



KEMPER SYSTEM

A KEMCO Company

Kemperol 1K-PUR

APPLICATION INSTRUCTIONS

The professional waterproofing solution for flat roof and balcony repairs



Instructions for use

Kemperol 1K-PUR is a polyurethane-based, cold liquid-applied waterproofing system that can be applied onto a wide range of existing substrates. Ready to use 'straight from the can' it gives a professional repair that's exceptionally durable and long-lasting. A complete waterproofing system comprising surface primer, reinforcement fleece, polyurethane resin and application tools it offers the same performance as 2 or 3-component systems that normally require specialist training and application.

With a long 'open' pot life and no mixing required it is ideal for small repairs, those involving protrusions or penetrations and where access is restricted or difficult. It is a remarkably versatile system that can be applied over a wide range of different substrates.

- Applied straight from the can, no mixing or measuring.
- Exceptionally strong, seamless membrane
- Permanently bonds to wide range of substrates
- Elastic - easily withstands movement and expansion.
- Fully reinforced - excellent tear-resistance and durability
- Weather resistant after just 30 minutes
- Suitable for maintenance foot traffic
- Optional wearing course for regular foot traffic.
- Fully tested and certificated (ETA-03/0043)

Substrate preparation

Important.

Before applying roof coatings ensure that surfaces to be coated are firmly fixed, dry, smooth and free from any contaminants that could prevent or reduce adhesion. Use approved detergents for more effective washing and to remove oil and grease. Organic growth can be treated using an approved fungicidal wash. Application to a rough surface will increase consumption. Generally any holes greater than 2mm should be filled.

Brickwork and Stonework: Fill mortar joints level. Mechanical abrasion or grinding of the surface of smooth-faced engineering bricks will improve adhesion. **Concrete/Screened/Polymer modified Cement:** New cement based surfaces should be fully cured and over 28 days old. Surfaces should be dry, with a moisture content of less than 5% and free from friable material or laitance (surface particles). **Fibreglass:** Surfaces to be coated should be firmly fixed, clean and dry. Degrease surface with a suitable detergent or Kemperol MEK cleaner. **Wood Panels, Plywood, Chipboard, OSB:** During installation allow suitable gaps between boards to allow for expansion/contraction. Refer and fix to manufacturer's recommendations. Joints in sheets should be taped with 50mm reinforced, self-adhesive tape to prevent loss of resin between the boards. Use a partition layer over wood panels. All areas should be swept to remove dust and debris, which could cause the system to de-bond. Any damaged boards should be replaced. **Lead:** Wipe clean with Kemperol MEK Universal Cleaner. Existing lead flashing should be pinned back and secured prior to the application of the Kemperol system. **Weathered Asphalt:** Any steel angles and bolts should be wire brushed to remove any loose material and degreased with Kemperol MEK Universal Cleaner. Where applicable remove

chippings. Asphalt should be checked for security, and any defective areas repaired. Any blisters or defects in the existing waterproofing should be cut out and filled as above to give a sound supporting substrate. **Bituminous Sheet:** (Types: Sanded, Granulated, Polymer modified (APP, SBS), Metal faced:) Cut back to base badly cracked and defective areas of felt as required, star cut blisters, dry out and re-bond. Check integrity of upstands and cut back or repair. Any steel angles and bolts should be wire brushed to remove any loose material and wiped with a cloth impregnated with Kemperol MEK Cleaning Agent. Removes loose chipping where applicable. **Metal:** (Types: Zinc, Copper, Galvanised steel, steel, special steel (V2A, V4A) Remove rust. Improved adhesion may be achieved by lightly abrading the surface before degreasing with Kemperol MEK Universal Cleaner, by wire brushing or otherwise and then cleaned with Kemperol MEK Universal Cleaner. Remove and replace structurally unsound sheets.

Void Filling.

When filling voids greater than 2mm use an approved repair mortar. Alternatively use Kemperdur dried silica sand or Kemperol fine Quartz sand mixed with the Kemperol Primer to form a repair mortar to give a continuous surface. Ratio of primer to sand is typically 1:3 by volume for a horizontal substrate or 1: 9 on the vertical. The voids should be treated with Kemperol Primer immediately before filling with the above. Any repairs above 15mm thickness should be built up in layers. Investigate structural defects or cracks in the substrate before applying the waterproofing system.

For other substrates refer to Kemper system website or contact Kemper System technical department for advice Tel 01925 445532.

Masking off.

Protect adjacent areas using masking tape, for protrusions and upstands (i.e. parapets) a 150mm upstand should be used. Upstands should be applied before horizontal areas. Use masking tape to achieve a clean edge or border.

Substrate priming

Kemperol R-Primer: Mix to a uniform consistency for 2 minutes. Apply by brush or perlon roller to seal the surface of the substrate. The working time is approximately 6 minutes @ 23°C (following mixing). Coverage is typically 10m² per 3kg kit depending on substrate porosity and roughness. **Curing:** Rainproof after 2 hours @ 23°C. Drying time and overcoating time is typically 2-3 hours. Allow the primer to dry thoroughly before overcoating. Maximum overcoating time is 8 days. If left longer then the substrate should be re-primed.

Kemperol D-Primer: Mix to a uniform consistency for 2 minutes. Apply by brush or perlon roller to seal the surface of the substrate. The working time is approximately 25 minutes @ 23°C (following mixing). Coverage is typically 10m² per 3kg kit depending on substrate porosity and roughness. **Curing:** Rainproof after 3 hours @ 23°C. Drying time and overcoating time is typically 12 hours. Allow the primer to dry thoroughly before overcoating. Maximum overcoating time is 8 days. If left longer then the substrate should be re-primed.

Special Instructions: Application conditions: air temperature ≥5°C and Substrate is minimum +3°C above the dew point. Working and curing times depend on ambient conditions.

Application of waterproofing

Important: Application to verticals and details should be carried out before application to horizontal surfaces.

When waterproofing details, cut the fleece to size before commencing with any resin application (please refer to standard details overleaf).

The waterproofing resin should be applied such that the reinforcement fleece is fully saturated without air bubbles. For small pieces of fleece these can be dipped in the resin tin before application to the surface and securing with a roller or paint brush. Alternatively apply the resin liberally to the substrate and lay the fleece over the top. Press lightly with a paint brush or perlon roller until the fleece changes colour and air or excess resin has been expelled. Once achieved, immediately apply a further coat on top to ensure the fleece is fully saturated (i.e. wet on wet process). It is not necessary to apply resin to the point where the fleece cannot be seen, so long as full saturation has been achieved.

Generally for long vertical or horizontal runs direct from the roll, pour the resin onto the substrate (or roller onto verticals) to a length of 1m to 2m. Roughly 2/3 of the required Kemperol resin should be applied to the primed substrate prior to embedding the Kemperol AP fleece. When this has changed colour by rolling or brushing from above, the remaining 1/3 of resin is applied to the surface and lightly rolled to remove excess material. **Important:** Adjacent runs of fleece reinforcement must be overlapped a minimum of 50mm.

As a guide the typical resin usage is 3.0kg/m² (or 5m² per 15kg tin) when used with a Kemperol AP fleece. At this coverage the texture of the fleece will still be visible.

Typically the system is shower proof in 30 minutes, can take foot traffic after 16 hours, and is fully cured after 3 days depending on ambient conditions.

Kemperol 1K-PUR can be thinned down using Kemperol 1K-PUR thinner to aid application. However this will increase the cure time.

Example: Materials needed to waterproof 100m²

Kemperol D-Primer coverage 300g/m² = 30kg or 6 x 5kg
 Kemperol 1K-PUR Resin coverage 3.0kg/m² = 300kg or 20 x 15kg
 Kemperol 1K-Thinner usage typically 1/3 of a bottle per 15kg unit of 1K-PUR
 Kemperol Fleece 50m roll of 105cm wide AP fleece will cover approximately 50m²
 Therefore use 2 rolls of 105cm wide fleece or a combination to suit the project e.g. 1 roll of 105cm, 1 roll of 70cm and 1 roll of 52.5cm.

Additional Information available

Kemperol 1K-PUR Technical Information Sheet.
 Kemperol 1K-PUR MPEG video available on CD.
 Material Safety Data Sheets: www.kempersystem.co.uk

Refer to Kemper System Technical department with any queries and particular advice on overcoating existing coatings.

Contact Details:

Technical: 01925 445532

email: technical@kempersystem.co.uk

www.kempersystem.co.uk

Health and Safety

- Always refer to the material safety data sheets.
- Use personal protective equipment including suitable gloves and overalls to prevent skin contact.
- Keep away from sources of ignition.
- If product comes into contact with skin, wipe off immediately. If product comes into contact with eyes seek medical attention.
- Only use in well ventilated areas.

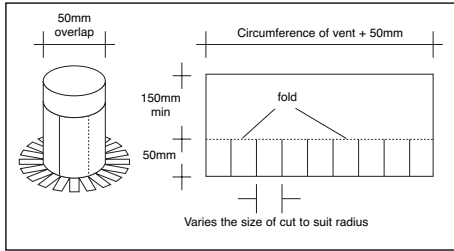
For more detailed advice concerning health and safety instructions please refer to the Material Safety Data Sheets on our website (www.kempersystem.co.uk) or contact our technical services dept (Details above)

DISCLAIMER. The technical information contained herein reflects the current level of knowledge and experience with our products. In each case, the new edition supersedes the previous technical information and renders it invalid. It is therefore necessary that you always have to hand the current code of practice. When using our products, a detailed, object-related and qualified inspection is required in each individual case in order to determine whether the product and / or application technology in question meets the specific requirements and purposes. We are liable only for our products being free from faults - correct application of our products therefore falls entirely within your scope of liability and responsibility. Our products are sold exclusively on the basis of our conditions of sale and delivery.

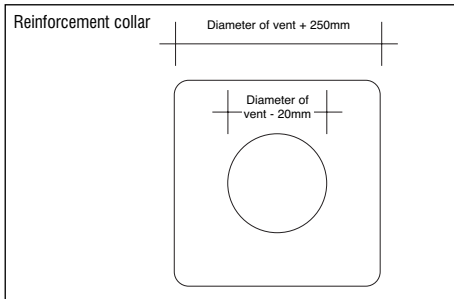
Standard details

Guide to 1K-PUR application

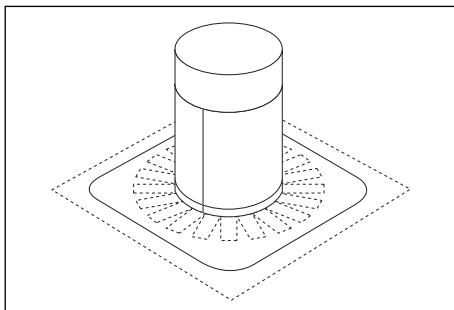
1 Pipe penetration



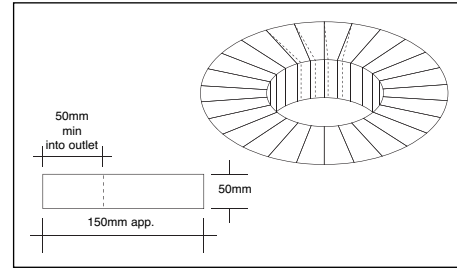
- Cut first piece of fleece to size, ensuring a minimum 150mm upstand height, and 50mm minimum overlap around the circumference of the vent pipe.
- Mask the top of the pipe to ensure a neat appearance before applying the Kemperol resin to the pipe and the deck.
- Place the fleece collar with each "tail" at right angles to the vent. Roll or brush to remove air, and to bring through the resin from below until the fleece changes colour. Make sure there is adequate Kemperol resin between the fleece layers at the overlaps.
- Apply more Kemperol resin to the deck and slide the second piece of fleece (reinforcement collar) over and down the vent. The fleece will stretch to form an upstand collar and double reinforcement at the deck/vent junction. Roll or brush to bring through the resin from below.



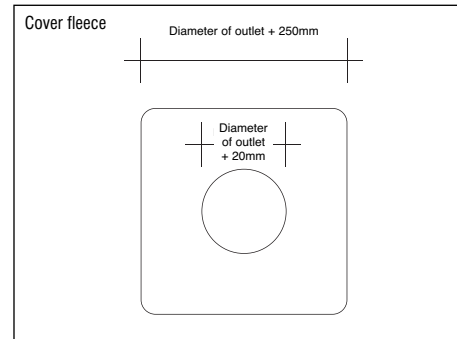
- Finally apply the remaining Kemperol resin to the membrane on both the vent and the deck to ensure the minimum specified thickness of membrane is achieved.



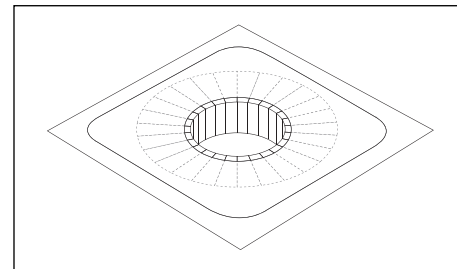
2 Rainwater outlet



- Cut sufficient strips of fleece to cover the outlet in overlapping layers.
- Wet out the individual strips with Kemperol resin, ensuring saturation of each.
- Apply Kemperol resin to the top and inside of the outlet.
- Lay the overlapping strips of fleece until the whole outlet is covered.
- Brush out air and apply extra resin to the fleece, taking care to brush away from the overlapping edges.

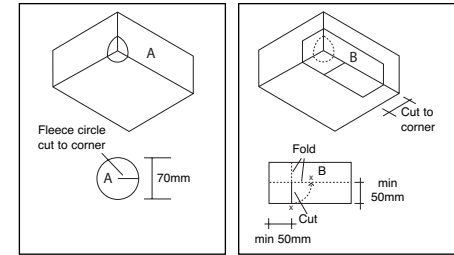


- Cut the square cover fleece as shown and lay onto the deck, pre-coated with additional Kemperol resin.
- Brush or roller this to remove air and bring through the resin from below, until the fleece changes colour.
- Finally apply the remaining Kemperol resin to deck to ensure the minimum specified thickness is achieved.

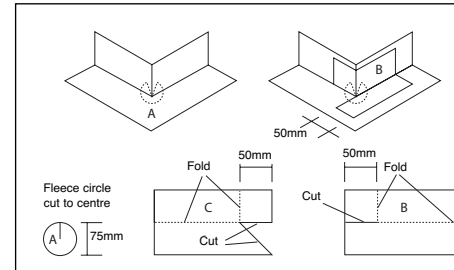


3 Internal and external corners

Internal

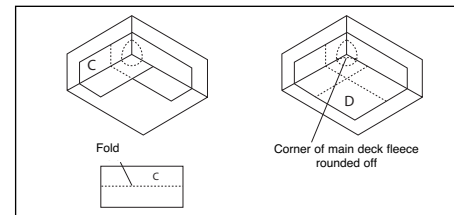


External

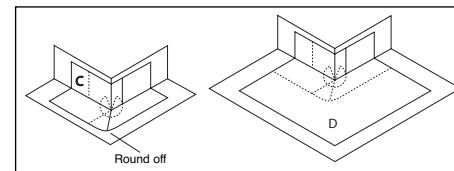


- 1 Cut circular corner reinforcement (A) from fleece, and position in place using Kemperol resin.
- 2 Cut and fold first strip of fleece (B), and position, as shown, in Kemperol resin applied to the upstand and horizontal deck. Ensure a minimum 50mm overlap onto the horizontal. Brush or roller the fleece to remove air and to bring the resin through, shown by a change in colour as fleece is saturated.
- 3 Cut and fold the second strip of fleece (C). Apply Kemperol resin to the other side of the detail, and position the fleece, as shown, into the corner. Again brush or roller the fleece until it is saturated with Kemperol resin, and any trapped air is removed.
- 4 Apply further Kemperol resin to the deck prior to positioning the main horizontal fleece (D), which is brushed or rolled as before. Round off the corner of the fleece, as shown, prior to applying the final Kemperol resin to all areas to ensure the minimum specified membrane thickness is achieved.

Internal

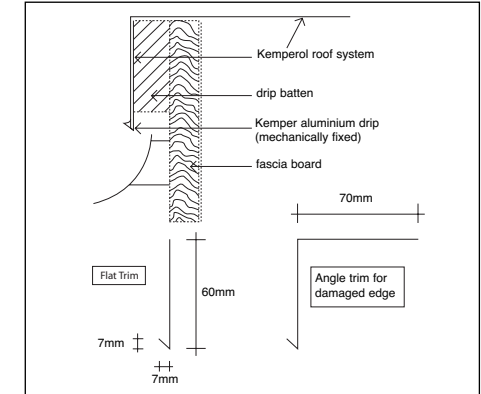


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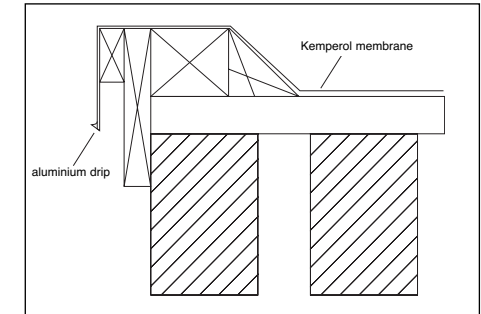


4 Perimeter terminations

4.1 Aluminium drip trim



4.2 Check kerb detail



4.3 Parapet detail

