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2020

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Sarah Spink, CEO

Foreword

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I never dreamt that I'd be writing the foreword for this year's Liquid Waterproofing Supplement in such challenging and unusual times. The Covid-19 pandemic has not only changed the way we live, but how we work and like most industries, the construction sector has been hit hard.

In March and April, we saw several warnings signalling a significant decline in construction activity and output. But despite the negative statistics, there have been some positives in recent months, which should give confidence to all those working in the liquid waterproofing sector and beyond.

According to the latest Office for National Statistics (ONS) report, construction output grew by 8.2 per cent in May 2020 following the record decline of 40.2% in April.

In June, the Construction Leadership Council's Covid-19 Task Force published its Roadmap to Recovery - a plan made up of three phases (restart, reset, reinvent) which will be delivered over the next two years.

I joined a webinar that provided lots of information on the

proposals of this plan, and underlined the importance of a thriving construction industry. As one of the UK's four largest sectors, it's a huge part of our economy and unlike many other industries, the economic benefits are truly nationwide. That's why the Government is committed to investing in the sector and stimulating growth. And the best way to get cash flow into the industry is to keep work going, maintain spending in construction and accelerate the award of projects.

Another important step forward for the industry is the launch of the Construction Talent Retention Scheme. This will secure the vital skills needed to build the UK's recovery from Covid-19, protecting employment for thousands of people working in the construction sector.

Following pressure from the UK roofing industry, which collectively signed a letter to Gavin Williamson MP, the Government has also announced the outcome of the 2020/2021 Condition Improvement Fund (CIF) applications in time for the summer break. It has been confirmed that there will be more than £434m of funding for 1,476 projects at 1,243

academies, sixth-form colleges and non-diocesan voluntary aided schools.

The potential for more refurbishment work puts our sector in a really strong position and it's not just education where the opportunities lie. The versatility of liquids means manufacturers and contractors could see an increase in work for a wide variety of projects involving upgrades to infrastructure and commercial premises.

In many cases, the same liquid membranes that can be applied on a roof, can also be used with ancillary products on a car park, balcony, walls and bridges. It's this versatility which is evidenced throughout this supplement along with the many other benefits that make liquid systems an ideal choice for a vast range of waterproofing projects.

As far as new build developments are concerned, the road to recovery may be a longer one, but as government investment begins to come back, so do the opportunities for liquids.

In recent years, we have seen liquid waterproofing systems specified on a much wider scale than ever before,

including for new construction projects ranging from single properties through to large scale housing schemes and student accommodation.

To support and advise the growing number of specifiers turning to liquids, the LRWA's technical committee has produced a new Design Guide for Specifiers. You can find out more about this new publication and its benefits in this supplement.

As the last 12 months have proven, it is becoming increasingly difficult to predict what may happen to the construction sector and the wider economy in the near and distant future. However, we remain positive about the strength of the liquids industry and its ability to withstand market challenges.

We are incredibly proud of our members' work and the fact that many continued to supply and install liquid products for essential works throughout lockdown. This is another indication of the resilience of the liquid roofing and waterproofing sector, which is still very much open for business and ready to take advantage of new opportunities.



Liquid Waterproofing: the Ideal Solution for Buried Applications

Sarah Spink, CEO of the Liquid Roofing and Waterproofing Association (LRWA), discusses why liquids are the perfect waterproofing option in buried roof applications.



The popularity of buried roofs - which include inverted, green and ballasted - continues to grow, as the construction of these systems offers many benefits. They enable additional space to be created on top of buildings that can be used for a variety of purposes, such as a terrace for residents or a green area to improve environmental performance.

Another major benefit is that an inverted roof – also known as a ‘protected membrane’ or ‘upside down’ roof – is constructed with the insulation on top of the waterproofing covering.

Insulation boards are loose-laid on top of the membrane and then weighted down with paving slabs or gravel ballast. This protects the waterproofing membrane from extreme weather as well as UV degradation.

Liquid Benefits

Most inverted roofs are installed on concrete decks, and a range of waterproofing systems can be used. Specifying a liquid-applied system can, however, offer many advantages compared to other waterproofing methods.

Liquid technologies result in seamless and flexible membranes that fully bond directly to the substrate, providing excellent waterproofing performance. They are also quick and easy to install, especially around any detailing, and root resistant grades are available, specifically designed for use on green roofs.

Correctly installed and maintained, liquids can guarantee a roof remains watertight for more than 25 years. Some liquids such as hot melt monolithic systems,

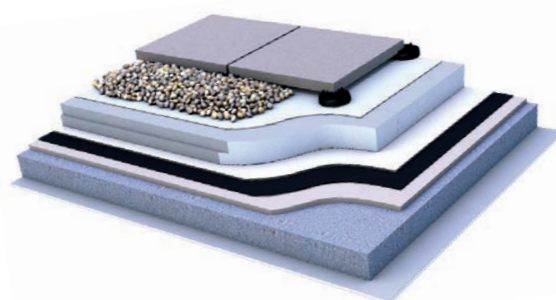
which are frequently used for inverted roofs, even have a British Board of Agrément (BBA) certified life expectancy of ‘the life of the structure it is applied to’, providing clients with reduced building maintenance, peace of mind, and whole life cost benefits.

Specification Considerations

During design and specification of an inverted roof, care must

be taken to ensure the deck is designed properly to avoid back falls and ponding water.

BS 6229:2018 - ‘flat roofs with continuously supported flexible waterproof coverings’ – Code of Practice was published in November 2018. It sets out guidance and recommendations on current best practice in the design, construction and maintenance of flat roofs.



Within this code, it states that where inverted roofs are designed and installed to achieve zero falls, the roof should be constructed to avoid backfalls or ponding and promote free drainage. Inverted roof constructions drain at two levels - the level of the water flow reducing layer (WFRL) and the waterproofing level, i.e. the structural deck.

A WFRL is a loose laid membrane and is installed over the roof’s thermal insulation layer, and below the roof covering. It acts as a barrier to rainwater, reducing the volume of water that can reach the waterproofed roof deck.

The LRWA recently launched a free technical download - ‘Guidance Note 14: Best Practice for the Installation of Water Flow Reducing Layers’ – which offers installers more detailed information on how to ensure a water flow reducing layer (WFRL) performs correctly.

In regard to creating falls on new-build roofs i.e. at structural deck level, it’s important to remember that flat roofs are usually always constructed with slight falls to allow effective drainage. However, minor variations in the surface, post-installation, allow water to collect with no way of draining. It is therefore advisable to design roof falls greater than the required finished falls to allow for construction tolerances and dead and imposed loads.

In minor cases, water disappears within a few hours, but on poorly constructed roofs where the structure has moved or sagged, water can remain for days or weeks. In these circumstances, the condition is called ponding.

To avoid such issues, reference should be made to BS 6229:2018 guidance, and when working on residential projects, the National Housebuilding Council (NHBC) Standards, too. BS 6229 recommends that to achieve a level surface, a fall of 1:80 should be designed. It is essential that local application of self-levelling screed can correct points of

deflection that would otherwise hold water. Alternatively, positioning outlets at low points identified by a deflection analysis can also be an effective strategy.

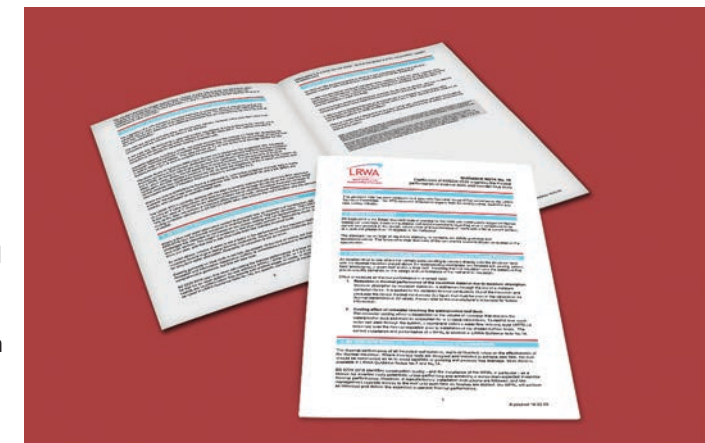
Collaborative Working

The LRWA is continuously working closely with other associations such as the Single Ply Roofing Association (SPRA) and the BBA on key projects which will have a direct impact on our members in the future. One such project is the update to BBA Information Bulletin No. 4 - a technical guidance document describing two areas of inverted roof design and specification. It

industries and contractors. This is the first time the inverted roof industry has come together to work collaboratively for the good of the sector.

The LRWA STG has developed and published new industry guidance such as ‘Guidance Note 14: Best Practice for the Installation of Water Flow Reducing Layers’ as mentioned earlier, and ‘Guidance Note 15: Clarification of BS 6229:2018’ regarding the thermal performance of inverted roofs and blue roofs.

In addition, ‘Guidance Note 7: Specifier Guidance for Flat Roof Falls’, has been updated to include advice on designing falls in line with BS 6229:2018 – the British Standard code of



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includes the drainage of inverted roofs, and how to accurately calculate a rainwater cooling correction factor for U-value calculations, and is due to be published soon. Working in unison other sector bodies ensures the industry offers consistent guidance to specifiers.

Recognising there was a need to develop more guidance for inverted roofs, the LRWA has also established a Specialist Technical Group (STG), consisting of experts from across the waterproofing, insulation, blue roofing

practice for flat roofs with continuously supported flexible waterproof coverings.

These resources provide all those involved in inverted roof design and construction with comprehensive advice and explanations to help ensure best practice is followed.

More information about this and the LRWA’s new guidance notes can be downloaded free of charge from the website, and we would advise both specifiers and contractors to make use of these invaluable documents.

Green Roof Systems

Liquid waterproofing systems also provide one of the most long-term and cost-effective solutions for a green roof system. Correctly installed and maintained, they can offer durable and robust qualities, often in excess of 25 years.

In 2016, according to findings in ‘UK Green Roof Market’ report produced by Livingroofs.org the industry was estimated to be worth £26.2M – and this was expected to increase year-on-year with a shift away from its traditional focus on London. These figures clearly reveal the evolution of green roofs from a specialist eco-feature to much more ‘mainstream technology’.

The report says the increase of green roofs has partly been in response to ‘...environmental concerns associated with climate change adaptation, a greener approach to construction and to a certain extent, the need to consider biodiversity within the built realm’.

The popularity of green roofs, especially in more built-up areas like London, has meant best practice and maintaining standards is more important than ever. Which is why it is fantastic that GRO (The Green Roof Organisation) has now become an official trade association, which the LRWA are members. We look forward to working more closely with GRO in the future.

A Positive Outlook

In the last decade, the liquid waterproofing sector has grown rapidly, which has attracted more manufacturers into the market. During this time of growth, it is important for specifiers to select products, which have independent accreditations such as BBA, BDA and ETA certificates, and that also have the ISO 9001 standard.

Trusted trade associations such as the LRWA can also provide guidance and technical support to ensure the most appropriate product choice.



R G Scott's Architectural Jewel Restored to Former Glory with Repoma Liquid



Our Lady Help of Christians Catholic Church in Birmingham is among the most celebrated designs of the renowned architect, the late Richard Gilbert Scott. The most prominent feature of the building is its vertical and sloping obelisk roof which has now been restored to its former glory with the expertise of SIG Design & Technology.

Despite previous resurfacing of its copper roof in 2000, the structure of this iconic church had deteriorated in recent

years and reached the end of its useful working design life. Project leaders, APEC Architects, specified a new covering for 'Our Lady' to achieve a longer design life and protect the fabric of the building.

APEC conducted extensive research on the church's original roofing and detailing, which included a visit to the RIBA Archives at the Victoria & Albert Museum to determine the most appropriate restoration approach.

James Phillips, Director and Chartered Architect at APEC, commented: "The biggest challenge we faced was finding a material to re-roof the building with, as the original covering (a copper foil faced bitumen sheet) is no longer manufactured.

"The roof presents a number of challenges; it curves in two directions and goes from flat to vertical, meaning the use of sheet metals would not work. The existing bitumen covering had also bonded with the concrete below, making it

impossible to remove without damaging the concrete."

Due to the church's architectural status, Historic England took an interest in the restoration and specified that the roofing finish should match the colour and texture of the original copper membrane of the 1960s.

'Product agnostic'

With the in-depth product knowledge of suitable conservation methods for listed buildings, SIG Design & Technology played a vital role in the material choice. As a supplier rather than a manufacturer they are 'product agnostic' and can advise on a range of waterproofing products to suit the project.

Due to the construction of the building envelope, a close assessment revealed that stripping away the original roofing membrane – or any part of the structure below 10mm in depth – might affect the listed building below. So, the roofing technical experts at SIG had to work with the 50 plus-year-old original structure.

Heavy pollution in the atmosphere was causing a number of problems for the building, including the discoloration of the green

patina and heavier roof joints, leading to an increased risk of water ingress.

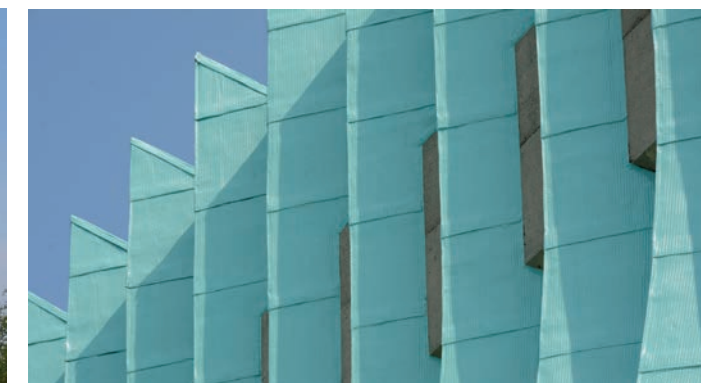
The perfect liquid roofing solution for a conservation project

Being specialists in more than one roofing system, SIG Design & Technology could advise on a range of suitable replacement materials. APEC compared the available options and decided that liquid waterproofing system Repoma® proved to be the ideal choice. Technology unique to this waterproofing system combines the flexibility and crack bridging qualities of PU liquids and the key renovation benefits of MMA resins. Suited for the repair of roofs, the liquid system can waterproof almost any roof surface without removal.

To ensure the product would work on this historic roof, SIG provided samples and conducted on-site tests to confirm adhesion and satisfy the relevant authorities. A key benefit of recommending a liquid system is that it can be overlaid on the existing membrane and the existing pattern and texture of the original finish appreciated, something that was critical to retaining the integrity of the original architect's vision.

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SIG also worked with the manufacturers to create a bespoke patina to match the original tint of the copper roof. To perfect the outcome, SIG



even consulted a painting of the church believed to have been created by a parishioner of 'Our Lady,' which was based on a photograph.

The perfect colour match was achieved by providing Repoma's manufacturer with an original colour sample. A spectrometer determined the precise pigment ratio required and the top coat was supplied mixed ready for application.

SIG DATAC Approved Contractors

Work was undertaken by SIG DATAC approved contractors, The Rio Group. The unusual roof shape provided numerous problems for the installers with over 75% of the roof area requiring a vertical installation of the liquid system. The experience of the installers at The Rio Group was able to meet the significant challenges, including difficult transitions

between vertical to horizontal and maintaining a uniform appearance throughout all elevations, as requested by the architects. In preparation for the application of Repoma® liquid waterproofing, the existing roof was power washed and copper system solvent wiped to remove all dirt and to provide a suitable key. To ensure longevity of the system with the heavy pollution, a base coat and two layers of top coat were applied.

Ross Finnie, Sales Director said: "Restoring Richard Gilbert Scott's church is a very prestigious conservation project. Our work in creating the optimum patina colour match was something of a game-changer in delivering project support to the conservation architect."

SIG Design & Technology

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How to solve your liquid roofing puzzles?



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Tor Coatings Case Study: Tintagel House

The Tor Coatings Elastaseal Z roof coating system is a cold-liquid waterproofing solution designed to offer long-term protection for flat roofs, gutters and pitched roofs in as little as two coats.

The system uses innovative technologies to deliver a fast, safe and completely odourless application that causes virtually no disruptions to the day-to-day operations of a building or its residents. With this zero-odour formula, Elastaseal Z is able to bring a safer, more user-friendly experience to sites where fumes can be hazardous, such as food, pharmaceutical and beverage manufacturing sites, hospitals, schools, commercial offices and retail units. The system can also be applied as a wet-on-wet system, dramatically saving time and costs for clients.

Following the success of the system, Tor Coatings has worked on a number of projects using the Elastaseal Z coating system, delivering long-lasting protection for up to 30 years.



CONTACT TOR COATINGS

To arrange a free site survey, please contact one of our Area Business Managers on 0191 410 6611 or email enquiries@tor-coatings.com

Case Study: Tintagel House, London

Introduction

Tintagel House forms The Office Group's latest serviced office accommodation, located on Albert Embankment in South London, immediately overlooking the River Thames. The 12-storey building also offers a wealth of supporting facilities and communal spaces including a café, bar, gym, lounge and kitchens.

Free Site Survey

Before the correct coating system could be specified, Tor Coatings carried out a comprehensive free survey of the site to ensure every aspect of the project was clearly understood and all defects were documented thoroughly.

Tintagel House's location on the River Thames presented significant challenges, such as high winds, difficult to access areas and the management of weight being loaded onto the membrane. As a large building site, there was also the added risk of working in close proximity to many other trades.

Project Specification

The seamless Elastaseal Z liquid system was specified for Tintagel House. The system is compatible with almost all existing roof substrates and, on

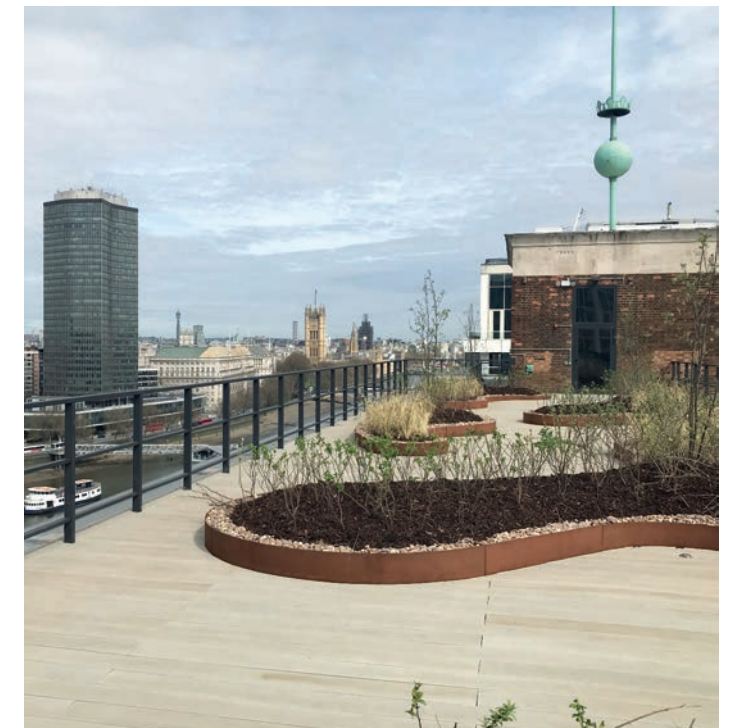
this project, would allow the new waterproofing layer to be installed over the existing membrane. This delivers significant benefits on a live site, such as ensuring the building would not be compromised whilst the failing roof membrane is removed (as would be required when replacing asphalt or felt systems). The process would also eliminate the need for the failed roof membrane being sent off for landfill, and no joints in the new roofing system would also prevent any risk of leaks.

Installation

The project was carried out by our approved contractors, Capital Roofing Limited, with site support from the Tor sales and technical service team.

Continued Support

In addition to the comfort of having a 25 year BBA accreditation, the project is covered by Tor's comprehensive 25-year single point warranty. During this period, we will carry out regular scheduled inspections to ensure that performance is delivered for the client.





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Bright and Uplifting – Whitesales Em- Glaze Ridgelight Drenches Interior with Natural Light



Home improvement projects have certainly changed over the years – facilitated by the development of a wide range of products and technologies to enable fast and safe installation and refurbishment. Homeowners now have a variety of options to make better use of their available space. One key feature that has become increasingly popular in today's home extensions is a lantern roof or a skylight. Rooflights create brighter living

spaces and will enhance an extension with unbeatable natural light.

Extensions with cold-applied liquid solutions are also fast becoming the solution of choice for domestic flat roof projects. Ease-of-use and outstanding long-term performance mean liquid waterproofing is the ideal accompaniment to flat roofs with integrated roof glazing.

Although modern rooflights are often designed for ease of installation, the process will still

involve consideration of many factors relating to the roof structure. Factors such as loading capacity, insulation, ventilation and fire performance must be considered – as well as ensuring effective weather proofing. Liquid waterproofing provides a long lasting and durable finish and seamless interfaces to other construction elements.

Added value and design appeal

Rooflights have the power to completely change the look and feel of a room and offer additional value and design appeal to a home. Roof glazing creates a much more open plan feel to any internal space and skylights can also reduce energy usage and energy bills. Adding a glass ridgelight to a low ceiling, for example, can make it feel higher and dramatically enhance the aesthetics.

As rooflight specialists, Whitesales design, manufacture and install an extensive range of roof glazing products to exact specification and needs. Many homeowners develop their vision with their architect and builder, whilst working with Whitesales as a trusted manufacturer and consultant to help ensure the glazing elements provide the best solutions.

In this recent home extension project, Whitesales were asked to provide a sleek, minimalist rooflight which would complement the home's design and drench the interior with natural light - providing a bright, uplifting and opulent feeling atmosphere.

An Em-Glaze modular ridgelight was specified, featuring a slimline aluminium framework powder-coated in Anthracite Grey RAL 7016. Em-Glaze ridgelights exceed all regulations of impact-resistance, durability, environmental and thermal performance.

An important part of any roof glazing is the glass specification. With years of experience across a wide variety of projects, Whitesales advised on the glazing specification to achieve optimal thermal, security and safety performance. The installed unit also features self-cleaning glass to keep the glass free from organic dirt, providing a surface that requires less cleaning.

The Em-Glaze ridgelight truly enhances the dining room area, allowing natural sunlight to beam through the room and whether guests are dining underneath a clear or cloudy sky – either way, it's definitely one way to bring the outside in!

For more information contact Whitesales on (01483) 917580, email sales@whitesales.co.uk or visit whitesales.co.uk





Liquid Waterproofing for Infrastructure

The versatility of liquids is vast and Sarah Spink, CEO of the Liquid Roofing and Waterproofing Association (LRWA), explains why liquid waterproofing is prevalent in use for highways projects.



Fast cure resin repair mortar to concrete deck, followed by Eliminator® spray applied liquid waterproofing by Metrail Ltd.

Although the Government's 2020 Budget will be remembered principally for the Covid-19 response, it also confirmed a £27.4bn allocation for the Road Investment Strategy (RIS2) - the largest funding settlement ever made in England for roads.

With a number of schemes already underway in its portfolio, Highways England (HE) is in a strong position to accelerate the upgrade and expansion of the Strategic Road Network (SRN) over the 2020-25 period of RIS2.

When specifiers think about liquid waterproofing, they may automatically consider it for roofs, balconies and car parks. Yet, because of the versatility of liquid products and the complexity of the different chemistries available, it also lends itself well to the refurbishment and construction of bridges.

Liquids in Infrastructure

The fundamental difference between the requirements for waterproofing roofs and highways is the purpose of the

The chemistries behind liquids for bridges are designed for robust civil engineering application.

liquid. Typically, we are trying to exclude water in a roofing application, whereas the key element for highways is to protect the structure.

An approved liquid solution will prevent the corrosion of the embedded steel in the reinforced concrete deck of the bridge, or even the steel directly. When water and oxygen mix, there is high potential for corrosion and over time, the corroded steel expands, causing the concrete to 'blow'.

This spalling of the concrete deck means the road or bridge could lose structural strength. Concrete is a good material for compression, but not so good

in tension, and without protecting the embedded steel, a bridge can become structurally unsound.

The chemistries behind liquids for bridges are designed for robust civil engineering application. Methacrylic resins are used as well as polyureas and polyurethane solutions.

Key Benefits of Liquids

Speed is absolutely critical when it comes to transport infrastructure. Busy commuter routes taken out of service create disruption to local traffic – which is why the works need to be completed as quickly as possible.

Liquid waterproofing solutions are ideal in this scenario as they can deliver a faster return-to-service. Quick application and curing times are vital – reducing labour costs and minimising road disruption.

Some liquid membranes cure in about 20 minutes, even in winter this can be less than an hour.

Everything is speed orientated, and many manufacturers offer a spray-applied system which

is quicker and easier for operatives. Some systems are hand-applied, but can be a slower or more labour-intensive application process.

Liquids are also highly robust and can protect a road structure for many years. The presence of chlorides on a road from salt spreading also accelerates corrosion, and a structure could be deemed unsafe in less than a decade because of this. The liquid protection needs to be highly robust in order to resist damage from other trades, such as laying of kerbs and application of hot rolled asphalt surfacing.

The longevity of liquids is also a key benefit, and some trusted and approved liquid solutions have been found to continue to perform in excess of 30 years.

Asphalt surfacing typically may require replacing after only 8-10 years because of the high stresses found on busy truck roads. Yet the durable liquid waterproofing often remains fit for purpose and with care, can sometimes be retained during re-surfacing.

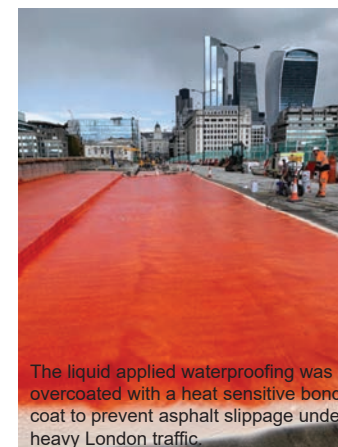
Specification

When specifying a liquid system, it's important to research the temperatures it can withstand as the toughest challenge the waterproofing will face is what is laid on top of it.

Typically, hot rolled asphalt, often used for roads and bridges, is applied at temperatures of up between 150 and 190 degrees Celsius. The waterproofing has to be resistant to these high temperatures and cannot soften for it to maintain integrity and avoid damage.

Heavy civil engineering machinery will be driven onto the newly laid waterproofing, including delivery trucks and asphalt paving machines with burners – so the waterproofing must also withstand these early demands.

Asphalt mixes containing more than 20mm aggregates can be laid, which is then rolled and compacted on top of the liquid,



The liquid applied waterproofing was overcoated with a heat sensitive bond coat to prevent asphalt slippage under heavy London traffic.

driving the aggregate towards the waterproofing. This is how robust the waterproofing must be to withstand such pressures on the surface.

Installation Considerations

Some liquid manufacturers offer a thixotropic liquid waterproofing applied by spray, which aids the material coverage even with surface irregularity. This is an ideal application when it is not

practical or necessary to prepare the concrete substrate significantly to achieve a smooth base, which also saves on cost and time for the contractor and end client.

The tolerance to humidity and temperature of some liquid systems enable them to be used down to -10°C. This means when the weather is variable, disruption to programmes is minimal, even during winter, and the scheme can continue to run.

During application, liquid system applicators generally measure wet film thickness to achieve a minimum dry film thickness of 2mm – this is a requirement for the entire industry under the Highways England National Approval Scheme.

Operatives use wet film gauges with some liquids to ensure the correct thickness is being achieved. Usually, only one coat of liquid is required in the

UK, but a two-coat system can help operatives to achieve full coverage, especially on irregular substrates. Some manufacturers offer two colours of liquid, making it easier to check the thickness of the first coat prior to applying the second.

The liquid waterproofing should then be overcoated with a heat sensitive bond coat finishing layer, which basically acts like a glue. When the high temperature of the hot asphalt surfacing material is introduced, it bonds with the liquid without melting the membrane. This is important as it will prevent asphalt slippage under the heavily trafficked road.

As with any liquid waterproofing system, full manufacturer training should be undertaken by contractors prior to working on site to ensure operatives are fully confident in using the specified system.

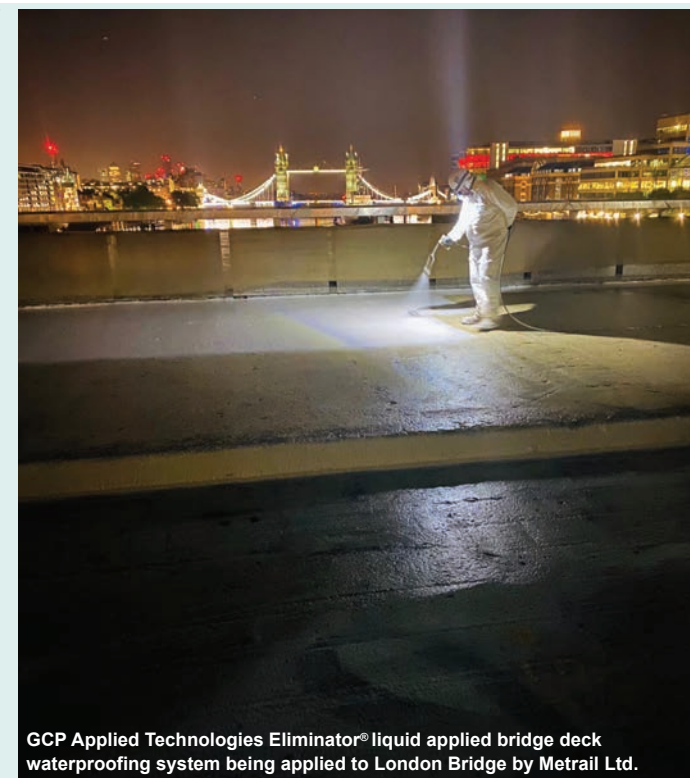
Project Spotlight – London Bridge

There are many examples of where liquid waterproofing has really come into its own. One most recent example is the refurbishment of the iconic London Bridge.

Despite much of the country being in lockdown in March 2020 due to the COVID-19 pandemic, major maintenance works on London Bridge started as planned whilst traffic volumes were low to minimise disruption and reduce emissions.

The works included replacement bearings and repairs to the concrete deck followed by the application of a liquid applied waterproofing system and asphalt surfacing.

Principle main contractor, FM Conway, selected Metrail Construction to carry out the waterproofing and concrete repairs to the 10,000m² of deck for the City of London Corporation, funded by Bridge House Estates. The works included the removal of the existing asphalt road surface followed by the old waterproofing material, which was a liquid bituminous membrane protected by quarry



GCP Applied Technologies Eliminator® liquid applied bridge deck waterproofing system being applied to London Bridge by Metrail Ltd.

tiles. The exposed concrete bridge deck was then cleaned and repaired in areas as required to provide a sound base for new waterproofing and surfacing to be laid.

The liquid waterproofing protection system used was a fast curing and highly durable

solution which was cold-applied, therefore reducing programme times and minimising disruption to users, whilst also resisting site traffic as commonly seen on civil engineering sites that includes the process of applying the new asphalt road surface.

Approved Systems

Liquid waterproofing systems for highway bridges must have the relevant certification and testing to be approved by the National Highways Standard.

The Highways England (HE) design manual for roads and bridges publication, CD 358 'Waterproofing and Surfacing of Concrete Bridge Decks', gives the requirements for the design, materials and workmanship for the waterproofing and surfacing of concrete bridge decks.

Approval for use includes demonstration of compliance to this standard to include product testing, site and factory assessments.

The attributes of liquids have also meant that specialist waterproofing coatings have also become widely used in some of the most demanding applications on buildings, such as on podium decks, basement roofs and inverted roofs.

It's important to remember the huge scope of liquids and relish in the versatility of the chemistries available to us.



Flex-R: Festival Place Shopping Centre, Basingstoke

When Festival Shopping Place in the heart of Basingstoke needed a flat roof refurbished as part of urgent maintenance works, a zero odour solution was required that would allow the building to stay open to the public throughout installation.

Recently the roof had developed a problem with intermittent leaks and despite numerous attempts at remedial work water ingress was still causing continuous problems for the retail units below. With the Christmas period fast approaching Management Consultants Workman LLP required a reliable refurbishment solution which could complete in a short 12-week window.

Working together

The contract was secured through Valley Roofing UK Ltd and as a Specialist Registered Installer (SRI) they called on the support of Flex-R to liaise with the client, provide detailed technical information and recommend a suitable waterproofing system. This combination of Flex-R, a leading supplier of professional flat roofing systems, and Valley Roofing has delivered the refurbishment of this large shopping centre roof within a tight deadline.



"It was clear from the outset that liquid waterproofing was the best – and most cost-effective – solution for Festival Place" said Ben Hulks from Valley Roofing. "We turned to Flex-R because we are already one of its Specialist Registered Installers and knew that the level of technical support is second to none. With the level of trust and relationship we have with Flex-R, we knew we could call on their support and extensive expertise to get the right advice on design and material recommendations for this project.

Roof survey

To get the full scope of this project Flex-R Regional Specification Manager Michael Iddenden-Smith undertook an extensive survey which took two full days due to its large 3,000m² size and the amount of mounted plant, equipment and trunking. The survey identified that although there were problems with the existing membrane and the lead flashing had come away in areas, the existing substrate was in good condition and the insulation met current building standards.

As an 'SRI', Valley Roofing receive ongoing training in the product they work with and understand how to get the most out of the waterproofing system to deliver a superior installation. This support was crucial in providing assurances to the clients.

When it came to recommending a suitable roofing solution Michael had several considerations to factor in. With the shopping centre in operation and up to 1,000 people per day using the shops only a few feet away health & safety considerations meant that there could be no hot works for this project. There

was also the potential for fumes to enter the building through air conditioning intakes on the roof. These units could not be shut down and it was vital that a solvent and fume free solution was used in the course of the refurbishment.

An odour free waterproofing liquid system

Michael had no hesitation in recommending an overlay solution using LQD-R², a wet-on-wet cold applied liquid waterproofing system. A liquid product would also avoid the need for complex edge detailing associated with single ply around the plant.

"We had previously used LQD-R² for the overlay of another roof at Festival Place and Workman LLP were delighted with the effectiveness and reliability of the product" said Michael Iddenden-Smith; "With so much plant material it

"Working with LQD-R² has given significant advantages on a roof with this level of complexity and product worked so well the project finished ahead of schedule."

would have been too disruptive and noisy to take up and replace the existing membrane and almost impossible to use a single ply and meet the tight 12-week deadline. Hot-melt systems were not deemed a suitable solution, given that it was essential that disruption be kept to an absolute minimum so as not to impact shoppers or retailers."

"The client also wanted the reassurance of a 25-year single point warranty which would cover installation by the contractor and the materials used. We could offer this through LQD-R², one of the longest warranties on offer for a liquid waterproofing solution."

An ideal solution

There are several reasons why installers like working with the LQD-R², the product is a wet on wet system and goes down in a single pass. Valley Roofing worked methodically, splitting the roof in sections over the 12-week project. For the installation process, the roof was first cleaned. Then a base coat of LQD-R² applied, into which a fabric was embedded so that saturation occurs. Finally, a top coat of the liquid system was applied to the fabric ensuring a smooth finish.

The product cures quickly and can be applied in almost all conditions. A single component liquid, it does not require a



catalyst to be mixed into the product before use. At the end of each day the contractor can seal the container then reopen and mix the next day and its ready to use.

Michael Iddenden-Smith adds "Working with LQD-R² has given significant advantages on a roof with this level of complexity and product worked so well the project finished ahead of schedule."



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Britannia Paints Advanced Coating Systems Completes Major Dublin Roof Encapsulation

POLYSHIELD - A reinforced built-up rubber based coating system with a BBA certification, where a greater life expectancy is required on a roof.

Musgrave Market Place in Dublin is enjoying a fresh lease of life following the application of a new roof waterproofing system from Britannia Advanced Coating Systems working with approved contractor, David Jameson Roofing.

The project was undertaken in summer 2018 and involved the full encapsulation of the Market Place's 8000m² corrugated asbestos six-profile sheet roof. The specified waterproofing system was Britannia's Polyshield Liquid Coating.

After a site visit and discussion between all parties, Britannia's Roofing Manager Kevin Killen put forward a proposal of works that was approved by the client. This was followed by further discussion leading to agreed timings and application methods.

After debris had been removed, a full coating of Britannia Anti-Fungal Wash was applied to all parts of the roof. The contractors then spray-applied a first primer coat of Polyshield to seal the roof. As specified, a second primer coat was then applied to provide the Polyshield system with extra strength.

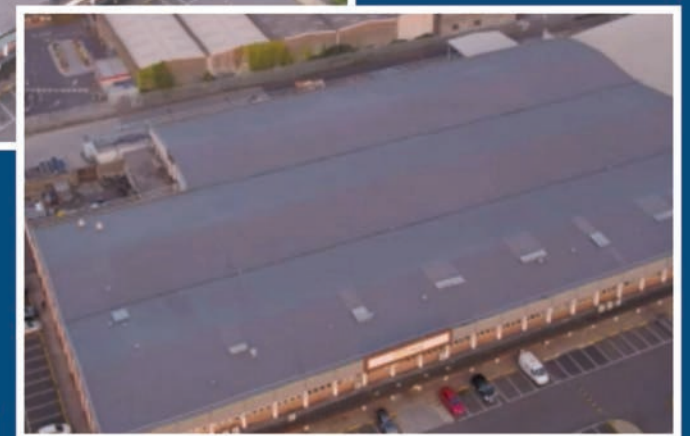
"Good weather meant we completed ahead of schedule, which was great."

John Symmington, Jameson Contracts Manager

Working from secure safety platforms, the roofers' next job was to roller apply Polyshield base coat to all vertical and horizontal laps. These were reinforced with Polyshield polyester mesh.



Before



After

"A very successful project handled well by Britannia's Kevin Killen and everybody in the Jameson team."

David I Johnstone, Britannia Paints' Managing Director

Once the four installation crews had completed one roof section, the spraying crews then finished base coating all other parts of the roof on a conveyor-type basis. This agreed method of installation

reduced standing time and used man power in the most effective way.

Finally, Polyshield top coat was applied, providing a seamless, watertight finish to a well planned and executed project.

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This new evolution of our BBA* approved Delcote system provides:

-10 year manufacturer guarantee. single coat system simplifying application and lowering cost supporting shorter tenancy agreements and dilapidations.

-25 year manufacturer guarantee. dual coat system to mirror the proven industry performance of the Delcote system.

With over 25 years of proven performance, the durable Delcote roof coating system continues to lead the way when it comes to the ongoing demands of modern pitched metal roofs.

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Delcote is an inorganic coating with outstanding proven resistance to weathering from UV, rain, snow and temperature extremes to retain high movement accommodation, flexibility and adhesion without cracking, peeling or chalking.

Delcote 10 and Delcote 25

Our years of experience in proven roof systems underpins our confidence in evolving Delcote. We have listened to industry needs, and are pleased to now offer two manufacturer backed guarantees of 10 or 25 years supporting short and long term building lifecycle options.

Delcote 10 - 10yr guarantee

1 coat application

Supports shorter tenancy agreements and dilapidations

Reduced application time

Can be topped up for a further 10 or 25 year guarantee

Staged approach to roof lifecycle maintenance

10 years BBA* guaranteed

Delcote 25 - 25yr guarantee

2 coat application in contrasting shades to ensure even coverage

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Why choose Delcote

Performance

- The only AA fire rated roof coating system (BS 476-3)
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- Naturally corrosion resistant and water repellent
- Chemically resistant
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Application

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- 15-30 minute skin over time**
- 1-2 hour tack free time**
- Any subsequent soiling of the product can be easily removed by a simple detergent wash

*approved - pending certificate issuing **temperature dependant



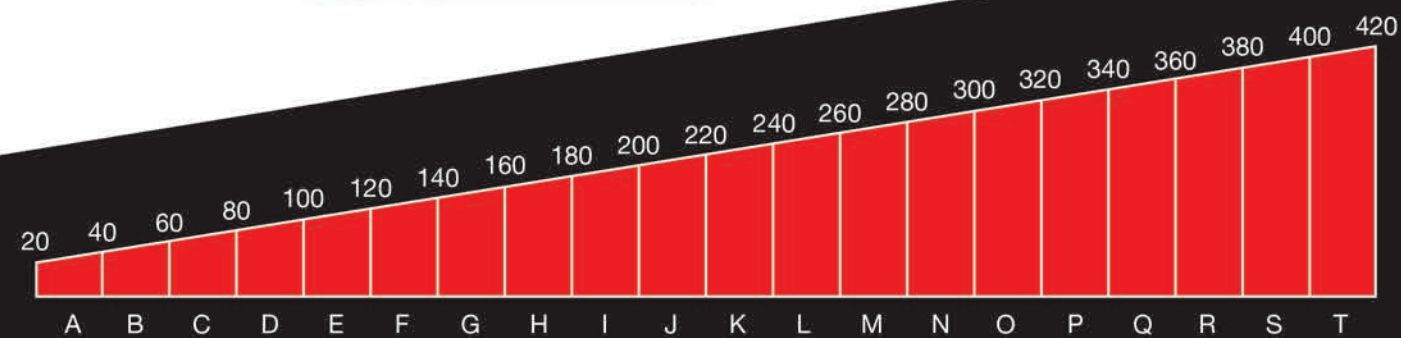
Delcote is BBA* certified and the only AA fire rated roof coating system.

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Gradient's technical teams were available at every stage of the project; from the initial consultation and design phase, through to installation and aftersales support.

Gradient Expertise and High-Performance Insulation Systems Ensure Roof Achieves Thermal Performance

Gradient's turnkey service offering, in conjunction with high performance insulation, helped achieve the desired U-value performance on a highly challenging remodelling project at a private residence in London.

Ultra-thin vacuum insulation solution, Deck-VQ®, and Powerdeck® F boards supplied by Gradient, were a key requirement of a built-up insulation system installed as part of a refurbishment project in Wimbledon, south-west London.

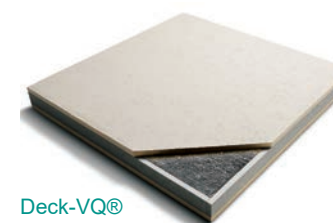
The owners of the large, detached property in Parkside Gardens required a solution for a flat roof within restricted build-up height to protect a building containing an indoor swimming pool. The 125m² roof included low perimeter parapet walls. In these areas, it is essential insulation build-up is kept to a minimum to ensure the waterproofing isn't compromised. Due to its minimal thickness and high thermal performance Deck-VQ®, which is produced by Gradient's sister company Recticel, was selected as the ideal solution.

The Deck-VQ® vacuum insulation panel (VIP) is encapsulated to protect the Core-VQ at its centre, which has a market-leading 0.006



declared lambda value – the best performance on the market. This capability makes it the ideal insulation solution for flat roof and terrace applications where space is limited and material thickness is an issue, but high thermal performance is required.

The flat roof also featured 40mm-thick Powerdeck® F boards, which were used as infill panels within the insulation build-up. Powerdeck® F boards offer high-compressive strength and excellent thermal performance ($\lambda = 0.024 - 0.026$ W/mK). This ensures the flat surface finish required for optimum performance in a range of waterproofing systems in new-build and refurbishment projects.



Deck-VQ®



Powerdeck® F

For the Parkside Gardens project, the Deck-VQ® insulation panels and Powerdeck® F boards were installed by contractor Mulberry GBC Ltd on behalf of CC Construction, as part of a warm roof system, recommended by cold liquid-applied waterproofing manufacturer Triflex. As a partner of Gradient, Triflex had access to the company's 'one-stop-shop', turnkey service. It meant Gradient's technical teams were available at every stage of the project; from the initial

consultation and design phase, through to installation and aftersales support. This close working relationship is seen as crucial to enabling Gradient to develop a bespoke single-layer roofing solution to suit a client's precise requirements.

This exceptional level of client support included Gradient working with Triflex to produce condensation risk analysis calculations prior to roof installation work starting in Parkside Gardens. With indoor swimming pools there is a higher level of humid, warm air in the room beneath the roof; therefore, the analysis provided was essential to Gradient specifying the correct insulation type and thickness in order to eliminate the potential for surface and interstitial condensation.

Mark Gregory, Technical Manager at Triflex said: "Gradient's expertise and attention to detail, in conjunction with the Deck-VQ® insulation panels and Powerdeck® F boards, were invaluable to the success of this project. From design to installation and thereafter, Gradient was with us every step of the way when it came to the roof's installation. The company provides an all-round, first-class service."

Easy to handle and install, the Deck-VQ® insulation panels and Powerdeck® F boards were key to the Parkside Gardens project's completion. As part of the warm roof's overall composition, they ensured the roof achieved a U-value of 0.18 W/m²K in accordance with Part L building regulations.

The products, in conjunction with Gradient's technical and customer service support throughout the project, guaranteed the roof met the required thermal performance and will remain protected against damp and ingress for many years to come.



Specifiers: Your New Guide to Liquid Waterproofing

Sarah Spink, CEO of the Liquid Roofing and Waterproofing Association (LRWA), explains the importance of its new design guide and how it will help specifiers correctly select and apply liquid products.



The versatility of liquid applied systems means they are now a leading solution for both new build and refurbishment projects.

Advances in technology have brought new products to market that can be used for a huge variety of applications, including balconies, walkways, green roof terraces, and pedestrian trafficked podium roofs.

With more specifiers now turning to liquids, the LRWA has produced a new go-to guide offering extensive information and advice to assist with developing specifications.

Drawing on more than 40 years' experience and extensive research, the LRWA's Design Guide for Specifiers - Liquid Applied Waterproofing Systems for Roof and Balconies - has been produced by the association's technical committee, comprising representatives from across our membership, including manufacturers,

individual performance as well as how they work together as a system.

- ❑ Different aspects of workmanship relevant to design and supervision roles.
- ❑ Appropriate inspection and maintenance schedules.

The Guide covers the waterproofing of all types of flat roof, balcony and walkway, including associated fittings and construction using systems manufactured by LRWA members. It applies to domestic and non-domestic buildings and focuses primarily on replacement systems for existing roofs requiring a thermal upgrade, product life extension systems for refurbishment projects requiring no thermal upgrade, and new build projects.

Navigating Fire Safety and Performance

Importantly, the Design Guide also references all relevant changes to UK Building regulations following the Grenfell tragedy as well as updates to British Standards relating directly to the flat roofing industry.

One area that is covered extensively is in relation to fire safety requirements and performance.

Guidance on complying with regulatory requirements for fire safety is contained in the following publications:

- ❑ In England - Approved Document B, volumes 1 and 2
- ❑ In Wales - Approved Document B, volumes 1 and 2
- ❑ In Scotland - Technical Handbooks, section 2
- ❑ In Northern Ireland - Technical Booklet E

The Design Guide reiterates that fire safety solutions vary from project to project depending on the building type, its use, occupancy, layout, height and construction, as well as the distance from surrounding buildings. Design solutions should take into account the fire performance of individual products and/or complete systems as required.

The Guide covers the waterproofing of all types of flat roof, balcony and walkway, including associated fittings and construction using systems manufactured by LRWA members.



The Guide goes on to provide specifiers with extensive advice on reaction to fire, fire resistance, and the fire performance of roofs.

It also discusses how the updated fire safety regulations affect the way balconies should be treated. This has raised questions as some of the wording in the amended Building Regulations in England suggests that waterproofing systems comprising combustible material are unacceptable for balconies.

Further clarification is needed on this topic, so the Guide stresses the need to consult the appropriate authorities before setting a brief and considering a design solution. Appropriate authorities could be fire engineers, the local fire service, or the Building Control Body carrying out inspection and approval work.

It is anticipated that the new BS 8579 will clarify the definitions of balcony types, but specifiers are also advised to consider the distinction between a balcony that is outside the building's thermal envelope and one that forms part of the thermal envelope.

defined in the amended Building Regulations.

Understanding Thermal Performance Guidance

Many liquid-applied systems can be used as overlays to existing waterproofing on flat roofs. Liquid applied membranes are seamless and fully bond to the substrate making them ideal for use over waterproofing solutions that have reached the end of their design life.

However, it's important to understand the decision-making process behind whether you can simply choose a liquid applied solution as an

the outset whether an existing structure requires a thermal upgrade is vital to determine the scope of the work and whether it will meet Building Regulations.

This is explained in detail in the Guide. In England and Wales for example, replacing more than 50 per cent of an existing roof requires the entire area to be thermally upgraded, as long as it is technically, functionally and economically feasible to do so.

The refurbishment of an existing roof can simply involve the removal and replacement of the waterproofing membrane. Where this work

This can involve a full strip off - replacing the existing insulated roof system to the structural roof deck - meaning a new insulated roof would have to be re-installed to the entire area to meet the current Building Regulations.

However, a partial strip-off involves replacing the waterproofing membrane of a flat roof, meaning it should be thermally upgraded across the whole roof, again to meet Building Regulations.

Optimising Performance

The comprehensive information in the Design Guide will ensure specifiers provide the best quality waterproofing system for a project. However, they should also take additional steps to ensure it performs to the required standard.

It is essential that the manufacturer's specification is strictly adhered to as there are so many types of liquid membranes available and each is different.

Specifiers should also verify the performance of a liquid waterproofing product or system via third party certifications, including European Technical Approval (ETA) certificates, BBA certificates and BDA certificates, which are issued by KIWA. These contain data that will confirm whether the waterproofing system will meet specified requirements - as long as the conditions of use are in accordance with the terms of the certificate - and/or satisfy The Building Regulations.

Since European and British Regulations, and product certifications, are under continuous review, the reader should confirm their status with the appropriate institutions before referring to them in specifications.

Importantly, the Design Guide also references all relevant changes to UK Building regulations following the Grenfell tragedy as well as updates to British Standards relating directly to the flat roofing industry.

affects at least 50 per cent of the surface area of the individual roof or where it constitutes more than 25 per cent of the entire building envelope - the roof's thermal performance should be improved.

An external amenity space marked as a 'Balcony' on an architectural drawing might be over a heated space. In those circumstances, it is part of the thermal envelope (commonly referred to as a roof terrace) and a thermal element in its own right.

As a flat roof, it is subject to all the normal provisions of the Building Regulations, including standards of fire safety and fire spread. Not only that but, as a flat roof, it is not part of the external wall construction, nor is it a 'specified attachment' as

overlay to an existing roof, or if it requires a full strip off and a completely new system installation.

We have seen many instances where new materials have been laid on an old waterproofing system, only to find that the roof deck itself has an inherent problem that requires a complete uplift and re-roof - presenting costly and timely rectification.

Building Regulations

One aspect which contractors should be aware of is thermal performance. Establishing from

For further information or to receive a copy of the Design Guide for Specifiers, please visit www.lrwa.org.uk





Kill or Cure for In Situ Concrete Roof Decks?

Curing is the final stage in concrete construction and surface applied curing compounds are often used to ensure moisture is retained during the process. But, is the compound about to thwart the adhesion of the ensuing hot melt waterproofing system, essentially counteracting its ability to deliver a fully bonded monolithic waterproofing layer across the entire roof deck?

Bauder Hot Melt Product Manager, Andy Harper, highlights the potential pitfalls of surface applied curing compounds and shares his advice on correct selection to support the successful hot melt waterproofing of the roof deck, accepting that this can also apply to other waterproofing types.

When cement is mixed with water, the process of hydration occurs. It is this process that causes the cement to harden, developing stability and strength. If cement dries too quickly, the concrete is not fully reacted preventing it reaching its specified strength requirement. This can have serious consequences for the concrete's quality.

A surface applied curing compound can be used to aid the hydration process by inhibiting water loss at the critical stage after concrete pouring and ensures the success of the finished deck.

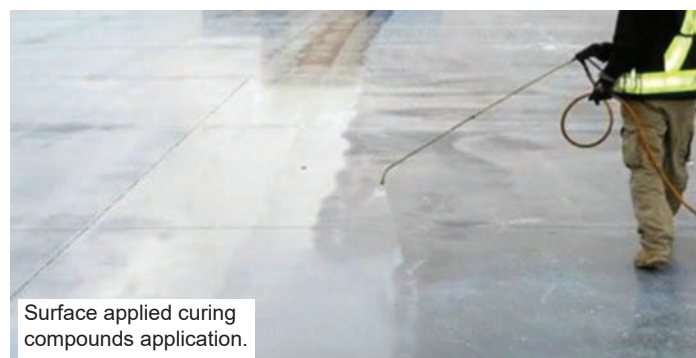
There are numerous additives that can be added to the concrete mix and for a number of different reasons. This article concentrates on surface applied curing compounds. It is these compounds which can give mixed results for the

following waterproofing installations. Surface applied curing compounds are popular as they are easy, practical, and cost effective. The challenge is that not all types are suitable when the subsequent waterproofing is a hot melt system or bitumen AVCLs.

The decision to use a surface applied curing compound can be influenced by weather. Warm and/or wind drying conditions will see the concrete installer responding timely to

maintain the hydration process, relying on these types of products which sit comfortably and often form an essential part within the equipment armoury, so the concrete cures successfully.

Importantly, British Standards recognise the correct use of curing compounds and the situations where consequences will arise. BS EN 13670:2009 Execution of Concrete Structures (E), section 8.5 Curing and Protection, has



these relevant items:

- (10) Curing compounds are not permitted on construction joints, on surfaces to be treated or surfaces where bonding of other materials is required, unless they are fully removed prior to the subsequent operation, or are proven to have no detrimental effects on the subsequent operations.
- (11) Curing compounds shall not be used on surfaces with special requirements for the surface finish unless they are proven to have no adverse effects.

Looking at key terminology used in BS EN 13670:2009 (E), 8.5 – (10) + (11), it should be noted that a surface applied curing compound is highly

likely to have 'detrimental' and 'adverse' effects, and so it is important to identify which types of products may provide a problem for the successful adhesion of the waterproofing system employed.

Detection can be difficult as compounds can come in pigmented or transparent options. Whenever possible, it is better to apply a pigmented curing compound in order to see the surface of concrete that has been effectively protected and that it is visible to all.

Lethal blows

Most hot melt waterproofing systems are compatible with pure sodium silicate based surface applied curing compounds. The lethal blow for hot melt waterproofing system adhesion can be when the following compounds are used:

- i) Resin Based Surface Applied Curing Compounds
- ii) Wax Based Surface Applied Curing Compounds
- iii) Wax / Resin Based Surface Applied Curing Compounds
- iv) Acrylic and Chlorinated Rubber Based Surface Applied Curing Compounds

Clearly the advice would be to avoid these four options.

However, if they are being considered for use, then a manufacturer's technical services department should be consulted for the appropriate removal technique to ensure the compound does not create a barrier between the cured concrete and the waterproofing.

It should be remembered that a feature of any hot melt waterproofing system is that it can be bonded adequately to the fully cured in-situ concrete deck. This can then produce an installed waterproofing system that is, in effect, a monolithic skin across the whole deck, and when this process is completed successfully, should allow no water to track underneath it. This is highly important when loading it with

deck. This use can cause the waterproofing system manufacturer and approved waterproofing system installer concern as to whether the required bond to the concrete deck will be compromised.

Once installed, the existence of a surface applied compound can be difficult for the roofing contractor to detect; one of the few tell-tales is that the concrete's surface may be smoother than is usual. So, if its use was a last-minute decision and the waterproofing installer was not made aware, there is a risk that the hot melt waterproofing will be installed over the cured concrete that has an unsuitable surface for full bonding. Therefore, communication is vital with regards to the possible use of a

Summary

The use of curing compounds is an important subject and should be discussed with the waterproofing manufacturer at specification stage, long before roofing works commence on site to establish any possible effects on the following operations.

As it is often a late decision affected by changing weather, notification to the installing approved contractor/waterproofing manufacturer is essential to enable them to advise on the subsequent possible issues and consequences.

Bauder gives preference to the use of water curing, wet coverings or plastic sheets in lieu of spray applied curing

Surface applied curing compounds are popular as they are easy, practical, and cost effective. The challenge is that not all types are suitable when the subsequent waterproofing is a hot melt system or bitumen AVCLs



insulation and hard or soft landscaping, which effectively covers the roof for its entire life. The use of an incompatible surface applied curing compound could eliminate this fundamental element if it is not reported or identified at the correct point in the process. Waterproofing manufacturer's technical literature should give an indication of the pitfalls that can befall hot melt waterproofing systems if the surface applied curing compounds are used without following the precautions.

The use of surface applied curing compounds is advantageous for the in situ concrete deck installer, aiming to deliver a fully cured roof

surface applied curing compound. Failure to do so could add unforeseen costs regarding the removal and re-instatement of the waterproofing system. It is worth noting that it is always more cost effective to remove the product post curing before the hot melt waterproofing is installed.

As a roofing system manufacturer, Bauder relies on being advised by main contractors, specifiers and our approved contractor network when surface applied curing compounds are being specified for use or used as an on-site requirement so that we can comment and give clarification on the consequence of their use.

compounds purely on the basis that they do not pose an issue for adhesion of the waterproofing. However, we understand that this is not always possible and that the use of a curing compound which is surface applied may be necessary.

Bauder, as a responsible flat roof waterproofing system provider can give advice on the subject and offers training to its approved contractors on this and peel bond testing techniques at its Ipswich headquarters and in locations to suit the construction community. If you'd like to get in touch, visit our website, bauder.co.uk.

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How Liquid Waterproofing Can Meet Complex Demands

Victoria Ramwell from cold-applied liquid waterproofing specialist, Kemper System, explains the versatility of liquids when it comes to multi-purpose design.

Whether as part of a refurbishment or new build, waterproofing flat roofs within multi-complex schemes requires a highly durable, long term solution. Ensuring the roof remains trouble free for years to come is essential to keep occupiers in a safe and comfortable environment, and to reduce future maintenance and costs.

Cold-applied liquid waterproofing solutions can tick all of these boxes, but also offer additional benefits for specifiers and end users alike.

The versatility of liquid systems means that most can be applied to roofs as well as balconies and walkways. They can also be used within a built-up roof system such as a green roof, making them ideal for educational establishments seeking to reduce their carbon footprint.

Quick curing times ensure the installation process is efficient, minimises disruption and helps keep the wider construction programme on track. As liquids are often roller applied with minimal equipment needed onsite, roof areas with lots of plant installed such as air conditioning units can also be easily waterproofed, as can more complex detailing.

Kemperol Stays Put in Kentish Town

A new complex, providing accommodation for hundreds of students, is benefiting from Kemper System's liquid roofing systems.

Constructed by Designated Contractors, 'The Stay Club Kentish Town' development comprises two buildings in the borough of Camden, London, offering a total of 370 rooms with additional facilities including a warehouse and coffee shop.

One building is three storeys and the other is six storeys, and the majority of the scheme has been built using modular room pods, which were manufactured off site, so they could be installed quickly and effectively.

The main contractor wanted an alternative to felt and which could accommodate complex detailing, so roofing contractors, Millgate Roofing Services, recommended the use of Kemper System's Kemperol V210M liquid waterproofing solution.

The cold-applied polyester-based system was installed across an area spanning a total of around 3,000 sq. m, including large flat roofs on top



of each building. It was also used to waterproof 10 smaller roof areas at different levels, two green roofs, nine balconies, a podium between the two blocks, and a lift shaft.

The project required extensive detailing to be waterproofed, including soil vent pipes, automatic opening vents (AOV), outlets, gullies, upstands, metal chimneys and pipes for various cables that came up through the roof areas. In addition, the blocks featured more than 20 skylights, several steel upright supports, air conditioning pipes and ducting.

As part of the project, a sand-finished walkway was also installed and this was waterproofed with Kemperol 2K-PUR, a solvent-free and completely odourless, liquid applied waterproofing system.

Simon Barber, who was responsible for applying the liquid waterproofing, said: "This

project involved waterproofing several different areas, each with various challenges and levels of complexity.

"The two main roofs were relatively simple to waterproof but the smaller roofs and balconies, which were non accessible, featured a vast amount of detailing, so a liquid solution was essential. Using Kemperol V210M and 2K-PUR provided the assurance of a seamless, watertight membrane at all required levels for both blocks.

"As most of the scheme has been built using modular construction, speed was another important factor, so being able to install the Kemperol V210M and 2K-PUR with a roller in a single process, wet-on-wet was a major benefit."

Sound Solution

Increasingly, Kemperol V210M is being used for large new build schemes and green roofs as it provides a highly-durable waterproofing solution, which is safe, quick and easy to apply, including around all types of detailing.

The two-component system forms a seamless membrane which is inherently root resistant, ensuring new schemes like this remain watertight for many years to come.

www.kempersystem.co.uk





Tremco Roofing Solutions Assured Performance with the Benefit of a Start to Finish Service

When it comes to roofing solutions, Tremco - part of Construction Products Group - offers the level best in protection, from start to finish.

Exceptional products and the reassurance of best-in-class technical ability, coupled with dedicated on-site support provision, are all hallmarks of the brand.

For liquid waterproofing projects, specifiers and contractors have the choice of two distinct liquid-applied systems from the AlphaGuard stable, namely AlphaGuard Bio and AlphaGuard Puma.

There's also the option of POWERply for a high-performance, modified bitumen roofing solution, as well as Flowcrete Deckshield, which offers an extensive product range - with the reassurance of a time-proven track record - for all locations in multi storey car parks.

Geared-up for a wide-range of requirements, each of these systems has been created to meet the modern demands placed on roofing structures.



For a wide-range of requirements, each of these systems has been created to meet the modern demands placed on roofing structures.

Traditional and torch-free alternatives are both available and the systems are the ideal choice for refurbishment and new build projects, as well as green roofs, hard landscaping - and for cold and warm roof applications.

AlphaGuard Bio

A two-part, polyurethane, liquid applied roofing system, which can turn an older but still functional roof into a long-lasting, highly efficient

weatherproofing system for the fraction of the cost of a replacement, AlphaGuard Bio is the latest product to come under the Tremco banner.

Packed with innovative features, it is highly versatile and durable and formulated to ensure ease of application - qualities which make it popular for new construction projects too.

It has extensive US certification and is currently undergoing vigorous testing to UK and European standards, including fire resistance and physical performance.

AlphaGuard Bio also has a high bio-based content, which offers a low odour formulation, making it the ideal choice for environments where odour management is crucial, such as schools and hospitals.

Available for warm, cold and green roof applications, it has exceptional resistance to chemicals, traffic, mould, mildew and fungus and ease of application is assured with a brush, roller or squeegee method.

AlphaGuard PUMA

AlphaGuard PUMA is designed to restore a variety of existing roof types, and as a new or existing roof replacement system.

Previously known as Repoma CP380 Tremco, this product is also suitable for warm, cold and green roofs.

Specified across Europe, it is fully accredited, including with the BBA. The product's unique polyurethane/methyl

methacrylate blend offers superior flexibility and elongation, along with fast curing qualities, enabling all coats to be applied - across a wide application of temperature ranges - in just one day and waterproof after 30 minutes.

POWERply

Reflecting the variety of choice for waterproofing across the Tremco range, the POWERply line of modified bitumen roofing solutions combines the advantages of pre-engineered

components with the time-tested, reliable installation techniques of conventional built-up roofing.

The result is a fully integrated, long-lasting roofing system, which improves rooftop protection, offers a durable solution, stops the wicking of water and enables component tracking.

Ideal for warm and cold roof applications, it can be applied through traditional torch or self-adhesive techniques.

The move brings high-performance building materials - including roofing and waterproofing solutions, as well as sealing, bonding, insulation, flooring and fire protection systems - all together under a single source for specifiers and contractors. This includes products like Flowcrete Deckshield, which is a premium car park protection system, used to waterproof car park decks, create an attractive environment and reduce tyre squeal.

And it's not just about products. Tremco, and ultimately all CPG customers, now have access to enhanced resources with an international perspective, including greater technical support from industry experts, new product development opportunities and access to pioneering technologies.

This includes a more streamlined service, logistics improvements and a greater environmental and sustainability focus - as well as testing methods that are second to none.

Full training, including CPDs, application training (both practical and theory) and on-site support such as surveys, complete the service package for both specifiers and contractors.

"Tremco stands for lasting performance for roofing and waterproofing, with the quality of our products and the provision of superior technical support the result of nine decades of market experience, centred on an innovative vision of the future.

"The requirements for roofs are ever more exacting, either in performance, sustainability, or the ability to accommodate complex plan.

"We consider roofs as productive assets and our high-performance roofing systems together with our on-site expertise and support are designed to enhance the performance and longevity of roofs in all applications."

Neil Roberts, Tremco Market Manager.

The Bigger Picture

Whichever Tremco system is selected, there is the assurance of new benefits and features associated with the brand, as part of its move to Construction Products Group.

RPM International Inc, one of the global leaders in speciality construction products, introduced a new identity for its regional construction division in Europe, under the Construction Products Group (CPG) name.

Its portfolio of leading construction product brands, including Tremco, illbruck, Flowcrete, Vandex and Dryvit, as well as Nullifire, were all placed under the CPG portfolio in June.

Contact Tremco

For more information please visit
www.tremco-europe.com
or email hello@cpg-europe.com



The ultimate waterproofing solution for penetrations, upstands, gutters and highly complex details Triflex are the No.1 for detailing in Europe

Triflex ProDetail® and Triflex ProFibre are the first choice for the fast and easy seamless waterproofing of virtually all details to flat roofs, metal roofs and other structures, including; upstands, gutters, cut edge corrosion, penetrations and even highly complex and/or difficult to access details.

The solvent and isocyanate free products are ultra-fast curing, being rainproof in as little as 30 minutes and fully cured in 45 minutes, even at temperatures down to -5°C.

Tried and tested on more than 1,400 substrates and certified to the highest standards, it is easy to see why our versatile and long-lasting solutions are the number 1 for detailing in Europe.



Our detailing solutions can be used to waterproof the most simple to the most complex of details and with compatibility with virtually any material likely to be encountered are ideal for providing the waterproofing of transitions between different materials.



Triflex ProDetail® combines a unique highly flexible resin with a special high tensile strength reinforcement. The system is proven to accommodate high levels of structural movement and cracking and differential movement between different substrates. Proven fully reinforced waterproofing technology that stands the test of time.



Triflex ProFibre utilises unique fibre reinforced resin technology, allowing the quick and effective waterproofing of virtually all highly complex and restricted access details and penetrations.

Find out more at triflex.co.uk



Why It's Becoming More Difficult for Contractors to Make the Right Choice

Liquid waterproofing systems have come a long way in the last 20 years and continue to grow market share, but it is also clear that not all products are the same, making it increasingly difficult for contractors to make the right choice. There is a huge variation in the price and quality of liquid systems, and in a crowded market place it is easy to assume that they will all perform in the same way, but that is simply not the case.



Justin Pitman, Sales Director,
Proteus Waterproofing



suitable for both refurbishments and new builds which can be applied to flat roofs, pitched roofs and depending on the thickness of application, will deliver nonstop performance for up to 30 years.

Both systems provide completely seamless waterproof protection and unlike conventional polyurethane systems, they use atmospheric moisture to trigger the cure process, meaning they can cure under water without gassing or foaming. They are resistant to rain damage and can be applied in relatively poor weather without any subsequent loss of performance or durability.

I am proud to say that Proteus continue to innovate by making constant improvements and additions to its product range, mostly sourced and manufactured in the UK. We have also benefitted by working closely with waterproofing contractors who are trained and approved to install our systems.

This means we can provide comprehensive warranties and assurances for the end customer supported by a wide range of accreditations that our products and systems WILL always do exactly what 'it says on the tin'.

It has been a hard lesson for many experienced roofing contractors who now realise that not all liquid waterproofing systems deliver. It is just one of the reasons why we at Proteus are being asked more and more to supply value for money BBA certified products that will do exactly "what it says on the tin."

No one can deliver a liquid line up better than Proteus with advanced systems suitable for balconies, walkways, blue and green roofs, stairwells, car park decks and much more. We at Proteus Waterproofing are also seeing an increasing number of contracts that are demanding a wider range of different waterproofing solutions.

It means that Proteus has grown to become a one stop shop for every type of

waterproofing challenge, with the company able to offer traditional felt, hot melt systems, corrosion coating products, insulation, trims and other accessories alongside its liquid range.

We have also become a byword for innovation with products such as Cold Melt®, unique and exclusive to Proteus Waterproofing, which are already proving to be a game changer. This is a system that can be installed over green concrete after three days, is one of the most environment friendly products of its kind using recycled rubber crumb and other organically grown products and is BBA certified to last for the lifetime of the substrate on which it is laid.

Cold Melt® has helped to make Proteus one of the fastest

Proteus has grown to become a one stop shop for every type of waterproofing challenge.

growing waterproofing companies in the country alongside our other ranges of BBA certified products. These include Proteus Pro-System® and Proteus Pro-System® Plus,

To discuss your flat roofing requirements email justin.pitman@proteuswaterproofing.co.uk visit our website at www.proteuswaterproofing.co.uk or call the team on 01268 777871 for more information.

CERTIFIED NON-COMBUSTIBLE



RockFace A2 Inverted Roof Upstand Board

Quantum Insulation partner with major insulation manufacturers to provide *Approved Document B* compliant, non-combustible insulation for use with Single Ply, Liquid Applied, Hot Melt or Reinforced Bitumen Membrane waterproofing.

QI can meet your needs for non-combustible upstand insulation boards, uniform thickness or tapered roof insulation all backed by a comprehensive support.

QI ROCKFACE A2:

- Used to thermally insulate and protect upstand walls in inverted flat roof systems
- Non-combustible – certified by Exova Warrington as achieving a Euroclass A2-s1, d0 rating
- Manufactured from stonewool with cementitious face
- Will not develop smoke or promote flame spread even when directly exposed to fire.

For further information please contact:

QI QUANTUM
INSULATION

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*A 'relevant building' with a storey at least 18 metres above ground level and which – (i) contains one or more dwellings; (ii) contains an Institution; or (iii) contains a room for residential purposes.