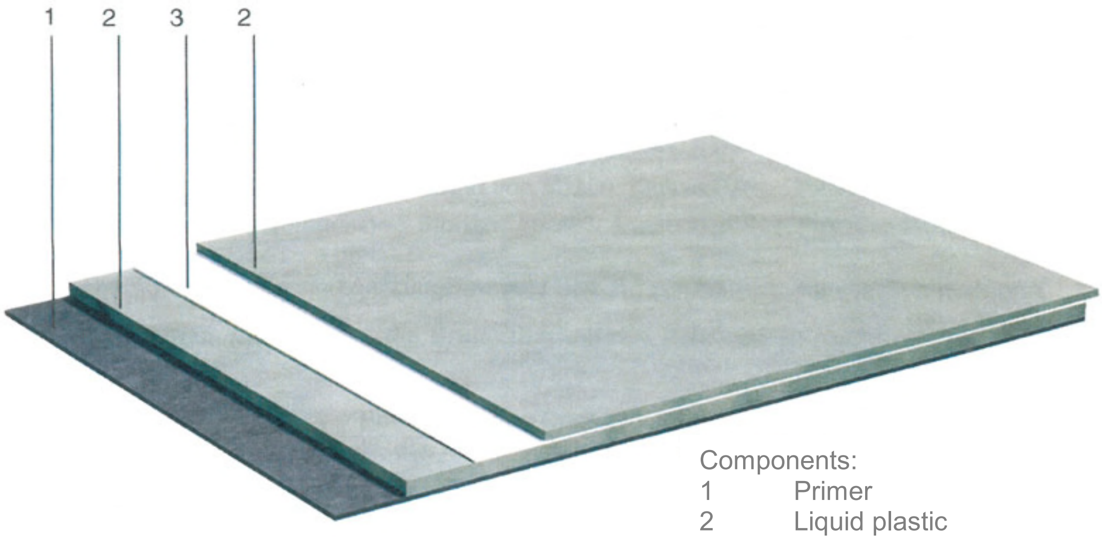
Application instructions for waterproofing with Enkopur®

System configuration of the roof sealant Enkopur



Components:

1	Primer
2	Liquid plastic
3	Polyflex fleece insert

Summary of workflow:

1. Cleaning and drying of the substrate
2. Application of primer, depending on the condition of the substrate
3. Connection work on rising structural components using **Enkopur**/Polyflex fleece/ **Enkopur**
4. Application of the fleece-embedding layer of **Enkopur** to the entire surface
5. Roll ENKE Polyflex fleece into the **Enkopur**, leaving no creases or cavities
6. Apply **Enkopur** topcoat fresh on fresh

ENKE-WERK Johannes Enke GmbH & Co. KG, Hamburger Str. 16, 40221 Düsseldorf, Germany
Entered in the commercial register of Düsseldorf under HR A 4683

Produziert Qualität seit 1924

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General conditions
Preliminary information

The surfaces to be waterproofed must be clean, dry and free from oil and grease. Completely remove flaking, loose or crumbly parts and, if necessary, any remnants of old paint, etc. prior to waterproofing with **Enkopur**.
This also applies to any cement slurry that may exist on concrete or cement screed. Grind tile flooring to a matte finish.

According to VOB (*Vergabe- und Vertragsordnung für Bauleistungen* – German regulations for contracts and execution of construction works) the user is responsible for determining that the substrate is of a suitable quality. Before starting the waterproofing work he has to personally verify that the quality of the substrate is suitable for coating.

Pretreat substrates of freshly hardened concrete or cement screed with two layers of universal primer 933 (allow first layer of primer 933 to dry before applying second) because **Enkopur** is sensitive to alkalis.
With older concrete surfaces a single application of primer 933 will usually be sufficient unless the substrate is dusting or porous.
Alternatively, the Universal Primer 2K can also be used.

Concrete or cement screed can be waterproofed no earlier than 28 days after hardening.

Enkopur can also be applied to roofs with no pitch, where stagnant water can therefore be expected (e.g. fluctuating level zones, gutter areas, flat roofs with zero pitch, etc.).

Enkopur forms a skin very fast, depending on the temperature and humidity, so that rainfastness is ensured within a short time. Even drizzle falling on freshly applied **Enkopur** will not cause any problems. Please consult our application engineering department before waterproofing particularly difficult areas (e.g. joints).

Very important: In spite of the excellent application reliability of **Enkopur** , even in less than optimum weather conditions, it is imperative to ensure that the surface to be waterproofed is completely dry. **Enkopur** should, if possible, be applied at temperatures ranging from + 5°C to + 30°C.

Do not attempt to waterproof mineral substrates, such as screed, mastic asphalt or concrete, where residual moisture in the substrate is still to be expected, while surface temperatures are rapidly rising or very high.

Tip!

Stable or falling temperatures present optimal conditions for the application of **Enkopur**.
When waterproofing balconies, terraces, etc., please note in particular that the **Enkopur** sealing will not tolerate permanent mechanical stress, as it can occur on balconies e.g. through tables, chairs and frequent footfall. It is therefore necessary to apply an additional wear-resistant top layer (e.g. **Enketop**) on the **Enkopur**.
Furthermore please note that **Enkopur** cannot be tiled because the **Enkopur** sealing is not sufficiently alkali-stable (cement-based tile adhesives!).

Enkopur must not be diluted under any circumstances.

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Pretreatment of air bubbles, break-outs and holes

Chip off air bubbles using a spade or shovel. These defects can be sealed by filling them with **Enkopur** and applying and pressing into place a suitable piece of Enke Polyflex fleece.
Level deep cavities with a filler produced on site by homogeneously mixing **Enkopur** and dry quartz sand to ensure a flush surface.

Cleaning of the substrate

Remove any contaminants and loose surface material all the way down to the solid and stable substrate, e.g. by grinding.
Should this not be possible on site, performing a compatibility test and/or an adhesion test is obligatory.
Mechanically remove any possibly existing saturation with foreign substances, such as oils or chemicals, all the way down to the non-saturated zone.

The surface to be waterproofed must be **dry**. Otherwise the moisture-related reaction can lead to adhesion problems.
Old flooring or coats of paint that may still exist should be completely removed to be on the safe side because they are usually affected by the primer.
Old tile flooring can be coated, but it must still be firmly fixed to the substrate, and there should be no cavities. Prior to waterproofing grind the tile surface to a matte finish. Enke cannot be held responsible for tile flooring becoming detached from the substrate after completion of waterproofing.
Use Enke glass primer for glazed ceramic tile flooring.

A surface prepared in such a way as to render it suitable for waterproofing is clean, dry, stable, finely rough and free from grease, oil or any other adhesion-inhibiting substances.

Adhesion test

Before starting remedial measures on unknown or critical substrates, perform an adhesion test using an Enke primer (see the next section on how to choose the right primer). For this purpose apply the respective primer to a clean, dry spot of the substrate. After it has dried, apply **Enkopur** with a Polyflex fleece insert (allow approx. 10 cm of the fleece insert to protrude). After a hardening time of 3–4 days (possibly longer at temperatures below + 10°C) test and evaluate the adhesive strength by manual stripping.

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Primers

Enkopur sealant generally requires a primer irrespective of whether it is applied to new or weathered substrates. The following primers are available for this purpose:

Universal primer 933

This primer dries very quickly due to its material properties and can be used for nearly all structural substrates: mineral substrates (concrete, cement screed, masonry, plaster, natural stone) can be primed as easily as bitumen sheeting, metal surfaces, reinforced wood composite materials and many plastic elements or plastic roofing felt (PVC, polyester, EVA – contact us if in doubt).

Make sure that components made of metals or reinforced wood composite materials in particular, possibly even plastic elements are not painted because universal primer 933 will partially dissolve and/or swell most paint layers. Therefore any paint layers have to be removed mechanically beforehand.

Consumption: 100–200 g/m²

Drying time: approx. 30–60 minutes (possibly faster, depending on the weather)

Universal Primer 2K

This two-component primer can be used for nearly all structural substrates: Mineral substrates (concrete, cement screed, masonry, plaster, natural stone) can be primed as easily as bitumen sheeting, metal surfaces, reinforced wood composite materials, glass, glazed ceramic tiles and many plastic elements or plastic roofing felt that is difficult to coat (plasticised PVC, polyester, EVA, FPO, EPDM – contact us if in doubt).

Universal Primer 2K consists of a resin solution (component A) and a hardener (component B). The mixture of the two components remains ready to use for several weeks.

Consumption: approx. 100–200 g/m²

Drying time: approx. 15–60 minutes

P-O primer

This primer is designed specifically for polyolefin surfaces and can be used for many types of polyolefin plastic sheeting (e.g. of FPO, EPDM, PIB). Adhesion tables can be obtained from our plant.

A prior adhesion test is mandatory in the event of polyolefin sheeting not listed in our adhesion table or of unknown origin or composition. For surface adhesion information tables please refer to www.enke-werk.de. Alternatively obtain them directly from us.

P-O primer is suitable only for polyolefins. Therefore use an appropriate primer at transitions between different types of materials (usually primer 933).

Consumption: 50–100 g/m²

Drying time: approx. 30–60 minutes (possibly faster, depending on the weather)

Enke glass primer

This primer is a rapidly drying adhesion promoter for glass and tiling. **Enke glass primer is suitable only for glass or glazed ceramic tiling.** Use an appropriate primer in the transition area to other materials.

Nevertheless, we recommend grinding tile flooring to a matte finish beforehand.

Consumption: approx. 50 g/m²

Drying time: approx. 30–60 minutes (possibly faster, depending on the weather)

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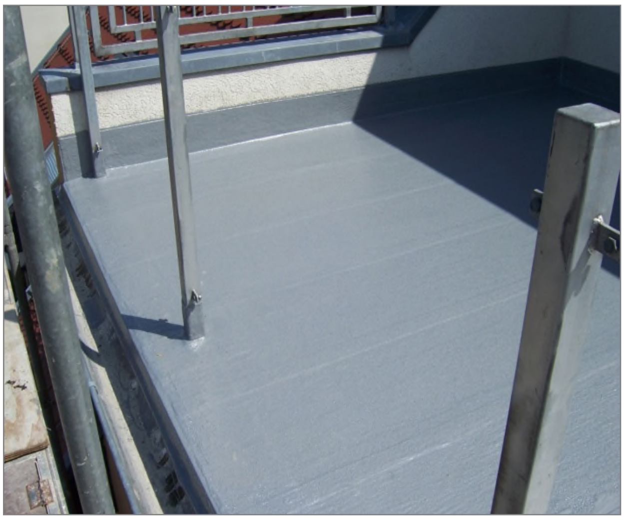
Treatment of connections

Always use Enke Polyflex fleece for any work on connections, such as wall connections, posts or any other rising structural components.

In these cases apply **Enkopur** using a small roller, then unroll the Polyflex fleece onto the **Enkopur**, leaving no cavities or creases. Subsequently coat the fleece generously with **Enkopur**. To cover a wall connection area, using 30 cm wide Polyflex fleece strips, you will need approx. 1.0 kg of **Enkopur** per metre.

When working on corner connections, first cover the corners of the water-draining layer with **Enkopur** and a small strip of fleece (the fleece is easy to stretch a bit for this purpose, so that the corner area can be sealed without cavities). Subsequently make a slit in a suitable piece of fleece of the water-draining layer and then feed it, overlapping at the edges but without creases, around the corner. **Our prefabricated fleece corners make sealing corner areas particularly simple and quick.**

For curves and/or tubular penetrations dilate and adjust the fleece according to the diameter and as a second step fit it around the curve as a collar, overlapping the vertical edges. Cover the cuts in the water-draining layer with a fleece strip cut to size. **Here also, you benefit from using our fleece collars.**



In subsequent repairs or in the event of protruding fleece edges or creased overlaps cut away the protruding parts and cover the repaired areas with fleece and **Enkopur**, leaving no creases.

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Application instructions for waterproofing with Enkopur®

Waterproofing

Always unroll the ENKE Polyflex fleece onto the **Enkopur** without air bubbles or creases. To this effect, depending on the evenness and condition of the substrate, pre-distribute at least 2.0 kg/m² of **Enkopur** with a lambskin roller. Immediately afterwards unroll the ENKE Polyflex fleece onto the **Enkopur**, then carefully press the Polyflex fleece into place using the roller. As the work continues, overlap the fleece mats by at least 5 cm at the seams and joints. To be on the safe side, the overlaps should not run contrary to the flow direction of the rainwater.
The fleece-embedding layer of **Enkopur** must not be too thin (this goes particularly for the overlap areas) to avoid potential adhesion problems in the future caused by the absorbency of the fleece insert. We recommend at least 2.0 kg/m² of **Enkopur** for the fleece-embedding layer.
Apply the **Enkopur** topcoat fresh on fresh in order to avoid the fleece layer later becoming moistened by rain or a heavy accumulation of dew.
Make sure that the fleece is evenly coated with **Enkopur**. There must be no exposed fleece seams, exposed fleece or cavities. Topcoat consumption: at least 1.0 kg/m².

As a general rule, do not apply **Enkopur** too far (max. 1.5 cm) beyond the edge of the fleece mat. It suffices to completely embed the edge regions of the fleece mats in liquid plastic. The unnecessary application without fleece insert carries the risk of the very thin layer curling up and detaching in the event of the slightest external influences.
An application without fleece insert is no sealing but just a coat of paint.

In the event of uneven, undulated or heavily structured substrates or at low temperatures the total consumption of **Enkopur** may possibly even exceed 3.0 kg/m².

Waterproofing of balconies, terraces and exterior corridors

When waterproofing balconies, terraces, etc., please note in particular that the **Enkopur** sealing cannot withstand permanent mechanical stress, as it may occur on balconies e.g. through tables, chairs and frequent footfall. It is therefore necessary to apply an additional wear-resistant layer on the **Enkopur** sealing, e.g. Enketop, Enkefloor floorboards, slabbing on a bed of gravel or chippings or a precious wood covering.

Old tile flooring can be permanently waterproofed using **Enkopur** and Polyflex fleece. To this end, we recommend pretreating the tile flooring with the appropriate primer.
An **Enkopur** sealing must not be tiled without appropriate additional measures because the **Enkopur** sealing is not sufficiently alkali-stable (cement-based tile adhesives).
If an **Enkopur** sealing that has already been applied is to be tiled later, it therefore requires an additional alkali barrier layer (2K primer and quartz sand).
For more details please refer to our technical documentation on balcony and terrace renovations.

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Notes on disposal

As soon as you have finished using the product, empty the packing drums completely to allow proper disposal, ensuring they are scraped out and drip-free. Tin containers emptied of residue can be recycled using appropriate steel recycling channels. As a certified user of the German recycling logo ENKE can provide a list of collection points, or go to the website: **www.kbs-recycling.de**

The user shall dispose of non-hardened adhesive materials and larger amounts of product residues in tin containers at his costs as this is special waste.

Health and safety at work

Ensure personal health and safety at work. Please also refer to our safety data sheets.

All information in this publication is based on our current technical knowledge and our experience and is intended as general guidelines only. The variety of possible influences on application and use do not exempt users from familiarising themselves with the correct use of our products by carrying out their own tests and trials. Be sure to consult our factory before carrying out restorations on unfamiliar or unusual substrates. Since a proper, professional use of our products is beyond the scope of control of the manufacturer, our warranty covers only the condition of the material. All and any damage due to improper application, incorrect choice of material or inadequate substrate preparation is excluded from our warranty. This document does not represent a legally binding assurance of certain characteristics or suitability for a specified purpose. The user is responsible for protecting the rights of third parties and complying with all current legislation and regulations. Any oral comments made by our employees which contradict the content of the present application instructions shall be invalid unless expressly confirmed in writing by ENKE-WERK. Non-compliance with these conditions shall render the material warranty void.

Without prior consultation with our factory the user is responsible for any application beyond the scope of the recommendations contained in these application instructions. Any damage resulting from such applications shall be excluded from our warranty.

These application instructions supersede all previous versions.

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