

KEMPEROL

Cold applied liquid waterproofing

Outperforms other gutter repair solutions

The repair and maintenance of guttering can be an uncertain process involving anything from patch repairs - often only a temporary solution - through to complete reinstatement, which can be expensive and disruptive. Failure of the gutters on both flat and pitched roofs can result from differential movement, mechanical damage, wear-and-tear or even UV degradation, with the methods and materials used on older buildings often not to the performance or technical standards that would be specified today.



Kemperol's unique waterproofing properties are perfectly suited to this type of application, giving a permanent repair that in many cases avoids the need for replacement, bonding directly to most substrates including metal, concrete, asphalt and PVC. A proven material, it is easily applied and offers excellent durability and performance. Its natural elasticity will accommodate thermal and mechanical movement and, being seamless, its waterproofing capabilities are exceptional.

Kemperol - the best long-term solution

With leaking gutters there's a range of options that avoid the cost and disruption of replacement. So how do they compare?

Rigid lining

Compared to a fully bonded membrane this type of system has some drawbacks. Firstly, they require fixings - and any penetration is a potential fail point. The roof overhang often prevents access for fixing without removal and refitting of the lower roof sheets. Where the liner is sectioned these will have to be joined - the most likely point of failure on any guttering system. Because liners 'infill' the gutter, the water carrying capacity (gutter volume) is reduced

Sealants and coatings

Whilst these are bonded to the substrate and 'bridge' the failed joints, there is no membrane - which means the joint has no reinforcement and will continue to be subjected to the stresses that caused the original failure - a weakness that makes this often no more than a temporary solution.

Flexible 'continuous' liners

Continuous liners may appear to overcome the problems associated with joints, however they still require fixing and continuous liners are especially prone to thermal movement, which puts a constant pressure on the fixings. All details such as sumps, corners, junctions and outlets still have to be jointed - often fabricated on-site in constricted locations! And as liners are not fully bonded to the substrate if a failure does occur it is notoriously difficult to pinpoint exactly where, as rainwater often tracks several metres beneath the liner before emerging.

Kemperol

All the above problems are overcome with Kemperol which forms a continuous, elastic membrane onto the original gutter, bridging joints and giving minimal loss of water-carrying capacity.

FINLOCK GUTTERS

Description and suitability

The Kemperol 1K-PUR solution for failed Finlock gutters is resin-based, using a polyester fleece that bonds directly to the existing gutter to give a permanently elastic lining without the need for stripping out or removal. It is cold-applied so has none of the fire risks associated with hot bitumen and is both lightweight and quick to apply. Being seamless this eliminates weaknesses such as joints, so reducing the likelihood of future problems. It is also rainproof in just 30 minutes. Kemperol 1K-PUR can be used straight from the can, so may easily be used by contractors with the minimum of product training.



Kemperol is the ideal solution for repairing failed Finlock gutters in a wide range of applications, including schools, factories and housing - with no need to remove existing materials or evacuate tenants during refurbishment.

The specific problem with Finlock failures

Finlock precast concrete gutters have been popular for many years due to their generally robust and low-maintenance performance. They were widely used on local authority housing, factories, schools, flats and other medium and low-pitch roofs.

Deterioration of the original linings over time, in particular the seals between individual units due to differential movement and expansion, has meant inevitable failure, resulting in leaks which can affect both the external wall and the cavity itself. This is a problem that eventually manifests as damage and dampness to the internal wall.

A number of solutions have been tried, including aluminium lining, felt and bitumen... through to outright removal and replacement. All are relatively expensive and in many cases do not represent a reliable long term solution. It is for this reason that the failure of Finlock gutters has proved such a difficult problem to building owners.

Inset:
Typical Finlock gutter failure
between adjoining sections



Main picture:
Kemperol fully bonds to the concrete
gutter to form a permanent,
easily maintained repair.

VALLEY GUTTERS

Description and suitability

Valley gutter repairs on pitched roofs can be difficult to repair without wholesale reinstatement, as it is often difficult to pinpoint the failed units; access may be restrictive or gutter replacement can necessitate the removal of adjacent roofing sheets and liners. The significant thermal expansion and movement, particularly on metal decks and roofs, will quickly expose the weaknesses of traditional repairs. Kemperol will bond directly to many substrates - including metal, asphalt and different types of PVC - to form a seamless, highly elastic membrane that is durable and totally waterproof. Being lightweight, the repair can be undertaken without additional strengthening of the roof structure.



FLAT AND LOW-PITCH ROOFS

Description and suitability

The versatility of Kemperol makes it an excellent product for the repair of flat roof and low-pitch guttering on factories and commercial buildings. It bonds directly to a wide range of existing materials, in many cases obviating the need for substrate removal. This not only makes for a very cost-effective repair, but one that will predictably outperform other solutions. The availability of solvent-free products means that repairs in sensitive applications such as food processing and pharmaceuticals or occupied buildings such as schools and hospitals can be completed with minimum disruption.



Lead, copper and traditional gutter repairs

Apart from its proven suitability as a permanent repair for lead and copper guttering, Kemperol is a significantly lower cost solution for repairs or replacement on this type of gutter. Indeed, with the cost of lead increasing threefold in the past few years, Kemperol is now used as a preventative measure on lead roofs to discourage theft and the consequential damages and disruption that often results.

Kemperol forms an encapsulating membrane which fully bonds to the lead or copper, providing a permanent repair whilst also protecting the valuable substrate against theft. The natural grey finish complements the traditional lead roof appearance, whilst a weathered verdigris finish can be specified for copper roofs and gutters if required.



Gutter Repair Products

Kemperol 1K-PUR, which can be applied straight from the can, is particularly suited for Finlock and valley gutter repairs where access is awkward or limited as it has an open working time (doesn't begin to cure until applied). This allows progressive application of the fleece and resin in a single-stage operation.

Kemperol 2K-PUR is a solvent-free formulation whilst Kemperol V210 is suitable for long expanses of wide guttering. Final product selection can be advised by one of our Approved Contractors or by contacting a member of our technical services team with details of the specific repair application.

Key product characteristics

- Durable and long-lasting
- Solvent-free formulation available
- Outperforms other repair solutions
- Permanently elastic – withstands movement

Advantages

- Light weight: low superimposed load.
- Proven solution with long life expectancy.
- Easily and quickly applied
- Appearance of building unchanged after repair
- Costs less than replacement or relining
- BBA certified (Kemperol V210)
- 1K-PUR is used straight from the can

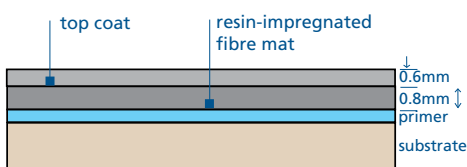
Approvals and Authority

Product	Approvals
1K-PUR	European Technical Approval (ETA) Certificate ETA-03/0043
2K-PUR	ETA Approval certificate ETA-03/0044
V210	BBA certificate 95/3139 ETA Approval Certificate ETA-03/0025 Factory Mutual (FM) approval No. OD646.AM

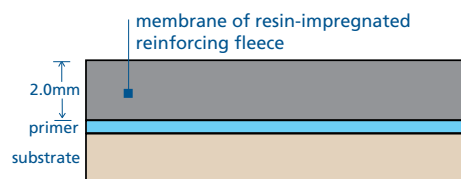
Kemperol - 'wet on wet' is best

Kemperol is applied 'wet on wet' meaning there are no laminations between layers, as with wet on dry systems. The reinforcing fleece is also highly elastic and tear-resistant, resulting in a membrane with superior performance and durability. And because Kemperol is applied in a single operation, installation time and costs as well as project completion times are all reduced.

Typical 2-layer, 'wet on dry' waterproofing



Kemperol single layer, 2-coat waterproofing



Typical wet on dry systems		ALL Kemperol systems	
1.4mm	Dried film thickness	2.0mm - 2.5mm	
min. 10 years	Expected working life	min. 25 years	
P1	Imposed load rating: (*P1 lowest; P4 best)		
P2	soft substrate	P4	
	hard substrate	P4	

Every effort has been made to ensure the information provided on this Guidance Note is correct. It is intended for general guidance only and it is the responsibility of the user to confirm product suitability – more detailed and specific advice may be obtained from our technical department or from an approved contractor. The correct application of our products is the responsibility of the appointed contractor.