming Coat UZIN PE 260 L

## Product Properties / Benefits:

Paste-consistency, water-free, 2-component reaction resin adhesive with electrically conductive pigments and fibres. Produced by mixing Resin A and Hardener B and applied using normal notched trowels. UZIN KR 421 L is especially notable for its high strength, special flexibility and very high resistance to water, chemicals and alkalis. It prevents the build-up of electrical charge potential and minimises electro-static loading.

Conductive 2-Component Epoxy Adhesive UZIN KR 421 L is the problem-solver for all conductive (special) installations.



**Binders:** Polyamine cross-linked special epoxy resins with electrically conductive pigments and fibres.

- ▶ Relatively easy to spread
- ▶ Very high bond-strength
- ▶ Flexible and resilient
- ▶ Alkaline-resistant
- ▶ Very high dimensional stability
- ▶ Resistant to water, heat and cold
- ▶ Electrically conductive to DIN EN 14 259
- ▶ Low solvent content

## Technical Data:

Packaging:	metal combi-can
Packsize (A/B):	6 kg
Shelf life:	min. 12 months
Colour:	black
Hazard features:	see "Protection of the Workplace and Environment"
Mixing ratio:	A : B = 100 : 10.5 parts by weight
Consumption:	200 – 600 g / m <sup>2</sup> see "Consumption"
Working temperature:	min. 15 °C / 59 °F at floor level
Pot life:	approx. 45 minutes*
Working time:	10 – 60 minutes*
Load bearing / foot traffic:	after approx. 12 hours*
Final strength:	after 3 – 5 days*
Joint welding:	after 12 – 24 hours*
Conductivity to DIN EN 13 415:	< 3 x 10 <sup>5</sup> Ohms

\* At 20 °C / 68 °F and 65 % relative humidity.

## Substrate Preparation:

The substrate must be sound, level, dry, free from cracks, clean and free from materials that would impair adhesion. Test the substrate in accordance with applicable standards and notices and report any deficiencies. Thoroughly vacuum the surface and apply primer and smoothing compound. According to substrate, covering and occupational use, select suitable primer and levelling compound from the UZIN Product Guide. Use high-strength cement levelling compounds. Prepared deformable substrates, e.g. mastic asphalt, metals or underlays, as required with UZIN KR 410 and adhere the appropriate floor covering within 24 to 48 hours. For dense, smooth surfaces, degrease, abrade and, as necessary, prime. Refer to the Product Data Sheets for other products used.

## Conductive System:

The conductive system should be requested from the covering manufacturer and the following options are possible:

If the covering has a laterally conductive backing layer or if only antistatic performance is required, the installation can be with copper-strip tags. Otherwise, before the covering installation, a conductive system must be applied to the surface that will later be connected to earth by a qualified electrician.

With copper-strip tags: for every 30 m<sup>2</sup> of area, lay an approx. 1.5 m long tag of self-adhesive UZIN Conductive Copper-Strip to an earth connection point. The distance between each copper-strip tag must not exceed 7 metres.

With UZIN Conductive Copper-Strip: bond UZIN Conductive Copper-Strip to the surface centrally along each sheet width and from wall to wall. Connect the ends of the strips with cross-strips laid approx. 30 cm from the walls. For every 30 m<sup>2</sup> of area, leave a tag projecting for connection to earth.

## Application:

1. Before use, allow the containers to come to room temperature\*. Punch several times through the plastic plug and the floor of the upper container (Hardener B), e.g. with a long screwdriver. Allow the hardener to drain completely into the lower container (Resin A). Remove the empty upper container and thoroughly mix the components with suitable mixing equipment (UZIN basket or spiral mixing paddle or similar) for at least 2 minutes. Ensure best possible mixing, especially around the floor and walls of the container.
2. Apply the adhesive to the substrate with a suitable notched trowel and, according to application quantity, climatic conditions, substrate absorbency and type of covering, allow an open time. Lay in the covering, rub well down and, after approx. 2 hours, use a roller. Measure the adhesive quantity so that the backing of the covering is well covered but so that the covering is not "floating". Apply the adhesive quickly. Observe the pot-life and avoid pressure-marks.

3. Remove adhesive contamination whilst fresh with UZIN VE 124 or suitable hard wax. Hardened adhesive can only be removed by mechanical means.

## Consumption:

Backing Type	Notch Size	Consumption*
Smooth /sanded, e.g. Norament® with sanded backing	A2/A5	200 – 350 g /m <sup>2</sup>
Coarse /rough,, e.g. linoleum or carpet	B1/B2	400 – 600 g /m <sup>2</sup>

\* At 20 °C/68 °F and 65 % relative humidity on prepared surfaces and with acclimatised adhesive containers.

## Important Notes:

- ▶ Shelf life minimum 12 months in original packaging when stored in relatively cool conditions. Before use, allow adhesive to come to room temperature.
- ▶ Optimum working conditions are 18 – 25 °C/64 – 77 °F, floor temperature above 15 °C/59 °F and relative humidity below 75 %. Low temperatures and high humidity lengthen, whilst high temperatures and low humidity shorten the working-, setting- and drying- times.
- ▶ Inadequately mixed adhesive stays soft and has no strength; therefore, mix the acclimatised adhesive well for several minutes and do not use residues scraped out of the can.
- ▶ Before adhering, coverings must be adequately relaxed, acclimatised and matched to the normal climatic conditions expected during later use.
- ▶ When installing sheet rubber flooring, please obtain technical advice.
- ▶ Do not mix part quantities.
- ▶ Empty the mixed adhesive from the can and apply it as quickly as possible.
- ▶ UZIN KR 421 L can not be used on Conductive Priming Coat UZIN PE 260 L.
- ▶ The following standards and notices are applicable and especially recommended:
  - DIN 18 365 "Working with floor coverings"
  - Publication by the Adhesives Industry Association "Assessment and preparation of substrates – adhesion of resilient and textile floor coverings"
  - TKB publication "Assessment and preparation of substrates for floor covering and parquet installation" 06/2004
  - BEB publication "Assessment and preparation of substrates" 02/2002

## Protection of the Workplace and the Environment:

Low solvent content. Non flammable. Comp. A: Contains epoxy resin/Xi: "Irritant". Comp. B: Contains amine hardener/C: "Corrosive". Both components: May cause irritations or burns to eyes, skin or respiratory system. May cause sensitisation by skin contact. Use barrier cream, protective gloves and safety-goggles. After contact with skin, wash immediately with plenty of water and soap. In case of contact with eyes, rinse immediately with plenty of water and seek medical advice. In liquid form, "N – hazardous to the environment", therefore do not allow into drains, water courses or landfill. Observe safety information on product label as well as safety data sheet. Once cured, has a neutral odour and presents no physiological or ecological risk.

## Disposal:

Where possible, collect product residues and re-use. Do not empty into drains, sewers or ground. Empty, scraped and drip-free metal containers are recyclable. Liquid residues as well as containers with liquid residues are special waste, those with mixed and cured residues are Construction Waste. Therefore collect waste material mix both components and allow to harden, then dispose as Construction Waste.