PRODUCT DATA SHEET

Reinforcing brittle screeds!

2-component Epoxy Penetrating Primer

UZIN PE 425

Water-based EP primer concentrate to reinforce brittle, sagging mineral-based screeds

Applications:

Aqueous epoxy resin that deeply penetrates the substrate.

For the reinforcement of mineral-based screeds with inadequate strength, e.g. of cementitious calcium-sulphate or stone-wood screeds as well as absorbent concrete floors. Reinforcement of dilapidated screeds in renovation and for new screed shedding sand or screeds with inadequate strength. For screed impregnation for improved mechanical surface properties. For interior and exterior use.

Suitable for:

- reinforcement of unstable or porous old cementitious screeds
- reinforcement of cementitious screeds shedding sand
- reinforcement of screeds with insufficient strength
- impregnation of screeds
- subsequent levelling work in connection with UZIN PE 280 for the construction of ready for covering substrates, not to be used under wood flooring installed with 1-component reaction adhesives
- direct bonding of wood flooring with UZIN reactive resin adhesives after a minimum drying time of 24 hours
- normal wear in residential and commercial areas
- wear from chair castors according to DIN EN 12 529

The screed thickness is 40 mm, UZIN PE 425 penetrates the screed approx. 35 mm deep with dual application and reinforces it.

Binding agent: Water-dispersible amino-hardening epoxy resin.

- Deeply penetrating epoxy resin
- Excellent reinforcing effect
- Can be smoothed over in connection with UZIN PE 280
- Direct bonding with UZIN reactive resin adhesives
- Application diluted with water
- Diffusive
- GISCODE RE 1 / solvent-free
- EMICODE EC 1 R PLUS / very low emission

Technical Data:

Packaging:	Plastic combination pack with components A and B in plastic canisters
Packsizes (A + B):	6 kg (each 3 kg A + B)
Shelf life:	min. 12 months
Colour liquid / dry:	transparent / white
Hazard characteristics:	see "Occupational and environmental protection"
Mixing ratio:	A: B = 1: 1; Mix with same amount of water [1 kg A + 1 kg B + 2 kg (2 l) water]
Pot life:	45 minutes*
Curing / Drying time:	See "Application table"
Consumption:	1. coat: 50 – 200 g/m² (concentrate)* 2. coat: 50 – 150 g/m² (concentrate)*
Working temperature:	min. 10 °C at floor level
Final strength:	after 3 – 5 days*

* At 20 °C and 65 % relative humidity. Consumption values, see "Important notes".

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UZIN PE 425

Area of application:

The penetrating primer is used for reinforcement when the load-bearing capacity of the existing screed, either with renovation work or after new installations, is apparently reduced or shedding excess sand. In these cases the screed does not meet the standard requirements (DIN EN 13 813, DIN 18 560) and therefore can not be reworked according to the specifications for common installation materials.

The BEB Bulletin "Surface tensile strength and pull-off strength of floors" specifies values of the pull-off strength or surface tensile strength for different types of flooring coverings which are, based on experience, sufficient for the following floor covering work.

Surface pull-off strength chart:

Flooring type	Surface tensile strength
Textile floor covering	0,5 N/mm²
Textile floor covering in office areas	0,8 N/mm²
Resilient floor covering	0,8 N/mm²
Resilient floor covering in office areas	1,0 N/mm²
Wood flooring	1,0 N/mm²
Ceramic tiles, natural stone	0,5 N/mm²

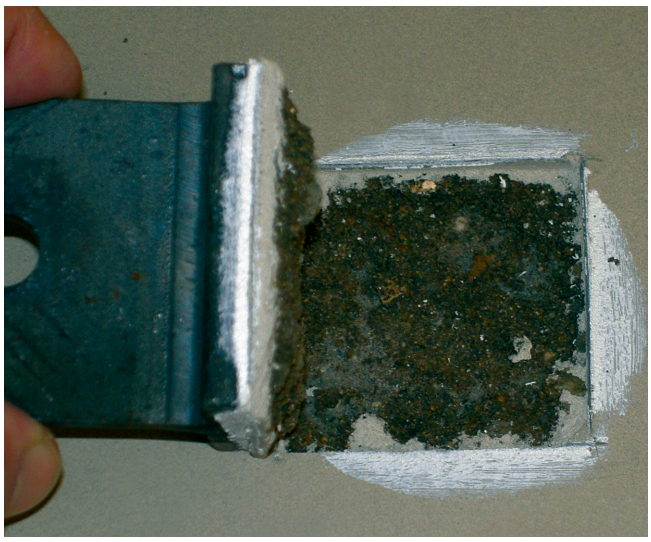
Because of its excellent penetration capability the penetrating primer is able to clearly reinforce the area of the screed cross-section relevant for the floor covering installation. Experiential values show that with screeds with very low strength the strength can be doubled by applying two coats of UZIN PE 425. The higher the strength of the present screed the lower the additional gain in strength by using the penetrating primer. It is not possible for each case to exactly predict the extent of strength gained by applying UZIN PE 425.

Before installing textile and resilient floor covering the reinforced and dried surface is primed thinly with UZIN PE 280 and levelled with a suitable UZIN levelling compound, e.g. UZIN NC 170 LevelStar, with a min. thickness of 2 mm.

Multi-ply wood flooring in standard formats (length up to max. 150 cm) can be bonded directly with resilient 1-component reactive resin adhesives such as UZIN MK 200, UZIN MK 100 or UZIN MK 95. Larger formats or solid wood flooring should be bonded using UZIN MK 92 S, possibly utilising UZIN Multimoll fleece.

Product benefits / features:

As water-based and extremely fluid emulsion the penetrating primer UTIN PE 425 can be generously applied to the mineral-based substrate and penetrate it deeply. This leads to the deep reinforcement of the entire top screed surface. The reinforcement effect of UZIN PE 425 is therefore far superior to customary film-forming epoxy resin primers. Brittle screeds, which would actually need to be removed, can be "salvaged" for the new build-up of floor constructions.



Pull-off strength test seal on reinforced and levelled cementitious screeds.

Substrate preparation:

The substrate must be dry, free from cracks, clean and free from materials (e.g. dirt, oil, grease), that would impair adhesion. Test the substrate in accordance with applicable standards and notices and report any deficiencies.

The substrate must be absorbent and porous at any rate. Adhesion-reducing and weak layers, e.g. release agents, adhesives, levelling compounds, residues of floor covering, paint, cleaning agents or varnishes must be removed, for example, by rigorous sanding with hard metal sanding attachments. Old layers such as adhesive residues must always be removed completely. The surface must subsequently be cleaned with a powerful industrial vacuum cleaner.

Application:

1. Allow both containers for components A + B to reach room temperature before use and shake well.
   Now pour the contents of A and B (same weight or volume parts) together into a clean oval bucket; with partial amounts use the same parts of A + B measuring them with a measuring cup. Slowly mix the components with suitable mixing equipment (spiral or propeller mixer). Stir for approx. 2 minutes (1). Now slowly add the same amount of water corresponding to the combined components A + B and mix for approx. 2 minutes (2, 3). Pour the mixed material into an oval bucket (refill) and briefly mix once more. This increases homogeneity.
2. Immediately apply the primer with the UZIN nylon plush roller uniformly onto the substrate until saturated (4). Saturation can be recognised by slight foaming on the surface of the screed; avoid pooling. Possible excess material needs to be levelled during the penetration phase or spread uniformly. If necessary, this can be done quickly and economically using a monodisc machine with pad or brush.
3. The mixed material must have been processed completely within the pot time of 45 minutes. The second coat can be applied immediately after ready for foot traffic but no later than within 1 – 2 hours after the initial coat.
4. Clean the tools immediately after use with plenty of water, observing the recommended occupational protection measures. The application roller used is not washable and can only be used once. Always wear the recommended protective equipment during processing; (amongst others) use suitable nitrile protective gloves as outlined in the safety data sheet, item 8.

Application table:

With UZIN PE 425 substrates are usually reinforced with 2 coats. In some cases a single coat may be sufficient. The working method then differs as can be seen in the following tables:

2 coats of UZIN PE 425, followed by levelling (normal application):

	Dilution	Consumption (concentrate amount)*	Drying time until next work step*
UZIN PE 425 1. coat:	1 kg A + 1 kg B + 2 l water	50 – 200 g/m²	max. 1 – 2 hours
UZIN PE 425 2. coat:	1 kg A + 1 kg B + 2 l water	50 – 150 g/m²	min. 12 hours max. 48 hours
UZIN PE 280	undiluted	80 – 120 g/m²	approx. 45 min.

* At 20 °C and 65 % relative humidity. The consumption depends largely on the roughness and absorbency of the substrate, see "Important notes".

2 coats of UZIN PE 425 in DPM system for calcium sulphate screeds up to 95 % RH:

	Dilution	Consumption (concentrate amount)*	Drying time until next work step*
UZIN PE 425 1. coat:	1 kg A + 1 kg B + 2 l water	50 – 200 g/m²	max. 1 – 2 hours
UZIN PE 425 2. coat:	1 kg A + 1 kg B + 2 l water	50 – 200 g/m²	min. 12 hours max. 48 hours
Once dry ensure 2 coats of resin based DPM are then applied such as UZIN PE 404, UZIN PE 460 or UZIN PE 480. Also see important notes.			

* At 20 °C and 65 % relative humidity. The consumption depends largely on the roughness and absorbency of the substrate, see "Important notes".

Apply 2 Layers of UZIN PE 425 then directly install wood flooring with reaction resin adhesives:

	Dilution	Consumption (concentrate amount)*	Drying time until next work step*
UZIN PE 425 1. coat:	1 kg A + 1 kg B + 2 l water	50 – 200 g/m²	max. 1 – 2 hours
UZIN PE 425 2. coat:	1 kg A + 1 kg B + 2 l water	50 – 200 g/m²	min. 24 hours

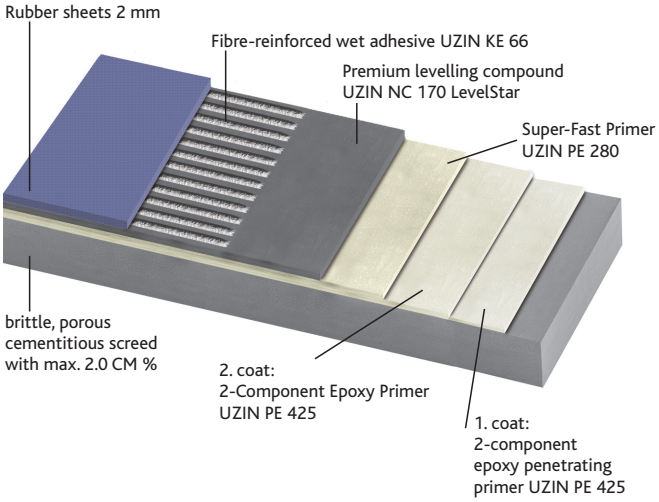
* At 20 °C and 65 % relative humidity. The consumption depends largely on the roughness and absorbency of the substrate, see "Important notes".

1 coat of UZIN PE 425, followed by levelling:

	Dilution	Consumption (concentrate amount)*	Drying time until next work step*
UZIN PE 425 1. coat:	1 kg A + 1 kg B + 2 l water	50 – 200 g/m²	min. 12 hours max. 48 hours
UZIN PE 280	undiluted	80 – 120 g/m²	approx. 45 min.

* At 20 °C and 65 % relative humidity. The consumption depends largely on the roughness and absorbency of the substrate, see "Important notes".

Application sample:



Important notes:

- Original packs can be stored at least 12 month at cool and frost-free locations.
- Optimum processing at 15 – 20 °C and relative humidity below 65 %. Low temperatures and high humidity delay and high temperatures and low humidity accelerate the drying and accordingly, the setting time for the subsequent coats. Store cool in summer and use cold water.
- With impregnation work a trial surface should be used to check whether UZIN PE 425 can penetrate the substrate sufficiently; the concentrate mixed with water should be noticeably absorbed within a few minutes. No film should form on the surface after processing.
- When using UZIN PE 425 within the DPM system, it is important to ensure that prior to the application of the UZIN PE 425; the surface of the calcium sulphate has been full ground to remove all materials that may be deleterious to the performance of the UZIN PE 425. This always entails grinding down to where the coarse aggregate of the calcium sulphate screed is fully exposed. This will allow the UZIN PE 425 to penetrate into the calcium sulphate developing a full "matrix" of sealed and supported material. If there is any doubt or confusion, you must contact your UZIN technical representative for a site inspection prior to the application of any UZIN materials.
- If the substrate requires reinforcement then the substrate must be dry.
- Excessive substrate moisture above 95 % RH and inadequate ventilation during the setting process or excessive application amounts cause a milky-white non-setting binding agent film and should therefore be avoided.
- The consumption largely depends on the roughness, structure and absorbency of the substrate. The consumption amount listed as approximate value can therefore not be guaranteed and may clearly differ from case to case. We suggest in such cases to create trial surfaces.
- Respect minimum drying time of 24 h before the installation of wood flooring onto UZN PE 425 with reaction resin adhesive.
- The following apply as well, amongst others, or are recommended for special consideration:
  - DIN 18 365 "Working with floor coverings"
  - DIN 18 356 "Working with wood flooring and wood-blocks"
  - TKB Bulletin "Assessment and preparation of substrates for floor covering and wood flooring work"
  - BEB Bulletin "Assessment and preparation of substrates"
  - BEB Bulletin "Surface tensile strength and pull-off strength of floor coverings"

Protection of the Workplace and the Environment:

Solvent-free. Non flammable. Comp. A: Contains epoxy resin: Irritant. May cause sensitisation by skin contact. Comp. B: Contains amine hardener: Harmful. Harmful if swallowed.. Both components: May cause irritations to eyes and skin. 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. Wear suitable protective gloves and safety-goggles. 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. Does not contaminate the indoor air quality with either formaldehyde or other volatile compounds. EMICODE EC 1 R PLUS – very low emission.

INQA – Rating system for epoxy resin products:

Recommended for safe use by "INQA – Initiative New Quality of Work" (www.inqa.de).

Disposal:

Where possible, collect product residues and re-use. Do not empty into drains, sewers or ground. Empty, scraped and drip-free plastic 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.

The above information is based on our experience and careful investigations. The variety of associated materials and different construction and working conditions cannot be individually checked or influenced by us. The quality of your work depends, therefore, on your own professional judgement and product usage. If in doubt, conduct a small test or obtain technical advice. Observe the installation recommendations of the covering manufacturer. The publication of this Product Data Sheet invalidates all previous Product Information. The respective updated version of this datasheet can be found on our Homepage under www.uzin.com.