



STRATEX

The cold liquid approach to warm roofing

Stratex

The cold liquid approach to warm roofing

Stratex is an integrated warm roof that offers exceptional performance and is supplied as a complete system of matched components from one of the UK's leading roof waterproofing manufacturers. Its unique tongue-and-groove insulation board and 'wet-on-wet' cold liquid waterproofing - each with independent Agrément certification - create a warm roof system that is easily specified, fully tested and approved and is totally reliable.

It is an engineered system comprising all the elements for a warm roof specification – primer, vapour barrier, insulation and waterproofing.

On newbuild projects it can be applied over concrete, timber or metal decks, whilst it is equally suited to refurbishing or upgrading existing roofs. Stratex is installed only by contractors trained and approved by Kemper.

Interlocking foil-faced insulation board

Kempertherm Flat is an interlocking, foil-faced insulation board that offers better thermal performance and reduces cold-bridging.

This tongue-and-groove construction also gives a more rigid, level finish for a smooth and attractive appearance.

Standard boards (F) will withstand maintenance foot traffic and can be further protected by a surface finish for more frequent use. The reinforced board (FR) has an integral, high density surface for more demanding applications, with both types available in a range of thicknesses.

Factory-cut tapers

A unique advantage of Stratex is the option of cut-to-fall boards. Kempertherm T and TR (reinforced) are factory tapered and mitred in single pieces that are simply assembled on site without cutting. These give a much neater finish that is quicker to install, reduces air gaps and significantly reduces site wastage.

Surface finishes

Stratex has a self finish that is highly durable, or alternatively may be treated using the Kemperol range of surfacing products. It can also be paved over, timber decked, topped with landscape aggregate or integrated within a KemperGreen green roof system.

Wet-on-wet waterproofing

Kemperol is a cold liquid waterproofing membrane that bonds to the Kempertherm board giving a seamless, permanently elastic membrane that is extremely durable and tear-resistant.

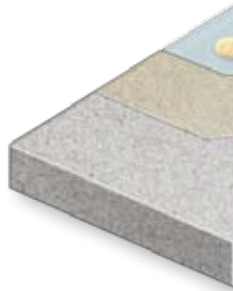
It is applied 'wet on wet' – a method that consistently outperforms other systems, giving better adhesion and a thicker membrane that is chemically bonded without laminations.

Solvent-free option

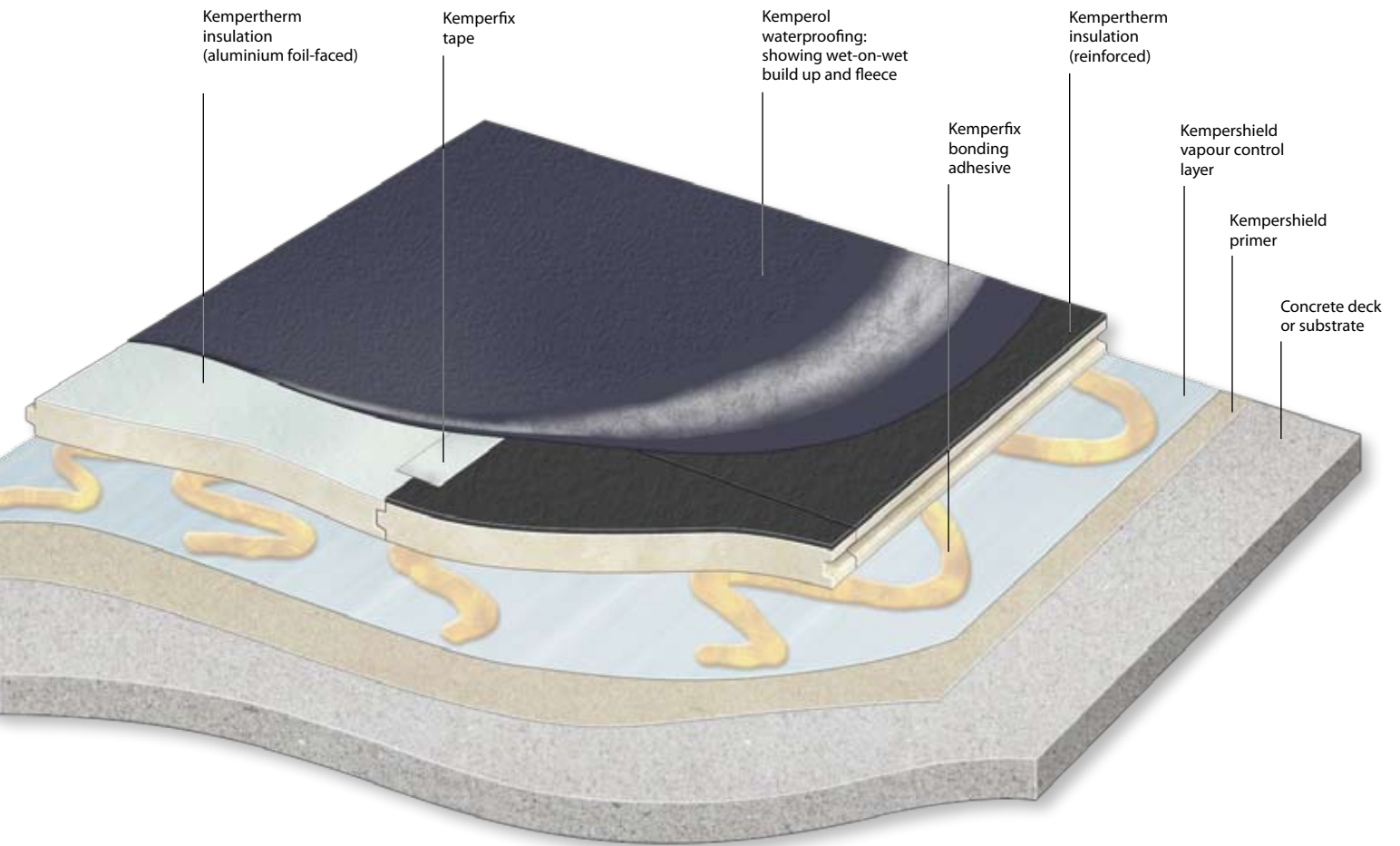
Stratex is the only UK warm roof system to offer the option of a solvent-free installation using Kemperol 2K-PUR waterproofing with Kemperol TC surfacing.

Kempersure warranty

The waterproofing membrane carries a full 15 or 20-year manufacturer warranty (depending on gauge of fleece) covering any failure resulting from material defects.



Stratex: system build up

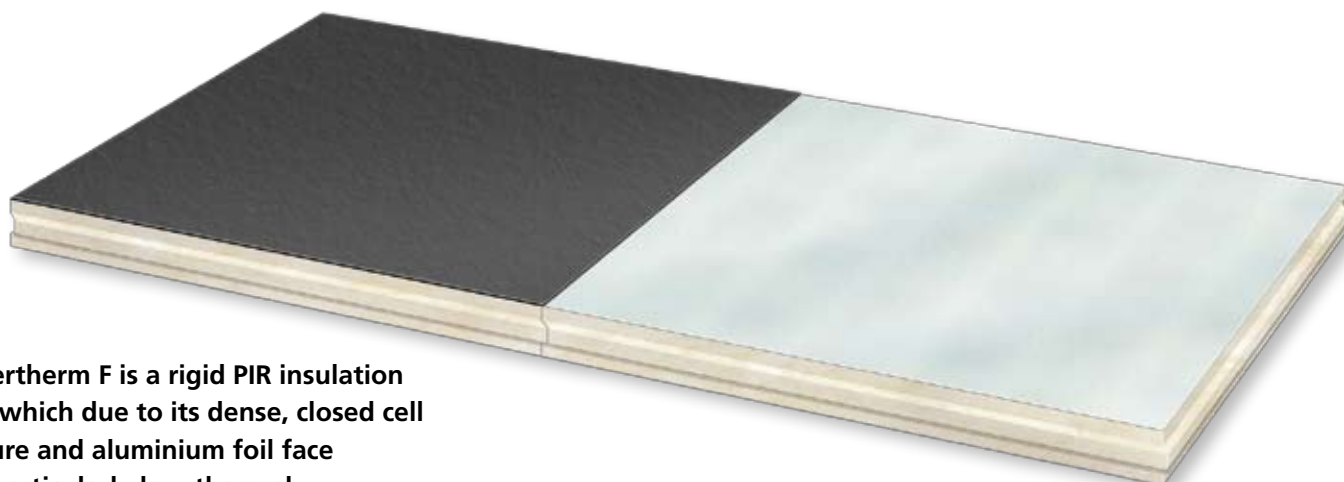


Benefits of Stratex

- wet-on-wet cold-applied Kemperol liquid waterproofing
- interlocking insulation gives rigid, smooth finish
- range of surfacing options or durable self finish
- BBA-certified waterproofing and insulation
- reinforced board for cost-effective surfacing of trafficked areas and walkways
- 15 or 20-year Kempersure guarantee against leaks
- Installed only by approved contractors

Stratex warm roof system installed on a geometric roof at this children's day centre in Lancashire

Stratex components: Kempertherm insulation



Kempertherm F is a rigid PIR insulation board which due to its dense, closed cell structure and aluminium foil face has a particularly low thermal conductivity of just 0.023W/mK.

Interlocking panels

Adjoining panels interlock using tongue and groove joints, a feature unique to Stratex with flat board insulation.

This reduces cold bridging and achieves a rigid base that, together with its excellent dimensional tolerances, creates a smooth, flat surface with stable joints.

Kemperol waterproofing is permanently elastic, eliminating the need for the 'carrier membrane' required with other systems - saving on materials, time and costs.

Impressively strong

Kempertherm has a unique cell structure that imparts excellent compressive strength.

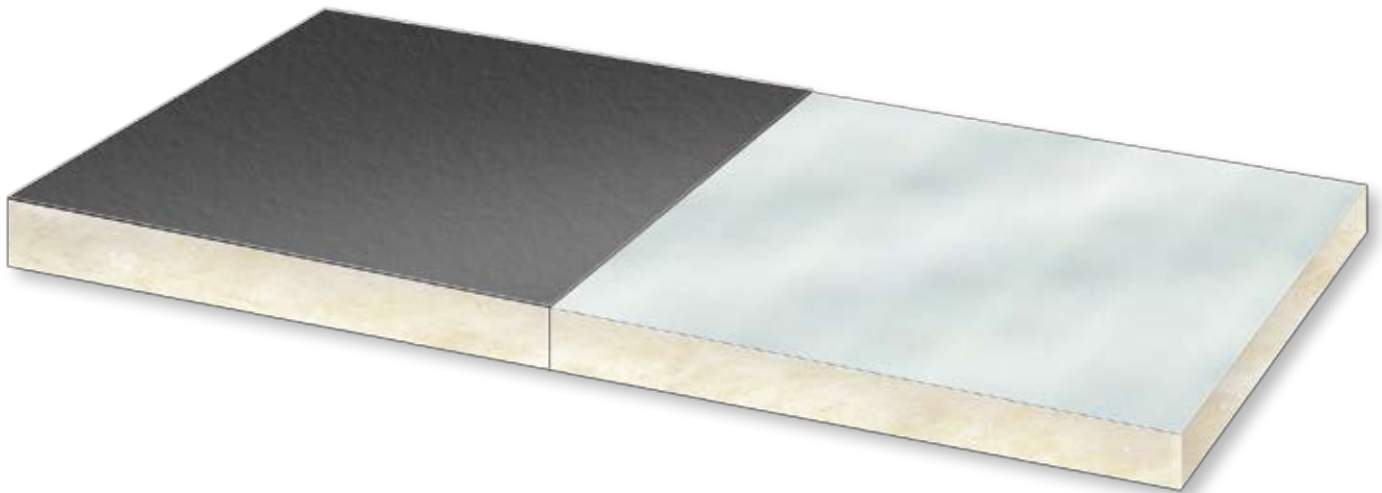
The standard board, Kemperol F, comfortably withstands occasional or maintenance foot traffic, whilst Kempertherm 'FR' has a 3mm reinforced facing that can be used on areas subject to heavier point loading or more frequent traffic.

This offers a cost-effective solution for more frequently trafficked areas that avoids the labour and material costs of an additional plywood strengthening layer.

Kempertherm F (flat boards)

Board Profile: Flat	Kempertherm FR	Kempertherm F
Description	CFC and HCFC-free rigid PIR board	CFC and HCFC-free rigid PIR board
Facing	3mm high density reinforced top face with multi-layer metal foil facing to bottom side	Water-resistant metal foil facing to both sides
Features	<ul style="list-style-type: none"> • Flat board • Tongue and groove jointed • Increased point load resistance • No carrier membrane needed • Waterproof facing 	<ul style="list-style-type: none"> • Flat board • Tongue and groove jointed • No carrier membrane needed • Water-resistant facing
Applications and suitability	Roofs: newbuild or refurbishment Walkways or zoned areas of high load Balconies and terraces Areas with frequent foot traffic Kemperol coloured anti-slip finish Kemperol TC wear course Paving slabs on spacers Promenade tiles fully bonded Decking	Roofs: newbuild or refurbishment Maintenance foot traffic Kemperol coloured anti-slip finish Paving slabs on spacers Decking
Dimensions:		
Board size:	1000mm x 1200mm (nominal)	1000mm x 1200mm (nominal)
Thickness:	90mm, 110mm (other thicknesses available)	90mm, 110mm (other thicknesses available)
Thermal performance (typical U-values W/m²K)		
90mm	Concrete 0.24 Metal deck 0.25 Timber deck 0.23	Concrete 0.24 Metal deck 0.25 Timber deck 0.23
110mm	Concrete 0.20 Metal deck 0.22 Timber deck 0.20	Concrete 0.20 Metal deck 0.22 Timber deck 0.20
Certification	BBA certified ATG/H750, ATG1575, ATG2481, CTG077	BBA certified ATG/H750, ATG1575, ATG2481, CTG077





Kempertherm T (tapered boards)

Board Profile: Flat	Kempertherm TR	Kempertherm T
Description	CFC and HCFC-free rigid PIR board	CFC and HCFC-free rigid PIR board
Facing	3mm high density reinforced top face with multi-layer metal foil facing to bottom side	Water-resistant metal foil facing to both sides
Features	<ul style="list-style-type: none"> • Tapered board • Increased point load resistance • No carrier membrane needed • Waterproof facing • Single piece - no site build up required for higher depths or to accommodate falls • Factory-mitred hips and valleys 	<ul style="list-style-type: none"> • Tapered board • No carrier membrane needed • Water-resistant facing • Single piece - no site build up required for higher depths or to accommodate falls • Factory-mitred hips and valleys
Applications and suitability	Roofs Walkways or zoned areas of high load Balconies and terraces Frequent foot traffic Kemperol coloured anti-slip finish Kemperol TC wear course Paving slabs on spacers Promenade tiles fully bonded Decking	Roofs Maintenance foot traffic Kemperol coloured anti-slip finish Paving slabs on spacers Decking
Dimensions:	1000mm x 1200mm (nominal)	1000mm x 1200mm (nominal)
Board size: Thickness:	Board thickness will vary depending on taper from a minimum 20mm on falls of 1:60 and 30mm on falls 1:80. All boards delivered in single piece including thickest sections	
Thermal performance (typical U-values W/m ² K)	Typical lambda value 0.023 W/m ² (average)	
Certification	BBA certified ATG/H750, ATG1575, ATG2481, CTG077	BBA certified ATG/H750, ATG1575, ATG2481, CTG077

Choice of falls

Stratex warm roofs can be specified using tapered Kempertherm (T or TR) to create falls of 1:60 or 1:80 (min) to ensure rainwater run off and avoid standing water which adds considerably to roof loading. This method is suitable for newbuild or refurbishment and for straight or mitred falls to gutters, perimeters or outlets.

Technical support

Full technical support is provided at the design stage, including CAD drawings, with tapered boards manufactured, numbered and labelled in accordance with the approved CAD plan. Delivered direct to site, projects are installed only by experienced, Kemper-approved contractors.

Pre-cut hips and valleys

Factory-mitred boards for hips and valleys avoid cutting on site, reducing wastage and saving on installation time/costs. This gives more accurate detailing and also reduces thermal loss.

Single-piece boards

All tapered boards, including the thickest sections, are supplied labelled as single piece or fully-bonded units ready for immediate laying.

Stratex components:

Kemperol waterproofing

The integrity and reliability of the waterproofing membrane on any warm roof is critical for its long term performance. Stratex can be specified using either Kemperol V210 or solvent-free Kemperol 2K-PUR, both having BBA certification and a complimentary 15 or 20-year waterproofing warranty for complete peace of mind.

Fully bonds to substrate

Kemperol is cold liquid-applied, forming a permanently elastic membrane that bonds directly to the Kempertherm insulation and is extremely durable and tear-resistant.

Because it bonds to most substrates and is self terminating it allows complex detailing without the need for mechanical fixings or flashings

Such details at penetrations, upstands and perimeter walls are the most common cause of failure on flat roofs, a vulnerability that is all but eliminated with Kemperol.

Site-friendly

Easily applied, Kemperol becomes weather-resistant from just 30 minutes and curing times can be maintained at low temperatures.

Why wet is best

All Kemperol waterproofing is applied 'wet on wet' – a method that consistently outperforms other cold-applied systems.

Its structural component is a strong polyester fleece that is fully saturated with liquid resin giving a dry film thickness of up to 2.5mm – this is almost double that of most cold liquid membranes.

This wet on wet application creates a single, chemically-bonded layer that is both seamless and inseparable, avoiding the risks of poor adhesion, thin spots and even delamination that can affect wet on dry systems.

	Kemperol V210	Kemperol 2K-PUR
Membrane	Polyester fleece saturated with 3-component polyester resin	Polyester fleece saturated with 2-component polyurethane resin
Fixing	Fully bonded, self terminating	Fully bonded, self terminating
Features	Tear-resistant Seamless High permeability Permanently elastic Maintenance foot traffic Weather resistant after 30 mins	Tear-resistant Seamless High permeability Permanently elastic Maintenance foot traffic Weather resistant after 2 hours Solvent-free
Applications	New build Repair and refurbishment	New build Repair and refurbishment
Imposed load rating	ETAG: P4 (the highest possible)	ETAG: P4 (the highest possible)
Expected working life (ETAG 005)	Min. 25 years	Min. 25 years
Certification	FM; BBA; ASTM; EOTA; DIN	FM; BBA; ASTM; EOTA; DIN
Warranty	15 - 20 years, manufacturer backed	15- 20 years, manufacturer backed



Kempershield vapour control layer

The Stratex warm roof system incorporates Kempershield – a reinforced aluminium, self-adhesive vapour barrier.

Class 'O' rated, it has excellent tear resistance and is suitable for use on concrete, profiled metal or timber decks.

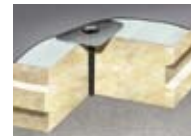
Kempershield primer should be used on all applications and the vapour barrier will self seal around mechanical fixings where these are used.

It has a very high vapour resistance, so can be used on buildings with extreme levels of humidity and, once laid, will provide temporary waterproofing to the building structure.

Kemperfix adhesive & fixings

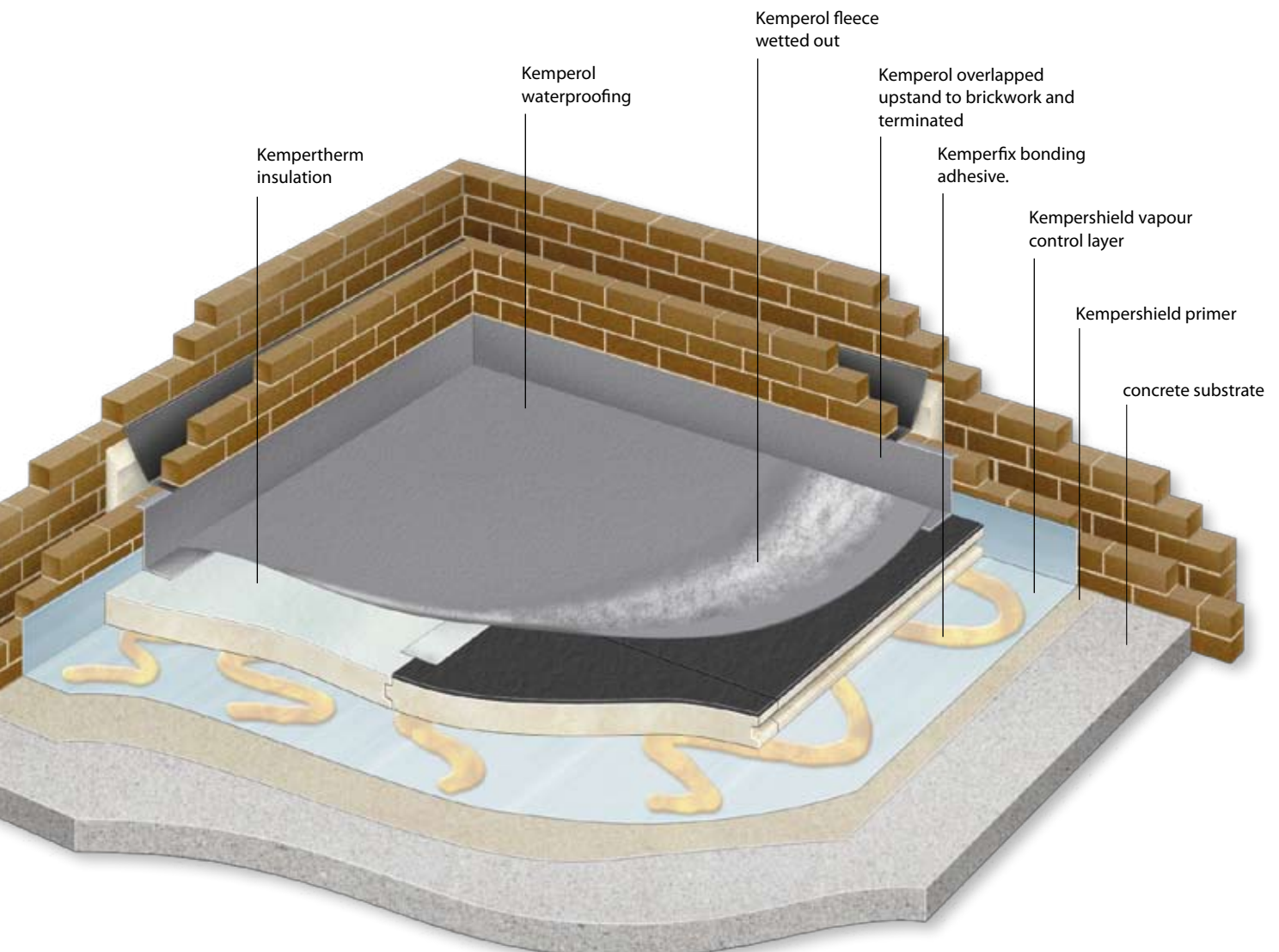
For most applications the insulation is secured using cold-applied Kemperfix, a moisture-curing, single-component polyurethane which adheres to the vapour control layer, once this is bonded to the deck.

Where a mechanical fix is needed, Kemperfix rebated fastenings anchor the insulation whilst retaining a flush finish for the waterproofing membrane.



Our technical team can offer advice on suitability for adhesive or mechanical fixing.

Kemperfix tape is used to temporarily seal joints prior to waterproofing application.

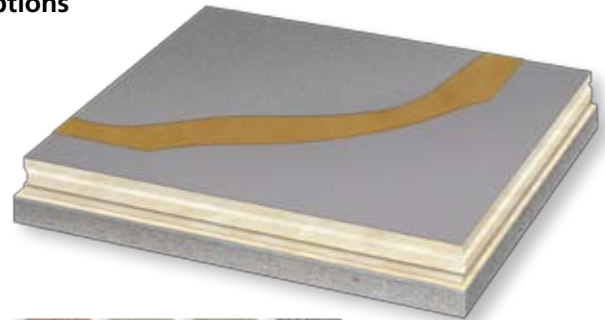


Stratex Options: Surfacing

Stratex is sufficiently robust and durable to withstand long term occasional foot traffic for access or maintenance. For more permanent traffic or where a hard landscaped surface is required it is a compatible substrate for a wide range of surfacing options

Kemperol TC

For a hard wearing and highly durable surface finish, Kemperol TC is a solvent-free surfacing application comprising a resin base with aggregate wear course and resin sealer. It is slip-resistant in both wet and dry conditions and comes in a range of standard or bespoke colours making it a good choice for balconies, small terraces or walkways.



Paving

All Stratex systems can be landscaped using paving slabs seated on loadbearing spacers, an application that is suited to a wide range of modular landscaping materials.

Reinforced systems using Kemperol 'TR' and 'FR' can also be surfaced with promenade tiles fully bonded to the deck.



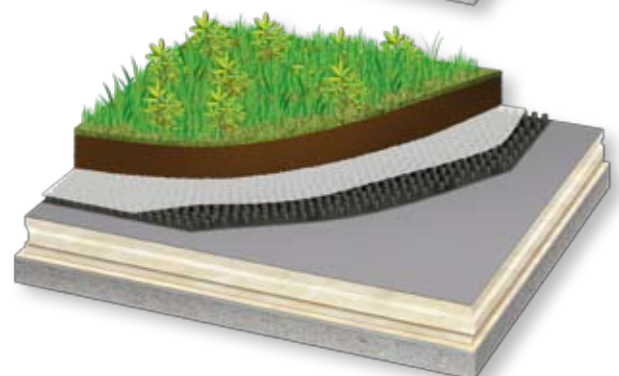
Decking

Timber decking should be fixed onto 100mm bearers (50mm for 'reinforced' Stratex) which can be loose laid onto a 150mm Kemperol fleece 'runner' which will provide suitable resistance to abrasion.



Green Roofs

Stratex offers a complete green roof system, KemperGreen, that includes insulation, waterproofing and drainage components as the substrate for both intensive and extensive green roofs. Fully installed by approved, specialist contractors, KemperGreen has the advantage of being a single-point system incorporating Kemperol's root-resistant waterproofing membrane and is available with the 15 or 20-year Kempersure warranty.



Stratex: Faster completion times

As well as its exceptional performance and durability, one of the additional benefits of Stratex over other cold liquid or torch-applied warm roof systems is its superior speed of installation.

These time savings are made at each stage - preparation, insulation and waterproofing - giving an overall reduction that can bring forward project completion times by several days on even modest-sized projects.

Quicker preparation

The Kempershield vapour control layer has a self-adhesive backing that makes installation onto the primed substrate quick and simple.

Stronger means simpler

Kemperol's polyester reinforcing fleece has an intrinsic elasticity and tear-resistance that means no 'carrier membrane' is required, as with other liquid-applied systems. This eliminates a whole process, saving both material costs and installation time.

On frequently trafficked areas - balconies, terraces and walkways - the Kempertherm 'R' panels avoid the need for plywood reinforcement to be mechanically fixed prior to waterproofing and surfacing, reducing material costs and installation time.

Stratex tapered roof sections are supplied complete - irrespective of depth - making installation easier and quicker compared to deep sections on other tapered systems, where two or more panels have to be built up on site. The pre-cut mitres also save time and reduce material wastage.



Kemperol waterproofing is applied 'wet on wet', eliminating the need for drying time between coats and allowing large areas to be completed in a single day.

Wet is best

Unlike other warm roof systems the Kemperol waterproofing is applied 'wet on wet' - a method that saves considerable time on site.

This 'wet' process not only gives more consistent resin coverage but saturation is visibly obvious - a foolproof method avoiding the need for gauges or electronic testing as with 'wet on dry' systems.

And because there's no need to wait for coats to dry between applications, large areas can be completely finished in a single day and will be waterproof from just 30 minutes. This saves time, is more reliable and makes Stratex projects far less weather-dependent.

Kemperol's bonding properties make terminations to upstands and penetrations exceptionally quick and easy, saving considerable time on larger projects.



A wide range of hard landscaping materials can be applied directly onto Kemperol for decorative or functional effect, such as this natural slate terrace over Kemperol V210

Stratex: Always the right choice

There are various systems and methods available to the specifier looking for an insulated warm roof solution.

So why choose Stratex?

The design of its components and method of application mean Stratex will consistently outperform all other systems – whether hot or cold-applied.

And because it also offers the only solvent-free system in the UK, is the only 'wet on wet' method available and is the only one with interlocking insulation, its versatility is unmatched.

Feature	Stratex	All other cold-applied systems	Hot-applied built-up systems
Interlocking insulation	Yes	No	No
manufacturer-backed warranty	Yes	Some	Some
Type of membrane structure	Homogenous	Laminated	Laminated
Membrane fully bonded to insulation	Yes	Some	Yes
Solvent free option	Yes	No	No
Flame or torch-free	Yes	Yes	No

Covers the weak spots

Almost all roof failures occur on upstands or penetrations, where the waterproofing membrane becomes detached from the structure. On insulated roofs the point of failure is also more difficult to establish, with leaks often tracking several metres before emerging at a point below.

On many built-up systems terminations of the membrane at upstands and penetrations are often made using mechanically or adhesively fixed flashings. All have an inherent weakness.

With Stratex, terminations are overlapped wherever a cut is made, so creating a seamless membrane that bonds directly to the substrate or penetration.

And because these details are cut to shape on site, the accuracy of fit is far better than with pre-manufactured mechanical fittings.



Kemperol bonds fully to the substrate, making it a reliable long-term solution that is far more resilient than mechanically or adhesively-fixed terminations

Smooth and flat

The tongue and joint construction unique to Kempertherm flat boards gives an exceptionally close, engineered fit between adjoining panels.

Not only does this significantly reduce cold bridging, but the interlocking feature virtually eliminates 'steps and falls' across joints resulting in a very smooth, flat transition from one panel to the next.

Improved performance

A further feature of these interlocking joints is the greatly improved thermal performance and energy efficiency compared to the traditional butt-jointed panels used on other systems.

With non-interlocking panels the inevitable gaps that occur between adjacent boards are a major source of heat loss through cold bridging – irrespective of the thermal performance of the actual insulation.

Air trapped in these cavities creates localised areas of very low thermal resistance, reducing the overall effectiveness of the insulation.

Stratex is therefore a highly efficient warm roof with a unique construction that is both energy efficient and easier to lay.

Environmental

The dense, closed cell structure of Kempertherm is so efficient that a 90mm panel can thermally outperform other PIR boards as much as 10% thicker.

It is manufactured using Pentane – a CFC and HCFC-free blowing agent that is independently classified as non-damaging to the ozone layer and having a global warming impact of <5.

Tapered boards include accurate, pre-cut mitres that give a very close fit between adjoining panels. This reduces thermal loss and improves energy efficiency by a significant factor compared to site-cut boards.

Less waste

Factory manufacture to a CAD-assisted cutting plan reduces site wastage by 20% on a typical roof whilst improving quality. This not only saves time and costs but by cuts material wastage to further improve environmental and energy efficiency.

A solvent-free solution

Kemperol 2K-PUR is the only solvent-free cold liquid waterproofing available to UK specifiers. It can be used with a Kemperol TC wearing course for a completely solvent-free waterproofing and surfacing solution.

KemperGreen is a green roofing system incorporating Stratex which can be used for both intensive or extensive planting schemes



Installation and service

Stratex is installed only by fully trained, independent contractors who have completed a specialist training programme and are certified and approved by Kemper.

This ensures the quality of installation matches the quality and performance of the Stratex product, and is backed by the Kempersure 15 or 20-year waterproofing warranty.

Site visits are undertaken as necessary and additional on-site support by our own technical team will be arranged where any special treatment or detailing is required.

This personalised service, the option of a choice of waterproofing and insulation products for Stratex and our ability to offer bespoke performance solutions for specific applications means users are assured of a more durable, long-lasting and reliable system.

Technical Support

We offer a comprehensive service on all projects from design through to completion, including site visits, technical advice, CAD-assisted drawings, model specifications and the full support of our experienced design office team.

For tapered systems, full drawings will be supplied once the details for your scheme have been agreed. Please contact us at an early stage with details of your project or applications and we will advise on the most appropriate and cost-effective Stratex solution to meet your design and performance requirements.

Further Information

For further technical or product information, please contact our technical team on 01925 445532 or visit our website at www.kempersystem.co.uk.



KEMPER SYSTEM LTD
Kemper House, Mill Lane, Winwick Quay, Warrington, Cheshire WA2 8RJ
Tel: 01925 445532 Fax: 01925 575096
Email: enquiries@kempersystem.co.uk
www.kempersystem.co.uk