

KEMPEROL® Liquid Waterproofing and Surfacing Systems

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Who we are

What have the Gherkin in London, the BMW car plant in Steyr, and the Empire State Building in New York all have in common? Along with countless numbers of buildings and structures world-wide, they are all protected by KEMPEROL® liquid waterproofing supplied by KEMPER SYSTEM.

On the roofs of the world and underfoot, visible and invisible, KEMPEROL® protects reliably with proven longevity. Many of the best known and most important structures around the world are on KEMPER SYSTEM's list of references.

With subsidiaries throughout Europe, Asia and North America plus cooperative ventures and distribution partners in many more countries, KEMPER SYSTEM is the market leader in the global liquid waterproofing sector.

The company's founder, Dr Heinz Kemper is regarded as the pioneer in this form of waterproofing. Backed up by over 50 years of experience and proven performance in application, KEMPEROL® is the unbeaten world champion in its class, successfully waterproofing billions of square metres.

Our reputation as a specialist for solving difficult waterproofing tasks has made us a much sought-after international partner for a diverse range of specifiers including architects, owners, planners, facilities managers, developers and contractors.

KEMPER SYSTEM stands for dependability wherever our systems are used. And they always represent a prudent investment with long-term economic benefits.

KEMPEROL®
liquid waterproofing and roofing at its very best



KEMPEROL® liquid waterproofing

KEMPEROL® is a complete resin-based liquid waterproofing system. Applied wet-on-wet, KEMPEROL® bonds directly to virtually any substrate to provide a seamless, elastomeric, UV-stable membrane that cannot delaminate. This offers distinct advantages over partially bonded, layered liquid, sheet membrane, or hot-applied materials.

The key to the exceptional performance of KEMPEROL® waterproofing membranes is the technically superior resin formulation. This is the result of decades of research, chemical engineering and development by a company whose resources are 100% focused on providing liquid waterproofing and surfacing solutions.

New build, flat roof repair and refurbishment

Whether new build, full roof refurbishment or repair, we are able to offer reliable long term protection that you can specify with complete confidence - whatever the substrate or application.

The waterproofing components - one, two or three-part resins - saturate a polyester reinforcement fleece which is immensely strong yet flexible, durable and tear-resistant. Each system cures to provide a reliable membrane that is permanently elastic and can withstand maintenance foot traffic.

Most liquid-applied systems offer just one resin - a single solution whatever the application. At KEMPER SYSTEM we have a range of dedicated resins, each developed to optimise waterproofing performance under different conditions and specific substrate applications. And unlike multi-layer coating systems, the use of the reinforcement fleece provides a clear visual quality assurance indication that the correct membrane thickness has been achieved.

Saves time and money

Easily applied, KEMPEROL® is a reliable, long-term solution to failed roofs and because it bonds to existing materials, costly removal and disposal of the old substrate is avoided; which saves time and can reduce the overall cost of a project.



*"Since 1977 the KEMPEROL® cold liquid waterproofing we used when the original felt roof started to leak has never failed once."
Service Manager, Leicester Mercury*



Innovation

Beware of imitations – KEMPEROL® V210 was the very first fleece reinforced cold liquid waterproofing system in Europe and has over 50 years proven effectiveness globally.

To this day, KEMPER SYSTEM continues to lead the market with innovative new products and the development of complete solvent-free liquid waterproofing and surfacing systems.



Solvent-free and odourless

KEMPEROL® 2K-PUR is the first solvent-free, odourless, cold liquid applied, wet-on-wet waterproofing system available in the UK.

This makes it ideal for construction projects where environmental considerations are important or where buildings are occupied and work needs to continue without the disruption caused by the heavy fumes and strong odours from solvent based products. KEMPEROL® 2K-PUR is the sensible solution for waterproofing factories, hospitals, schools, offices and retail environments.



Fabricated on site

KEMPEROL® waterproofing is fabricated on site using specially engineered resins that provide excellent workability and curing. Certain systems are rain shower resistant from as little as 30 minutes.

Avoid the common causes of roof failure

Alongside the use of unsuitable materials, the most common cause of flat roof failure is inadequate bonding or waterproofing termination of the seams and laps and around critical details such as penetrations, outlets and upstands.

With KEMPEROL® these classic weak spots, even those in tight, difficult to access areas, are seamlessly incorporated into the main roof to form a single, fleece reinforced homogenous membrane with no laminations, that bonds directly to the substrate giving you complete confidence in the integrity of the waterproofing.



Total integration of base and surface build-up

KEMPEROL® is applied wet-on-wet for a total integration of the base and surface build-up into a single, fleece reinforced, chemically bonded membrane with no laminations or seams. This avoids common problems of inter-coat adhesion, 'thin spots' or delamination that can be the downfall of multiple coat, wet-on-dry systems; and unbonded seams with sheet systems.

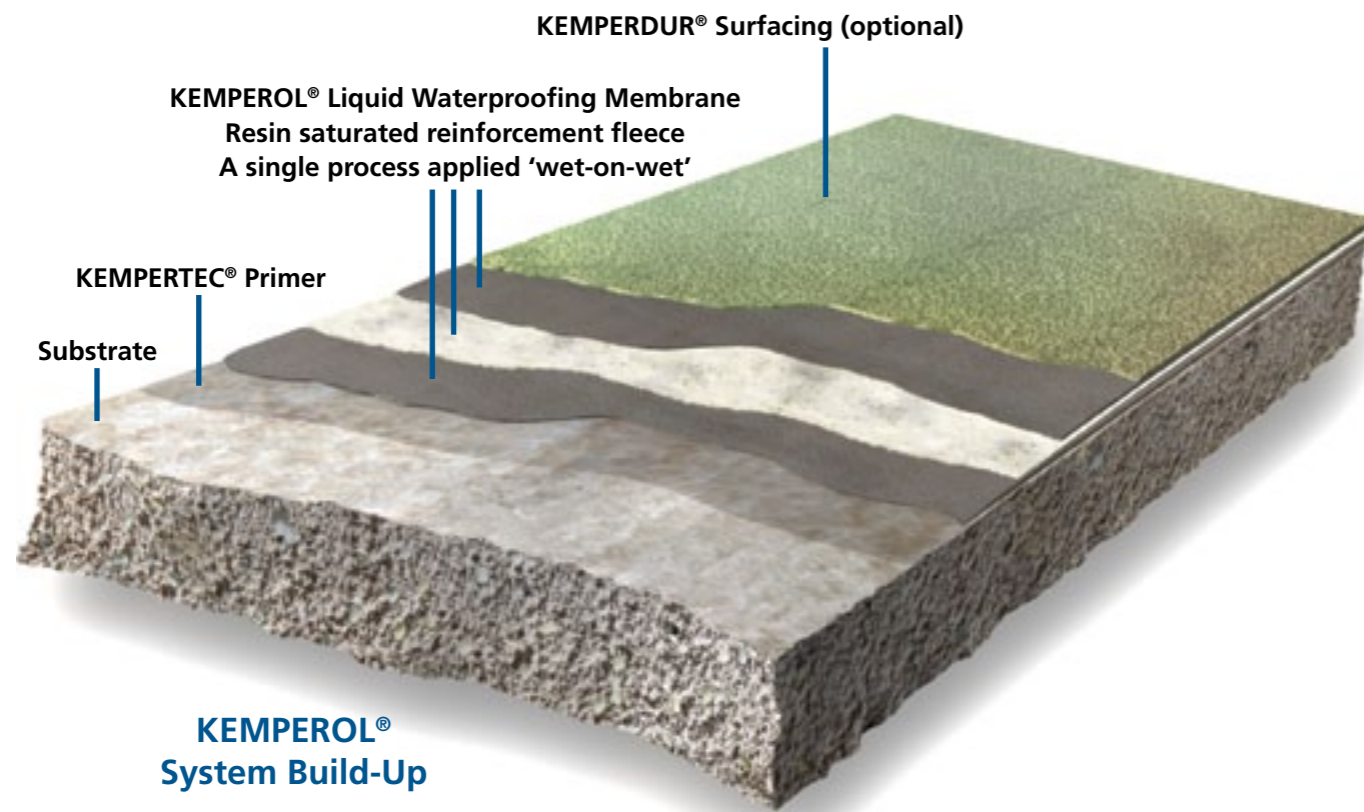
KEMPEROL® consistently outperforms all other wet-on-dry systems that use a base coat, which once applied has to dry, and onto which the finishing coat is finally applied to effectively create a laminated system where the performance of the whole roof is dependent on bonding between the two separate layers.

Consistent depth and coverage

KEMPEROL® has the further advantage that complete impregnation of the polyester reinforcing fleece is visible as it becomes saturated with resin. There is absolutely no mistaking when this has been achieved, which means optimum saturation and bonding to the prepared substrate is assured.

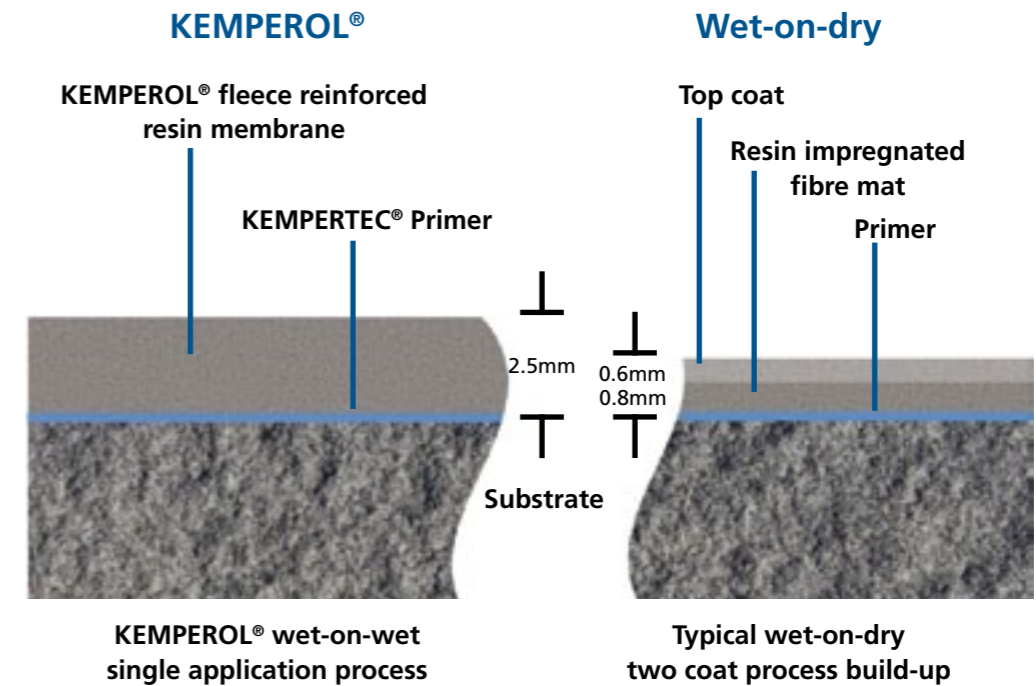
With wet-on-dry or sprayed systems, it can be difficult to see when the correct depth of coating has been achieved; and contractors have to use a depth gauge or cut core samples. However this is only as accurate as the point at which they are done and if the required depth isn't achieved the warranties are often invalid.

On even small areas wet-on-dry methods are open to thin patches which may jeopardise the total integrity of the roof, particularly in the most vulnerable areas where standing water is likely. KEMPEROL® applied wet-on-wet, completely overcomes this.



Waterproofing system comparison

By saturating a non-woven reinforced fleece with a manufactured weight of up to 200gsm, a KEMPEROL® membrane by the nature of the single wet-on-wet application process, will achieve a consistent depth of 2.5mm. In comparison, the thickness of a two coat wet-on-dry system will typically deliver an average depth of only 1.4mm.



KEMPERDUR® surfacing

Long-lasting protection for external surfaces

KEMPERDUR® surfacing products can be applied onto various new or existing substrates or in conjunction with a cold applied KEMPEROL® waterproofing system.

KEMPERDUR® anti-slip surfacing products form an integral part of a complete system where waterproofing and surfacing are required, such as balconies. They can also be applied directly onto primed concrete or screed for a tough, resilient surface on areas subject to traffic that do not need to be waterproofed but still need protection; typically walkways and recreation areas.

Some waterproofed surfaces may be subject to vehicular or pedestrian traffic and so need additional protection to improve their durability or for a more decorative appearance.

KEMPERDUR® coloured surfacing allows trafficked areas to be colour-coded for functional, aesthetic or safety purposes, including hard-wearing and slip-resistant textures in a choice of colours, and are suitable for both new construction or refurbishment.



So many uses and applications...

Ideal for refurbishment, repair and new build, KEMPEROL® forms a totally seamless, reinforced, UV stable, elastomeric membrane that is ideal for flat and pitched roofs, balconies, terraces, podiums and walkways. Warm roofs, cold roofs, green roofs and living walls, fountains and water features; and the most complex detailing.

In fact, just about anything you need to waterproof, we have the liquid solution

New build

Tough, durable and self-flashing, KEMPEROL® fully bonds to all new build substrates and is flexible enough to accommodate the thermal movement of today's commonly used materials.

Refurbishment

Easily applied, KEMPEROL® is a reliable, long term solution to failed roofs. And because it bonds directly to existing materials, costly removal and disposal to landfill is avoided. The option of solvent-free, odourless 2K-PUR ensures minimal disruption to building occupants.

Detailing

Penetrations and upstands are easily waterproofed in situ, becoming an integral part of the roof membrane without the need for any additional mechanical or adhesive fixings.

Rooflights and glazing

Atrium and pavement lights are notoriously difficult to waterproof or repair. KEMPERDUR® FGC coating creates a durable and flexible rainscreen, whilst providing a high degree of non-yellowing transparency to allow light transfer. Where required, anti-slip (via embedded glass beads) can be provided.

Balconies

KEMPERDUR® surfacing can be applied onto a KEMPEROL® waterproofing membrane, giving a highly durable, slip-resistant finish for balconies and walkways. Hard landscaping materials can also be applied, including bedded tile, paving slabs and decking.

Terraces and podiums

KEMPEROL® materials are widely used to waterproof and surface podium decks, terraces, walkways and car parks - demonstrating their exceptional versatility, durability and reliability.

Pitched and metal roofs

KEMPEROL® can be used on profiled metal, including standing seam roofs. A reliable and cost effective repair for metal, copper or lead, it forms a fully bonded waterproofing membrane that cures leaks, seals laps and fixings and rejuvenates the appearance.

Valley and finlock gutters

KEMPEROL® is ideal for repairing leaking valley and finlock gutters, forming a seamless membrane along the entire length of the channel that seals joints, fixings and penetrations. Outlets are easily waterproofed and incorporated into the seamless membrane. And being flexible it will also accommodate thermal or structural movement.

Internal rooms

Internal wet rooms, saunas, plant rooms or bunded areas can be fully waterproofed with KEMPEROL® and can be surfaced in a range of finishes or materials. KEMPEROL® 2K-PUR and O22 are solvent-free and odourless, so can be applied without disruption to occupants or other trades working on-site.

Warm roofs

STRATEX is KEMPER's integrated warm roof system. Comprising a vapour barrier, insulation and KEMPEROL® waterproofing. It will accommodate maintenance foot traffic and can be finished with KEMPERDUR® surfacing or decorative landscaping materials where more frequent foot traffic is expected.

Green roofs

KEMPERGRO from KEMPER SYSTEM brings together a unique combination of recycled, renewable and sustainable components to provide a complete waterproof roofing and green roof system with a single source specification in which KEMPEROL® provides the root resistant waterproofing element.

Parking and stairways

For trafficked applications, including both parking areas and stairways, KEMPERDUR® surfacing can be applied either direct to the substrate or onto a KEMPEROL® waterproof membrane; and supplied in a range of anti-slip finishes. KEMPEROL® can also be overlaid by Bitmac and poured asphalt up to +250°C.

Water features

The integrity and performance of KEMPEROL® waterproofing materials, even in permanently immersed conditions, is highlighted by its suitability for lining water features and fountains.

KEMPEROL® distinct advantages

Liquid application

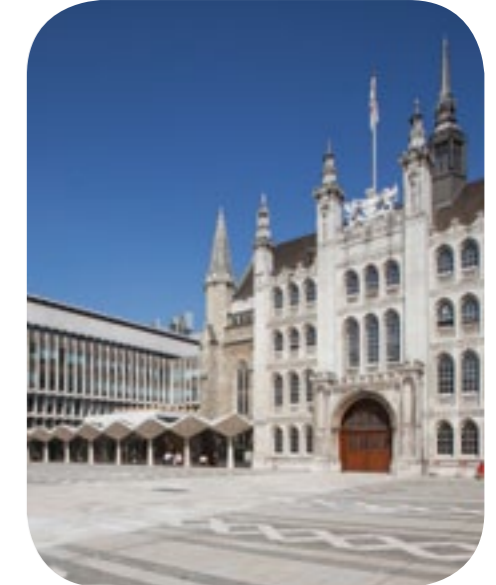
- Totally seamless - a monolithic membrane with no joints or fixings where water could penetrate
- Fully bonded - forms a permanent bond between the substrate and membrane with no lifting due to wind suction
- Applied using a roller or brush, even difficult to access areas or complex details are effectively waterproofed
- Can be applied on top of the existing failed substrate in the majority of refurbishment applications
- Applied cold, no naked flame or hot works required
- Bridges gaps and cracks up to 2mm
- Extremely durable and tear resistant, it can accommodate structural details and penetrations without the need for mechanical fixings or mastics that are often prone to failure

Beneficial system characteristics

- Suitable for new build and refurbishment
- Fully reinforced with an unwoven polyester fleece manufactured using 25% recycled content
- Lightweight in nature KEMPEROL® adds minimal load to the roof
- A variety of different materials / substrates can be accommodated with the seamless membrane
- Can withstand thermal and structural movement
- Permanently elastic from -30°C to +90°C
- AA fire rating - the highest available for roof membranes (tested to BS 476-3 / EN 13501)
- UV stable - will not become brittle (no additional protection required)
- Vapour permeable allowing the building to breathe
- Root resistant - ideal for green roof and living wall applications
- BBA certified systems with an expected working life in excess of 25 years
- Proven performance in the field with applications in existence without failure for over 50 years
- Impervious to standing water making it ideal for a range of applications from flat roofs to water features
- Tough and durable - withstands maintenance foot traffic
- Effective resistance to a wide range of chemicals
- Any penetrations or upstands installed at a later date can be seamlessly incorporated
- Suitable for refurbishment of failed existing roofs with poor drainage
- Maintenance free

Solvent-free and odourless

- KEMPEROL® solvent-free systems with up to 80% renewably sourced content ideal for outdoor and indoor applications
- Can be used in sensitive areas e.g. schools and hospitals
- Ideal for refurbishing occupied buildings avoiding the need to evacuate or for works to be completed out-of-hours or during periods of shut-down.



Sustainable liquid waterproofing

Our corporate philosophy

KEMPER SYSTEM has been focussing on and supporting key environmental goals for many years. Environmental protection, environmentally-friendly production and the careful handling of resources are the basic principles of our corporate philosophy.



Wherever possible our research and development focuses on replacing crude oil-based raw materials with renewable ones. The product range continuously evolves in accordance with international standards and future market needs.

Sustainable liquid waterproofing Is that really possible?

Yes! KEMPEROL® 2K-PUR is a solvent-free, odourless waterproofing system applied in liquid form that meets all environmental requirements.

Roughly 80% of the applied polyols (resins) in KEMPEROL® 2K-PUR are obtained from the seeds of the tropical castor plant (*Ricinus communis*) a renewable resource. And the polyester reinforcing fleece used in all our waterproofing systems contains up to 25% recycled material.

Other products within our range of waterproofing systems, such as KEMPERDUR® TC surfacing and KEMPERTEC® D-Primer, are also solvent-free and produced from renewable resources, enabling us to offer complete solvent-free solutions.



Reduced carbon footprint and reduced landfill

The proven longevity of KEMPEROL® waterproofing in use is also a key aspect in terms of sustainability. It is a long term solution that will continue to be effective long after other systems have failed.

When carrying out renovation work, application usually occurs directly onto the old substrate, avoiding costly removal and transport off site to become landfill. This form of substrate conservation can also have the added benefit of reducing the duration and cost of your project.

Environmental management system

KEMPER SYSTEM is fully committed to the conservation of natural resources. For many years, the existing environmental management system in accordance with ISO 14001 has been guaranteeing regulated processes, providing an excellent framework for environmental protection. All our production sites operate a fully automated and fully closed process that keeps waste and emissions to a minimum.

KEMPER SYSTEM is committed to and has signed the chemical industry's unique global initiative 'Responsible Care'.

BREEAM - Building Research Establishment Environmental Assessment Method

KEMPER SYSTEM manufacture [polyester / polyurethane / polymethylmethacrylate] systems, which comply with the BREEAM generic element ratings for roof constructions as listed in the Green Guide to Specification website.

Cold applied liquid roofing membranes have been recognised by BRE to help roofing elements achieve an A+ rating (depending on the roof construction), demonstrating the sustainability and low environmental impact of this chemistry type.

Technical support

When you choose waterproofing or surfacing solutions from KEMPER SYSTEM, you will have access to a comprehensive design and technical support service from start to finish. And because no two jobs are ever the same, we will work with you to identify the most suitable, cost effective and reliable waterproofing materials and systems for your project; ensuring your design objectives are achieved.

Our experienced sales and technical team offer full support, recommending solutions and can liaise directly with your installation contractor to assist the smooth running of your project.

We also have a team of technical field specialists who, as well as providing on-site training and contractor support, work closely with client specifiers on active projects to help troubleshoot design challenges and advise on repair solutions for damaged or failed roof systems.

NBS and BIM specification



We can supply full NBS specifications for your project which will be verified by our technical team to ensure the products specified are the most appropriate for the design and practical requirements of the particular application. We also have a range of BIM objects available to download to satisfy NBS J31 and Q37 roofing specifications in IFC and Revit file formats.

Continuous professional development



KEMPER SYSTEM is part of the RIBA CPD Providers Network. We attend numerous RIBA CPD Roadshows and also deliver our 'Specification of Liquid Roofing and Waterproofing Systems: A Sustainable Approach' presentation to clients at their offices. If you would like a CPD presentation, please email enquiries@kempersystem.co.uk

Design support

We can produce U-value calculations, condensation risk analyses and supply section detail drawings to support your design specification. We also provide bespoke tapered insulation schemes with technical drawings for our STRATEX warm roof system. A comprehensive set of system technical and material safety data sheets are also available.

Installation and service

The functionality and working life of any waterproofing system depends to a large extent on the quality of the application. KEMPER SYSTEM specified waterproofing and surfacing systems are installed only by fully trained, independent contractors whose operatives have completed specific product training and are approved by KEMPER SYSTEM in the use of our waterproofing systems. This ensures the application of the waterproofing matches the quality and performance of the materials used and is backed by a range of KEMPER SYSTEM material warranties for up to 20 years.

Certification

We develop, test and monitor all KEMPER SYSTEM products in our own R&D laboratories. Quality is independently verified by leading quality standard institutes around the globe to ensure the highest level of performance standards are achieved. KEMPER SYSTEM is certified according to ISO 9001 and ISO 14001. Our products meet the requirements of the ETAG in the highest categories and are checked and certified by other leading bodies such as the British Board of Agrément, Bureau Veritas, German Building Technology Institute, the Federal Institute for Materials Research & Testing and FM Global.





All the information provided in this brochure was correct at the time of printing and reflects our current knowledge and experience of the systems described. As this information is subject to change without notice, always consult our Technical Department for the latest information and advice relating to the specification and use of our products.



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