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2021

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Sarah Spink, CEO

Foreword

Liquid Roofing and
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www.lrwa.org.uk

Despite the disruption caused by the pandemic, the construction sector has bounced back quicker than expected. According to the Construction Product Association's Spring Forecast, construction activity continued throughout the first quarter of 2021, and double-digit growth is forecast this year.

This had a positive impact on the whole supply chain, including those working in liquid roofing and waterproofing. Projects have continued despite winter lockdown restrictions, boosting workloads for manufacturers and contractors.

This surge in construction activity has, however, created challenges too. It has become increasingly harder to source certain materials leading to longer lead times and higher costs. Steel, cement, timber, roof tiles, plasterboard and plastics are all in short supply and this situation is unlikely to change for several months.

As well as navigating these issues, the construction sector continues to adapt to significant change driven by Dame Hackitt's Building a Safer Future report. Over the past year, important initiatives have come to fruition which

will help prevent the use of inappropriate construction products and combinations. These include the Code for Construction Product Information (CCPI) which has been designed to ensure manufacturers provide clear and accurate product information, reducing the risk of misleading marketing claims.

The LRWA played a key role in developing part of the CCPI and earlier this year, we also launched our own tool - the Product Register, to help contractors and specifiers verify product performance and make the right choice.

The Building Safety Bill is another important development for our industry. The legislation was introduced to Parliament in July 2021 and will strengthen the construction products regulatory regime. New fire safety legislation is also driving change and in response trade associations representing the flat roofing industry have recently launched new guidance. This addresses questions about the impact of the changing regulations on flat roofing and waterproofing membranes.

A key theme shaping construction industry change is a need to prove

competency. This applies to all disciplines throughout the entire supply chain and underlines the importance of appropriate training for people on and off site.

Investing in training is also going to be crucial to help plug the growing skills gap. Finding skilled workers has always been an issue for the construction industry and it is a challenge that is going to get harder. The construction workforce is ageing fast, Brexit has put barriers in place for EU nationals, and the CSCS is phasing out cards issued under industry accreditation, also known as grandfather rights.

To help address this challenge, the LRWA offers a number of training and education opportunities which we discuss in this supplement. We also highlight the many avenues for progression that our sector offers and how a technical manager at one of our manufacturer members has climbed the ranks and is now playing a key role in inspiring and training the next generation.

The diversity of the liquid roofing and waterproofing sector makes it attractive to people of all ages and is creating a huge variety of

roles. As someone who has been part of it since 2006, I have seen first-hand the opportunities it brings and continue to be excited by the innovation which is at the heart of our industry and is boosting market growth.

This growth is helping to shape the LRWA with a membership which has doubled in size within the last 10 years and now represents 11 different technologies. We have also launched new subcommittees to help shape best practice and address the specific needs of our expanding membership. These include a Hot Melt Subcommittee which is currently responsible for reviewing and updating the Hot Melt Code of Practice, which you can also read about in this supplement.

Looking ahead, I remain optimistic about the future of the liquid roofing and waterproofing sector. There may be challenges ahead but the changes that are taking place will have a positive impact across the whole of the construction sector, helping to raise standards even higher.

As an association, we will continue to work closely with our members to help them prepare for change, develop their skills, and ensure our industry keeps thriving.

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Sarah Spink, CEO of the Liquid Roofing and Waterproofing Association (LRWA), discusses the launch of a new introductory training course for liquid-applied flat roofing and the benefits for candidates.



Liquid-Applied Roofing: a New Foundation for Learning

The liquid roofing and waterproofing sector continues to grow and so does the need for training at all levels. Improving skills and knowledge is not only essential for roofing contractors, but all those who work in the industry, including people carrying out roles in marketing, sales, distribution and manufacturing as well as supporting technical departments.

There are now 11 liquid chemistries available in the UK, all with different qualities and designed for a variety of applications. Gaining a broader understanding of this diverse market can ensure people are better equipped to carry out their role, especially those who are new to the industry.

This was the driver behind the launch of the LRWA's Foundation in Liquid Applied

The launch of the LRWA's Foundation in Liquid Applied Flat Roofing training course is the first of its kind to offer an independent introduction to the sector.

Flat Roofing. This new training course is the first of its kind to offer an

independent introduction to the sector. It has been designed to provide candidates with theoretical knowledge to enable them to gain a better understanding of the design and installation of liquid-applied membranes.

Virtual Learning

Following funding from the Roofing Industry Alliance, the Foundation in Liquid Applied Flat Roofing is hosted on a new online platform called the LRWA Online Training Academy. The training is equivalent to around five to six learning hours, which can be completed over 10 weeks using a laptop or tablet, so candidates can complete the course at their own pace.

The learning material is delivered through videos, diagrams, and presentations with voiceovers to ensure it is engaging and easy to follow.

The course begins with an introduction to the LRWA and designing liquid roofs, followed by six modules, including Types of Roof Construction; The Regulations and Minimum Standards for Design, Materials and Construction; Selection of Materials; Estimating, Surveying and Planning; Health and Safety Awareness; and the Installation of Liquid Applied Membranes.

At the end of each module is an online assessment to test the candidate's understanding of each topic.

Building Knowledge

The first module covers the main types of flat roof construction, and the building materials used for structural decks. Green roof systems are also detailed in this section along with the definitions of a terrace and balcony, and why it is important to be able to distinguish between the two.

Module two introduces the key building regulations and minimum standards that need to be referred to when designing flat roofs. It goes on to explain the key requirements relating to falls and drainage, thermal design and U-value calculations, vapour control and condensation, fire performance, and wind load and substrate attachments.

The different types of liquid-applied membranes are explained in module three as well as an overview of the other materials that can be used in flat roof construction such as insulation and carrier membranes. Air and vapour control layers are also discussed.

Candidates will learn more about the planning stages of flat roofing in module four. This section has been designed to provide a basic knowledge of the difference between an estimate and a quote, and what needs to be considered during a flat roof survey.



Module five covers key health and safety considerations ranging from risk assessments and method statements through to control

installing liquid membranes, the importance of reinforcement and onsite quality control requirements.

Meeting Changing Needs

With the pandemic accelerating the move to online learning, training is more accessible than ever before, creating opportunities for people at all levels to upskill. The Foundation in Liquid Applied Flat Roofing has been designed to meet a growing demand for virtual learning and specialist training.

The course provides a broad overview of our sector for all those who work in it, enabling individuals to build a stronger knowledge platform from which they can confidently and more effectively perform their role.

The learning material is delivered through videos, diagrams, and presentations with voiceovers to ensure it is engaging and easy to follow. The course begins with an introduction to the LRWA and designing liquid roofs, followed by six modules.

of substances hazardous to health (COSHH), the handling and storage of materials, and waste management.

Video is used extensively in the final module to demonstrate the installation of different liquid applied membranes, including cold-applied bitumen, polyester, hot melt, polymethyl methacrylate (PMMA), and both single and twin pack polyurethane.

Candidates will also learn about the tools and preparation required for



The LRWA Foundation in Liquid Applied Flat Roofing is available to members and non-members and costs £30 to take part.

For further information, visit www.lrwa.org or to take part, visit https://lrwatraining.thinkific.com/users/sign_in



'Ideals are the world's masters' – so how do we master the ideal concrete deck for inverted roofs?

If only the world for concrete roof decks was as flat as the world for concrete floors, then installing hot melt waterproofing for the roof would be ideal.

The flatness tolerances required for in situ concrete have always been important in floors, after all nobody wants to feel that they are walking the South Downs Way as they traverse the office terrain, but why was it never deemed as important for roofs?

In truth, it is not just about flatness (or minimum gradient) when we consider concrete roof decks, it is just as important to specify the right finish.

The flatness of a concrete deck

The revision of BS 6229:2018 Flat Roofs with Continuously Supported Flexible Waterproof Coverings brought awareness to the wider construction community to design concrete decks for flat roofs with 1:80 falls. Wise front-runners also recognise the need to comply and design out backfalls and deflection, strategically place outlets, or rectify imperfections with suitable screeds. The required gradient works in the case of standard inverted roof build ups where open outlets are constructed with hard or soft

landscaping, but what about another type of inverted roof gaining popularity? A pre-requisite for blue roofs is a true zero falls as it needs to attenuate water and only allow stormwater to discharge at a predetermined rate.

Falls in a blue roof create problems when outlets are restricted, and so the Building Standard does permit zero falls. This allows the blue roof



Andrew Harper
Bauder Hot Melt Product
Manager



to function as designed, attenuate stormwater to the levels required and enables the discharge rate to be conformed to.

Getting the falls correct for inverted roofs where they are suitable is the first step along the footpath to success, now let us look further down the track.

Dips in a concrete deck

The challenge for the industry is shifting slightly. Understanding of BS 6229 is becoming commonplace, where the trail now leads us is to two further Building Standards:

- ❑ BS 8204-2 Screeds, bases and in-situ floorings, which looks at the local variability in surface plane in a 2m gauge length, namely concrete slab surface flatness.
- ❑ BS EN 13670 Execution of concrete structures, which considers the rate of change in variation, roughness or 'waviness' of the surface finishes.

Let us consider the first of these standards - BS 8204 variation in surface plane/flatness over a 2m length. This standard gives regularity classes as SR1, SR2 and SR3 relating to 3mm, 5mm and 10mm respectively.



If SR3 is chosen, a permissible 'dip' of 10mm is allowed over 2m. Not exactly zero falls, is it? Just a roof with permitted deflection. Ask a waterproofing manufacturer about their ideal surface tolerance and they will say that would be SR1, permissible gap of 3mm over 2m. Ask a concrete installer about creating SR1 and eyebrows are raised, and protestations presented.

There is a compromise - using SR2 as the surface tolerance, permissible gap of 5mm over 2m, will provide a surface tolerance achievable by the concrete installers and flat enough for the waterproofing installation. Of course, there may be some areas where a self-levelling screed may need to be employed, but nowhere

near as many as if SR3 was the chosen surface tolerance. By collaboratively tweaking the specification using tolerances laid out in BS 8204 it can be possible to design out some of the potential issues that are unwelcome in BS 6229:2018.

The finish of a concrete deck

Next in the binoculars is BS EN 13670 Execution of concrete structures, which relates to the final surface of the finished concrete for which there are four types: Basic, Ordinary, Plain and Special (reserved for areas requiring a specific finish).

Hot melt systems require certain finishes to aid in their adhesion to the in-situ concrete deck.

We can discount Plain from the outset, as this is a full polish finish using a power float. Laitance can be a by-product with this finish which is costly to remove sufficiently to achieve a suitable waterproofing bonding surface.

Waterproofing manufacturer's preferred default is Basic – a consistent finish with no float marks or localised ridges giving a relatively smooth surface for the waterproofing. This finish could be achieved with a traditional wood float or a skip/easy float.

Ordinary is also acceptable, within boundaries. This is a pan or combi power floating method. Pan finish may exhibit excessive ridges and a combi finish may have float marks that may need to be removed prior to installation of the waterproofing.

Skilful working, not overworking, of the surface may even reduce back falls and deflection to the point where, if SR2 was the chosen

As is often the case, the best time to smooth out inconsistencies is in the design phase.

tolerance, it is perfectly logical that just a small, extra amount of hot melt compound could remove the remaining surface imperfections during the waterproofing installation. There may be a minor cost implication initially, but logic would dictate a smoother install and less trades involved would ultimately save money.

As is often the case, the best time to smooth out inconsistencies is in the design phase. Conversations between specifier and the waterproofing system provider could alleviate the challenges still present on site today.

Hopefully, this article will stimulate discussion to get us treading the same path and bring us all closer to the nirvana that is the ideal flat roof design.

Bauder, as a responsible flat roof waterproofing system provider can give advice on concrete surface finishes and offers training to its approved contractors at its Ipswich headquarters and in locations to suit the construction community. Get in touch by contacting us.



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New Fountain Project Flows Smoothly with Kemperol 2K-PUR

As part of a multi-million-pound refurbishment by Walwick Estate Group, Kemper System has helped to create a stunning new fountain for a luxury hotel and wedding venue in the North East.

Built from scratch, the fountain is the centrepiece of a courtyard adjoining the 'Great Hall' at the Maften Hall estate located in Northumberland. The architects for the hotel's refurbishment required a waterproofing solution which would ensure longevity and complement the traditional design of the new structure.

To meet the brief, roofing contractors, Ron Robinson Roofing, recommended Kemperol 2K-PUR for the project. The cold liquid-applied product is solvent-free and completely odourless. Manufactured using an 80 per cent castor-oil formula, derived from sustainable sources, the liquid system bonds directly to the substrate forming a seamless,

elastomeric waterproof membrane that cannot delaminate and is UV stable.

To enhance aesthetics, the Kemperdur TC traffic coating was applied on top of the 2K-PUR. Also solvent free, this polyurethane-based surfacing system provides a long-lasting protective wearing coating and is available in a variety of colour blends. To meet the architect's design requirements, the coloured quartz 'grey mixed' finish was selected.

Proven Solution

Paul Robinson from Ron Robinson Roofing said: "We suggested Kemperol 2K-PUR as an alternative to a glass reinforced plastic (GRP) membrane. The flexibility of

the system and colour options ensured it met all aspects of the brief from both an installation and design perspective. Having used the product for more than 20 years, we could also assure the client of the system's durability and proven track record.

"Another benefit is that 2K-PUR is sustainably sourced making it environmentally friendly and as it's solvent free, we didn't have to worry about any chemicals potentially contaminating the water."

Versatility

Victoria Ramwell from Kemper System commented: "This project demonstrates the versatility of cold-applied liquid systems and the many advantages of Kemperol 2K-PUR. Not only is it ideal for environmentally-conscious architects, developers and contractors but minimises the risk of any disruption and results in a vapour permeable membrane that is both durable and tear-resistant."

Offering advice to contractors seeking to use their skills for similar waterproofing projects, Victoria added: "Even if a liquid has been used many times before, it may not be the right solution for the brief, so always seek advice from a trusted liquid waterproofing manufacturer."

"A manufacturer should be able to provide the appropriate technical support and guidance pre and post installation, and ensure the most appropriate solution is developed."



"If a solution is specified by the manufacturer, this should only be installed by trained, independent contractors whose operatives have completed specific product training. At Kemper System, this means the quality and performance of the waterproofing system is backed by a range warranties, of up to 20 years."

Matfen Hall was owned by the Blackett family for more than 100 years before it was sold to Walwick Estate Group in August 2020. The Group has carried out an extensive refurbishment of the hotel as well as its leisure and golf facilities. The work includes the restoration of the Grade II listed building's Great Hall, which is now the focal point of the hotel.



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-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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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.

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*approved - pending certificate issuing **temperature dependant



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

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GE Enduris has a proven track record of performance. The system is a fast, efficient and economical solution that improves performance and extends the life of the roof.

Flex-R: Gas Plant, East Anglia

When working on a site of strategic national importance there are often restrictions put in place which limit the product choice and working practices for the contractor. This was the case on a sensitive site in East Anglia which saw the refurbishment of a 700m² zinc roof to an administration block.

The metal roof had reached the end of its serviceable life and the client required a waterproofing solution to ensure the building below remained watertight for many more years. Several conditions were in place on the site which meant there could be no flammable liquids, solvents or high VOC products and the building also had to remain operational during the work.

A survey by Flex-R showed that although the roof was still structurally sound the zinc was failing in a number of areas.

Product Specification

S L Bartram Roofing & Scaffolding were successful in winning the contract for this prestigious project. The Norfolk based company has undertaken similar work for other utility companies and their experience would prove valuable on this project. As a Specialist Registered Installer (SRI) of Flex-R products

Taking everything into consideration Flex-R had no hesitation in recommending GE Enduris liquid waterproofing, a silicone roof coating. Metal roofs will expand and contract as the temperature changes and require a flexible refurbishment solution. Silicone coatings provide the ideal solution. The coating cures quickly to form a durable, seamless membrane that is breathable, waterproof, and permanently flexible. It is UV-stable and maintains its elasticity even after decades of exposure to weather and climate.

Ben Midwinter Technical Manager at Flex-R said: "GE Enduris has a proven track record of performance. The system is a fast, efficient and economical solution that improves performance and extends the life of the roof. It

is able to withstand extreme fluctuating conditions, with proven performance in all climates: cold, wet, hot and dry."

The Challenge of Working on a Sensitive Site

Shane added: "Not only was GE Enduris the right product but it also ticked all the boxes for the project, which was so restrictive in terms of working practices. The liquid product requires no hot works and there is no smell, odour or hazardous solvents.

"On this project we couldn't use any machinery or tools that could potentially cause any form of combustion – so, for example, we couldn't use petrol-powered leaf blowers. As one of their Specialist Registered Installers (SRI) Flex-R worked closely with us to provide help at every stage from attending site meetings, selecting the best product and technical support."

Contractor Support

As with any refurbishment project, and especially when working with liquid systems, preparation of the roof is critical. SL Bartram Roofing & Scaffolding first abraded the



bays with an electric belt sander to clean the zinc and obtain the optimum surface possible to apply the product.

As with any refurbishment project, and especially when working with liquid systems, preparation of the roof is critical. SL Bartram Roofing & Scaffolding first abraded the bays with an electric belt sander to clean the zinc and obtain the optimum surface possible to apply the product.

GE Enduris is largely a primerless application with limited need for a reinforcing fabric layer. As a one component system there is no mixing, less wastage and it can be applied in one pass. Although the product is simple to apply it does however require careful application. Installers must be incredibly vigilant on the thickness of the product, too thin and it will lessen its lifespan.

Shane calculated the amount of liquid required for each bay

As one of their Specialist Registered Installers (SRI) Flex-R worked closely with us to provide help at every stage from attending site meetings, selecting the best product and technical support.

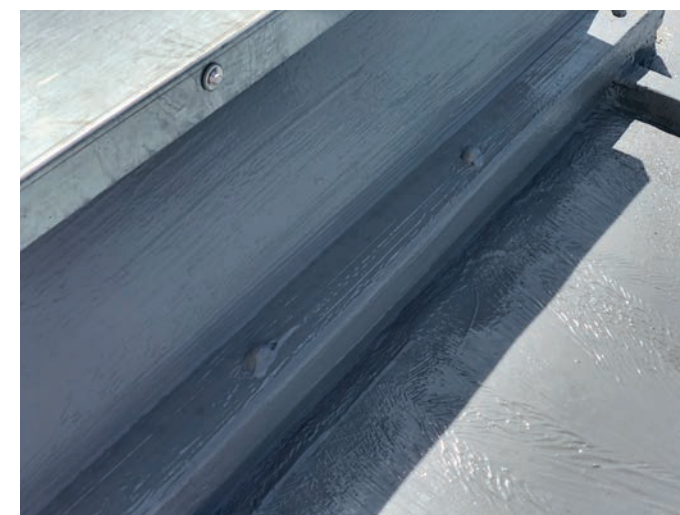
and then poured and spread the product using a squeegee and roller to achieve an even finish. He was careful to check and double check his coverage rate to ensure it met the 20-year guarantee also

taking into account the uneven zinc surface.

A key part of the application process was the daily coating log that Flex-R had in place – which is not only best practice for its SRIs but also acts as a record that forms part of the warranty. The log recorded the surface and ambient temperature before coating, the surface temperature mid-working and the relative humidity. It also recorded the wet film thickness four times per day.

Shane is now a big supporter of the silicone system "The work only took two and a half weeks to complete, which is incredibly quick for a roof of this size and amount of detailing. A fabric liquid product would easily have taken four times as long.

I'm hugely impressed by GE Enduris, and after one project it's become our liquid waterproofing solution of choice."



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WATERPROOFING SOLUTIONS FOR FLAT ROOFS DESIGNED TO LAST



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

When it came to replacing the roofing of one of Scotland's most iconic buildings, the specification of materials was of paramount importance. Therefore, to eliminate roof ponding and potential water ingress, Eurothane Eurodeck by Gradient, the UK's leading manufacturer of tapered roof insulation, was specified as the ideal solution.

Bernat Klein House in High Sunderland, Selkirk, set in three acres of glorious Scottish countryside, is a triumphant example of mid-20th century architectural enterprise. Built in 1957 and designed by renowned modernist architect Peter Womersley, the open plan, single-storey property – is described 'as a fashion show in the shape of a house'. The rectangular-shaped building is subdivided into 8ft continuous, walk-through modules. It has Category A listing – the highest grade given by Historic Environment Scotland.

For the house's 133m² roof refurbishment Gradient, in conjunction with contractors Laurence McIntosh, was selected to design a tapered insulation scheme that was as rapid to install, as it was

efficient in preventing unwanted ponding on the flat roof. It led to the specification of Eurothane Eurodeck – Gradient's premium, high performing rigid PIR insulation board.

Tapered insulation offers the best of both worlds when installed as part of a flat roof's waterproofing build-up. Its multifunctional design not only enhances a building's overall thermal performance, it manages a roof's water run-off to ensure it flows into the appropriate outlets or gutters. If water is not properly dispersed from a roof, its weight will lead to deflections forming and increase the risk of ponding. This additional weight will fast-track the waterproofing system's wear and tear, thus increasing the likelihood of a worst-case scenario: water-based structural damage, one of the

most common forms of building failure. Therefore, a well-appointed tapered insulation scheme can extend the life of the building itself, hence the importance of selecting a system that is specifically designed to suit a particular application.

From a specification point of view, quality is built in with Gradient's tapered insulation systems. From the initial consultation and pre-design process, to the installation and post-project stages, Gradient's technical teams work alongside clients to

complemented by its low thermal conductivity (0.022 W/mK). With this exceptional PIR solution, dimensional stability and a super-smooth surface are guaranteed. Further, the system was made-to-measure and therefore eliminated onsite cutting, which significantly reduced onsite labour times and material waste.

Gordon Dickson, Contracts Director at Laurence McIntosh, said: "Due to the high profile nature of this project, we required a quality insulation that offered



ensure the successful implementation of its individually tailored tapered insulation schemes which are produced to ISO 9001; one of the most widely adopted management standards in the world. It also meets ISO 14001 requirements, which sets the standard for environmental management.

Putting insulation design and specification into the hands of an expert such as Gradient removes the risk of roofing failure and all the costly consequences. It's the ideal solution for a building's long-term protection and its owner's peace of mind.

Eurothane Eurodeck

Ideal for use under mechanically fixed, single-ply membranes across newbuild and refurbishment projects, Eurothane Eurodeck's high compressive strength is

excellent performance in terms of thermal conductivity and ease of installation. Thanks to the efforts of Gradient's technical team in designing a bespoke tapered solution, the made-to-measure system ensured it met the client's brief and incurred minimal material waste. This added to the project's cost-effectiveness, whilst enhancing its environmental credentials."

The roof was finished with a single-ply membrane and thanks to the combined expertise that led to the specification, design and installation of Gradient's Eurothane Eurodeck tapered insulation, this historic Scottish house will remain an astonishing architectural feature of Selkirk's wild and wonderful countryside for many years to come.

At Flex-R we believe that a quality roof is more than just the products that go into it – it's also the support and service that assist you throughout the entire process.

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Inspiring the Next Generation

Ray McCarten, trainer for the LRWA, and Will Russell, Technical Manager UK for Moy, an LRWA manufacturer member, fly the flag for working in the liquid roofing and waterproofing sector, highlighting the opportunities for progression and the benefits of specialist training

The liquid roofing and waterproofing industry has grown into a multi-million-pound market offering a vast range of innovative technologies for refurbishment and new build projects.

Ranging from highly specialised systems through to those sold through merchants, liquids are truly versatile. This versatility has helped make our sector the fastest growing part of the flat roofing market and is opening the door to strong and successful career opportunities.

Enhancing skills

Working in liquid roofing and waterproofing offers young operatives the chance to work nationwide on diverse projects spanning many different sectors. Individuals can use their skills for a variety of applications, including the waterproofing of domestic and commercial roofs, car parks, balconies, walls, bridges and walkways.

To help boost knowledge and career prospects, training and education opportunities have also increased in recent years. At the LRWA, we now offer specialist training as well as online content, making it as simple as possible for people



At the LRWA, we now offer specialist training as well as online content.

to attain the necessary skill levels.

One example of the training on offer is the Specialist Applied-skills Programme (SAP) for Liquid Roofing Operatives. Launched by the LRWA in 2012, the SAP complements the training provided by manufacturers of liquid products and has been developed with support from the Construction Industry Training Board (CITB).

The SAP provides operatives with the opportunity to gain a National Vocational Qualification (NVQ) Level 2 in

The SAP provides operatives with the opportunity to gain a National Vocational Qualification (NVQ) Level 2 in Liquid Applied Roofing, enabling them to apply for a CSCS blue, 'Skilled Worker' card. It is the only accredited training course in the UK that covers all the major liquid chemistries.



consecutive days. It is delivered by an LRWA trainer who invites different manufacturer members to attend and share their expertise.

Liquid technologies are explained and demonstrated in detail by manufacturer members with expert knowledge of each chemistry. The course covers most of the liquid chemistries including polyurethane, PMMA, polyesters, glass reinforced plastics (GRP) as well as hot-applied polymer modified bitumen (hot melts). Other topics include health and safety, asbestos awareness, waste management, health and hygiene, electricity at work and use of vehicles on site.

Alternative roof structures and other applications are also explained such as green roofs, balconies, podiums, and roof lights, and participants can learn how to use the correct calculations for insulation.

At the end of the SAP, individuals are assessed for six months on site to achieve their NVQ Level 2 Diploma qualification.

Far-reaching benefits

Investing in the right training will help ambitious operatives put the building blocks in place for a rewarding career in liquid roofing and waterproofing, and help to raise standards even further. Our sector offers many opportunities and avenues for progression, and with the right skills in place the sky really is the limit.

Building knowledge

The course covers 24 modules relating to the sector and is carried out over 12 months and in blocks of between two to three

Careers Profile: Will Russell, Technical Manager UK for Moy

Will Russell got his first taste of the roofing industry aged 16 when he was offered the chance to help out at his father's roofing business, working as a labourer for six weeks in the summer holidays.

He says: "I'd completed my GCSEs and was thinking of a career in structural engineering but when I started working for my dad, I changed my mind. I really enjoyed working on the roof and being outside all through the summer. I decided to put the pen down and pick up the hand tools."

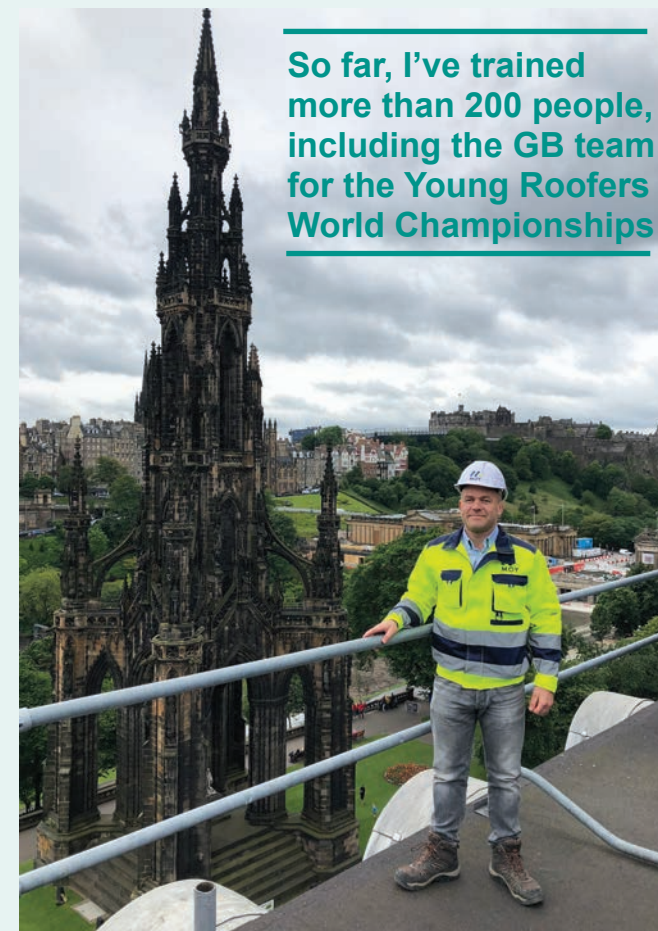
The decision saw Will work on projects nationwide, but training opportunities at the time were in short supply.

Learning on the Job

"When I started out, the roofing education I gained was from watching roofers lay materials," explains Will. "I was most interested in the products such as how they were applied, made, and chosen for the project. My interest led me to the Ruberoid Flat Roofing Guide (blue book), which is still considered by many as the flat roofing bible!"

With the help of the blue book, Will continued his own learning, including expanding his knowledge of the various waterproofing technologies. His inquisitive nature and eagerness to learn didn't go unnoticed and he began to work alongside other tradesmen gaining experience of applying a range of products.

In 2008, Will was encouraged to apply for a technical support role at Liquid Plastics – now Sika. He says: "I was 25 and thought I'd have no chance of getting the job but would try anyway. I met with Terry Wain who was the company's Technical Services Manager and thankfully he had faith in my potential and appointed me. I joined a team of hugely experienced roofers with a



So far, I've trained more than 200 people, including the GB team for the Young Roofers World Championships

vast array of knowledge, which was perfect for me to pick their brains daily."

After 10 years at Sika, Will joined Moy as a Field Technician and after two and a half years was appointed UK Technical Manager overseeing technical support on site and managing a four-strong team. A large part of his role involves developing Moy's training for all systems and he has also helped to deliver some of the LRWA's

SAP modules using Moy's products and expertise.

In 2018, he continued his professional development, achieving the Level 3 Education and Training Award, a nationally recognised teaching qualification. This followed 'train the trainer' funding from the LRWA, which was available to manufacturers involved in the Basic Competency Programme (BCP).



Will continues: "I'm passionate about training and helping students improve their skills. There are many crossover techniques and practices in liquid roofing and waterproofing, which can be used for other technologies and disciplines, creating additional career opportunities."

"So far, I've trained more than 200 people, including the GB team for the Young Roofers World Championships, 10 Polish roofers on site in Warsaw, and most recently, my cousin Josh who is now a young roofer going through his NVQ Level 2 on the SAP course."

Importance of Training

Underlining the importance of training, Will stresses the need for young roofers to understand all aspects of liquid roofing and waterproofing.

He says: "There is a misconception that liquid-applied systems are easy to install and anyone can do it, but that's far from the truth. It's vital that young roofers learn about the different chemistries and how they are specified as well as the other elements that will form part of the project such as preparation, reinforcements, film thickness and detailing."

He adds: "Training courses like the LRWA's SAP course ensure those just starting out gain a good level of knowledge across all areas and learn from some of the sector's most experienced people."

For anyone thinking about beginning a career in the liquid roofing and waterproofing sector, Will's message is simple.

"Just go for it," he says. "There are more opportunities in flat roofing than ever before, including roles in technical support, sales and contract management to name just a few. Learning and building knowledge will not only build your skills, but your reputation, resulting in strong financial rewards and job satisfaction."



SIG Design & Technology asked the Hydrostop AH+ manufacturers to create a colour – Weathered Silver – specifically for the market roof membrane repair, in keeping with Historic England’s requirements.



Heritage Plymouth Market gets the Hydrostop AH+ Treatment to Restore Civil Pride

Rising from the ashes of WWII damaged Plymouth, the city’s market is more than just a place to shop. It represents a symbol of the naval city’s survival and regeneration after the destruction caused by relentless wartime bombing.

Completed in 1959 and designed by local architects, Walls and Pearn, Plymouth Market was built in the west end of Plymouth to support trade in that area and replaced the original city market, which was destroyed in the Blitz of 1941. Throughout the war, stallholders continued to trade in a series of temporary iron structures, so that the market’s permanent rebuilding is truly an emblem of Plymouth’s survival and regeneration.

Today, the grade II listed market represents an early example of a post-war market built using a shell concrete system that enables the building to achieve its large internal space without the

need for supporting columns. In addition to its history, the building is noteworthy because of its height and distinctive wave form, vaulted roof design. The market facility is included on the



Statutory List of Buildings of Special Architectural and Historical Interest.

Curved shell formation roof structure

Principal contractors Ryeareh Limited – a construction and civil engineering company – was appointed by Plymouth City Council to undertake extensive works to the market. The work would include internal refurbishment within the market, increasing thermal performance to the building, additional ventilation and recovery of the concrete roof which required substantial repairs.

SIG Design & Technology were asked to provide a solution for the substantial repairs needed to the roof membrane.

Over the years, the roof had deteriorated, with leaks springing up and holes

emerging in the gutters, as well as problems surfacing with heavy leaks from the market’s windows. Deposits of seagull guano had also built up across the roof area, with its acidic content corroding the membrane. The curved shell formation of the roof added to the challenges of re-roofing.

Initial thoughts involved stripping off the original roof membrane by mechanical means. However, closer investigations raised concerns that this would generate excessive stress and vibration that could damage the roof shell.

An important criterion was finding a roofing solution, so

things could be “business as usual”. Plymouth Market gets over a million visitors each year making it one of the busiest markets in the country. The small traders, who are the backbone of the market, needed to continue selling their produce to customers while work was in progress.

Hydrostop AH+ – the perfect solution

With these concerns in mind SIG Design & Technology recommended Hydrostop AH+, a one component liquid waterproofing membrane which offers significant advantages over conventional PU and PMMA systems and has a warranty for up to 25



years. The wet-on-wet cold applied liquid is fully reinforced with a polyester fabric and is fast curing. It can be applied under practically any conditions – even as low as 0°C such as during the winter months when the Plymouth Market refurbishment was underway.

Importantly for this project Hydrostop AH+ contains no solvents and has a very low VOC content. This meant that the market’s business and trading operation, including several cafés remained uninterrupted.

product” for the repair of the wave form main roof, as well as being used in tackling repairs to two smaller canopy roofs at the market.

“It was the perfect product for the job...and so easy to use,” added Rob.

Due to the building’s listed status, Historic England supervised and approved the refurbishment. SIG Design & Technology asked the Hydrostop AH+ manufacturers to create a colour – Weathered Silver – specifically for the market roof membrane repair,



Accredited Contractors

Work was undertaken by SIG Design & Technology Accredited Contractors (DATAC) Clegg & Shortman. The roofing team had to deal with numerous issues on this project including difficult access due to the elevation of the building and steep slopes of the roofing shell waves – which were in complete contrast to typical flat roofing projects where they had previously applied the product.

Although initially daunted by the size of the curved roofing area, the roofing contractors soon grasped the challenge. “When I first went up onto the roof to see the scale of it, it looked immense,” said Rob Lazarus, Contracts Manager at Clegg & Shortman. “And every time I went up subsequently, the roof looked bigger.”

“An easy product to use”

However, with its paint-on system, Hydrostop AH+ proved to be “a very good

It was the perfect product for the job... and so easy to use

in keeping with Historic England’s requirements.

Julie Boyes, Contracts Manager at Ryeareh Limited, commented: “The application of Hydrostop AH+ created less noise and disruption than using another solution.

“Our client Plymouth City Council were very pleased with the finished results of the work. We had also put forward a cheaper product (than originally had been proposed) which provided them with a cost saving.”

SIG DESIGN & TECHNOLOGY

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0844 443 4778

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Whitesales Provides High Performance Rooflights for Bears in the Woods!

The Wild Place Project was opened by the Bristol Zoological Society and is a family attraction that provides outdoor adventure, play and learning. The park has an emphasis on protecting threatened habitats and inspiring families to enjoy nature. Bear Wood, the newest exhibit to be opened, is home to European brown bears, wolverine, lynx and wolves.

Bear Wood features two multi-function visitor facilities providing education space,

meeting rooms and an interactive 'time chamber' to delight visitors. The newly-constructed buildings both feature a green roof design incorporating cold-applied liquid waterproofing – and the

Providing a clean, minimalistic finish inside and out, the electrically opening em.glaze modular flat glass rooflights were an ideal solution to deliver both enhanced daylight levels and comfort ventilation



inclusion of natural daylight and ventilation was an integral part of the specification.

When specifying rooflights for a green roof design, moisture retention is a critical consideration. As the vegetation grows, the green roof materials will come level with the glass and water ingress, or damp being trapped against the unit are of high concern. Whitesales em.glaze flat glass rooflights

thermally broken aluminium frame and cill detail. The installed units also feature EasyClean glass to keep the glass free from organic dirt, providing a surface that requires less cleaning.

Being tested to CWCT Class 1, em.glaze flat glass rooflights ensure the highest performance in safety is achieved – essential as access to the roof will be required for ongoing maintenance for the green roofs. Non-fragile rooflights are designed to be strong enough to prevent a person from falling through the glass should they slip or trip whilst carrying out maintenance, cleaning or other activities on the rooftop (subject to risk assessment). Class 1 refers to rooflights that can be trafficked infrequently for maintenance but are not designed for everyday foot traffic.

Not only do the rooflights ensure that the multi-function areas below benefit from high levels of natural daylight, they also guarantee excellent thermal performance and give a smart, aesthetically pleasing finish to the buildings. The outstanding levels of performance ensured that all the requirements for thermal transmission, impact resistance and ventilation were met.

With over 25 years' technical expertise in the design, manufacture, installation and distribution of rooflights, overhead roof glazing and bespoke daylighting solutions, Whitesales can provide the optimal solution, whatever the requirements.

feature a proprietary frame design and specific design details to ensure the unit is fully watertight. The units' warm-edge spacer bar and EPDM gasket also guarantee that the double-glazed units hold unrivalled insulation value over their lifetime.

Providing a clean, minimalistic finish inside and out, the electrically opening em.glaze modular flat glass rooflights were an ideal solution to deliver both enhanced daylight levels and comfort ventilation. The green roofs significantly reduce the need for air conditioning and cooling systems during hotter periods and the integrated opening rooflights provide natural ventilation to visitors and staff.

Manufactured with flat sealed glass units, each rooflight incorporates a fully welded



Project: Potter's Quay Business Centre, Belfast
Waterproofing system: Triflex ProTect®
Substrate: Failed single-ply
Area: 700m²
Authorised contractor: GBS Roofing Ltd



The conventional solution to end of life single-ply roofs has been to strip and replace with new single-ply. But there is another way. With Triflex cold liquid waterproofing systems, the advanced technology coupled with the systems' extensive use as a single-ply overlay ensures a tried and tested solution. Overlaying a failed single-ply membrane can achieve a rapid, waste-free, cost effective solution with increased puncture resistance and seams eliminated.

Expertise in delivery

The Potter's Quay Centre, Belfast faced such a challenge with their existing failing single-ply roof. Rather than replacing like for like, a cost-effective solution was developed using the Triflex ProTect® waterproofing system.

Current Northern Ireland building regulations state that should in excess of 50% of the roof area be repaired or replaced, the roof should be thermally upgraded. Mark Gregory, Technical Manager explains how Triflex approached the assessment

"The experienced team has at their disposal a range of tests to determine the condition of the existing roof. In this case we established that only around 20% of the roof insulation needed to be replaced. In addition, we conducted extensive compatibility testing to assess the suitability of the single-ply for overlay, required preparation method and most appropriate waterproofing solution."

Barry Mairs, Managing Director of GBS Roofing Ltd explains "The most cost-effective approach was a partial replacement of the insulation, leaving the rest in-situ and the majority of the roof covering intact."

Overlaying a failed single-ply membrane can achieve a rapid, waste-free, cost effective solution with increased puncture resistance and seams eliminated.

"Once the repair was complete, GBS Roofing then applied the Triflex ProTect® system to the whole 700m² roof area. The rapid curing, single-coat application allowed a shorter programme of works which significantly reduced the risk of the roof and office space below being exposed to rainfall."

Original roof design uncompromised

The roof design incorporated a large, cantilevered perimeter with a very shallow profile. The Triflex overlay solution meant that the design remained uncompromised as no further build-up was required.

Peace of mind with trusted solution

Triflex ProTect® offers exceptional compatibility with single-ply. The fully fleece reinforced system is based on the most advanced solvent and isocyanate free PMMA resins. The system's ultra-fast curing means it is rainproof in as little as 30 minutes and can be installed in temperatures down to 0°C allowing works to be completed even in cold winter months. Coupled with

Triflex ProDetail®, Europe's leading detail waterproofing system for upstands, gutters and penetrations the system provides a rapid, seamless total waterproofing solution for single-ply and other substrates.

The cost effective, hydrolysis resistant, Triflex solution will not only protect Potter's Quay from ponding and standing water, but with BBA and ETA certification it provides complete peace of mind. In addition, the solution reduced wastage, significantly extending the life of the existing roof, and with a trusted, proven and fully warranted system, the client can rest assured it will do so for many years to come.

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Hot Melt: the Key Issues Affecting Installation

Andrew Harper discusses the work of the LRWA's Hot Melt Sub-Committee including the latest technical guidance and the development of best practice installation advice.

The demand for hot melt systems is growing. An ideal waterproofing solution for both new-build and refurbishment projects, the technology is frequently seen on flat, trafficked and inverted roofs, but is always buried.

Hot melts are proving popular as they are quick to apply and offer a highly durable waterproofing solution, providing flexibility and adhesion over a wide range of temperatures. Some hot melt membranes have a 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.

In 2020, the LRWA formed a specialist Hot Melt Sub-Committee. The primary aim of the group is to update the Hot Melt Code of Practice, which was published in 2014.

A Driver for Change

One of the main drivers for updating the Code of Practice was the publication of BS 6229:2018.

The updated guidance in the Standard outlines exactly what is required to eliminate backfalls and deflection either by design (pre-construction) or by retrospective action such as self-levelling screeds or strategically placed outlets (post – construction).

It states that to ensure a zero-fall finished surface (i.e. totally flat), a design fall of 1:80 should be used and a detailed structural analysis carried out to account for construction tolerances, settlement and deflection under load.

If sites have negative falls, so will hold water, then remedial action should be taken by the main contractor before the roofing is applied. The roofing contractor should expect a flat, properly drained surface

Andrew Harper (pictured right) is leading the group developing the LRWA's Hot Melt Code of Practice and is Product Manager for Hot Melt at Bauder.

on which to lay the specified system and the finished roof should not suffer from ponding or inadequate drainage.

In 2019, I wrote an article that discussed the design challenges of creating zero falls - "The Cursed Game of Deflection, Back Falls and the vision of BS6229:2018." Two years on, I am pleased to say that things have moved forward in a positive direction.

Manufacturers of inverted roof waterproofing systems within the LRWA have endorsed and promoted the guidance in BS6229:2018. Further reinforcement has come from the construction insurance industry, which requires compliance with the Standard, and product certification bodies, such as the BBA, have incorporated the updated requirements into their certificates.



Some hot melt membranes have a 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.



Hot melts are proving popular as they are quick to apply and offer a highly durable waterproofing solution, providing flexibility and adhesion over a wide range of temperatures.

If the deck is to host a standard inverted roof installation with free-flowing outlets and has been designed to 1:80 to achieve zero falls as a minimum, a surface flatness tolerance of SR2 would be sensible to aim and quote for, just in case.

However, SR2 would be an absolute must when a blue roof installation is required. Any hint of a fall, particularly with restricted flow outlets could lead to a larger quantity of water being retained around lower lying areas. SR2

methods such as Pan or Combi are also acceptable, however excessive ridge marks and float marks should be kept to a minimum.

Surface finishes could also be used to aid the SR2 choice to help further reduce back falls and deflection.

Structural Components

A further issue that is being picked up and addressed by the Hot Melt Sub-committee relates to structural components being built onto hot melt waterproofing.

construction and impose extremely high localised loadings, which could compress or partially extrude the system, reducing its thickness through creep. This could ultimately compromise the performance of the waterproofing and cause the wall to fail which would be extremely expensive to investigate and rectify.

Organisations such as the National House Building Council (NHBC), Brick Development Association (BDA), Local Authority Building Control (LABC) Warranty / Premier Guarantee have also stated the need for this practice to be changed.

Through the Sub-Committee, the LRWA is in the process of producing a Guidance Note to raise awareness of the possible implications of this issue, and which will also be

Surface Regularity

As part of our aim to develop best practice, additional topics being discussed by the Hot Melt Sub-Committee include the regularity of concrete surfaces and finishes for inverted roofs.

There are three levels of tolerance laid out in BS 8204-2:2003, which details guidance on screeds, bases and in-situ flooring. Based on surface regularity, these levels are classed as SR1 (high standard for commercial and industrial buildings), SR2 (normal standard for commercial and industrial buildings) and SR3 (utility standard for other floors where a regular surface is less critical).

For concrete deck installers, SR3 is the preferred choice as it allows a maximum gap tolerance of 10mm under a 2m straight edge, so it is cheaper and less onerous to install. SR2 has a maximum gap tolerance of 5mm under a 2m straight edge. SR1 has what is deemed by most to have an unachievable maximum gap tolerance of 3mm over 2m.

Manufacturers of inverted roof waterproofing systems within the LRWA have endorsed and promoted the guidance in BS6229:2018. Further reinforcement has come from the construction insurance industry.

would lead to minimum levelling up that may be required to achieve the zero falls.

A good surface finish aids adhesion of the inverted waterproofing system to the deck. Basic finishes such as wood float (traditional), Skip or Easy Float are ideal. Ordinary finishes produced by mechanical power floating



LRWA members are frequently asked to respond to requests from designers seeking to hide waterproofing upstand details. Over the years, it has been a common practice particularly on podiums, terraces and balconies to hide the waterproofing on the inner leaf of the cavity rather than having it exposed on the external face 150mm above the finished surfacing. This means the outer leaf of the brickwork/structural wall is built directly off the hot melt waterproofing.

There are a number of risks arising from this approach. It could endanger the integrity of the waterproofing during its

featured in the new Code of Practice.

Technical Support

Following best practice and making the right choices when both specifying and applying liquid roofing and waterproofing technologies is essential.

The Hot Melt Sub-committee is bringing together expertise from across the industry to support this process and develop technical advice reflecting the latest British Standards.

The new Guidance Note will be published this year, followed by the new Hot Melt Code of Practice.

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"A very successful project handled well
by Britannia Paints and everybody in the
David Jameson team."

Britannia Paints' Polyshield used to complete a major 8,000m² roof encapsulation in Dublin

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

The project 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 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.

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 a
Polyshield polyester mesh.



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 labour onsite in the most
effective way, saving costs for
the client.

Finally, Polyshield Top Coat
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seamless, watertight finish to
a well planned and executed
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John Symmington, David Jameson Roofing, Contracts Manager

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At Proteus we go to huge lengths to survey and accurately report on every new project before handing it over to one of our approved contractors.

Waterproofing and Tales of the Unexpected

Justin Pitman, Sales Director, Proteus Waterproofing discusses how costs and the need to remain competitive affect every part of the construction industry and waterproofing is no exception.



It's a simple fact of life that every client expects and wants a 'Rolls Royce' job, but most are unwilling or unable to pay the going rate.

In spite of this, contractors strive to deliver exceptional quality at all times, even when margins are cut to the bone. This means going that extra mile to deliver best practice on every contract - and in many cases that also means being ready to deal with the unexpected.

At Proteus we go to huge lengths to survey and accurately report on every new project before handing it over to one of our approved contractors. We try to cover everything from thermal shock to wind uplift and more, but it is the unseen problems that are always hidden from view and are never discovered until work starts.

Every building has its own story and each one is in its own way a tale of the unexpected. This is when best practice really comes into its own with contractors and suppliers with the experience and ability to overcome unforeseen problems.



Nothing is really typical as we can see from this unusual case study. It features the House of Detention in central London, which by the mid-19th century was used as a holding prison for those awaiting trial with an estimated 10,000 people a year passing through its gates.



The prison was demolished in 1890, but an entire underground section survived and lay undisturbed until the bombs of the Blitz saw it reopened as an air-raid shelter. After World War II it

waterproof a car park that had since been built over the old prison.

Such was the case until the old decking was removed to reveal the roofs of the cells and the short-term work which had been used to waterproof them in earlier years. It was a tale of the unexpected which turned into protecting a Grade 2 listed building still being extensively used for film work and events.

To make things more difficult, the project was time sensitive and in a heavily populated area, meaning hot molten materials could not be used. New concrete also had to be installed to protect the ceilings within the barrel-vaulted cells and these had to be quickly waterproofed.

Exclusive Proteus Cold Melt system

The exclusive Proteus Cold Melt system which can be used to waterproof green concrete after just three days was used to overcome the problem. This meant that a permeable tarmac could be used to finish the job which would allow water to drain through to the waterproofing and not into the building below.

The entire structure has now been successfully waterproofed and is ready for many more years of service – not as a prison – but as a lasting historic memorial, now fully water protected.

was again largely forgotten until, in 1993, it became a museum and remained as such until its closure in 1999.

When Proteus became involved together with its approved contractor MJ Rooney Construction Limited, it at first seemed like a simple, straightforward project to



BACKGROUND

One of the largest shopping destinations in Europe, The Lakeside Shopping Centre in West Thurrock, Essex, offers more than 250 shops and 50 restaurants, attracting an average of 500,000 visitors per week.

The shopping centre was first opened in 1990 and, with the existing roof covering coming to the end of its service life, a six-phase roof refurbishment programme has been introduced to ensure that the interior accommodation is protected from leaks and that comfort levels are maintained for shoppers.

REQUIREMENT

As the shopping centre needed to remain fully operational throughout the roof refurbishment, use of a low odour system to prevent nuisance odours was business critical. Speed of installation was another key criteria for the specification, along with compatibility with the existing single ply roof surface.

The client was also keen to utilise a low maintenance solution with an extended service life and the Decothane Ultra 20 year system provided a low odour cold-applied liquid solution with a 20-year guarantee for product performance and installation integrity.

SIKA® LIQUID PLASTICS SOLUTION

Sika Certified Contractor, Makers Construction Ltd, is a regular contractor to the shopping centre and recommended Sika Liquid Plastics' Decothane Ultra 20 year system for the operational roof refurbishment project.

Makers Construction erected an access tower to enable the

Sika at Work: Shopping Centre Buys into Decothane Ultra Performance



Decothane Ultra materials and equipment to be brought up to roof level.

The project involved a significant amount of detailing due to the amount of rooftop plant, guttering, upstands and

interfaces between various roof areas. These conditions required the installers to work in confined and awkward spaces.

The Decothane Ultra system's ease and speed of application

were vital in addressing these challenges and field technicians from the Sika team made regular visits to the site throughout the programme to troubleshoot on tricky detailing challenges. After preparing the existing roof surface, The Makers Construction team applied Sikalastic® Primer PVC before installing the Decothane Ultra 20-year system to create a seamless finish.

Alex Bloor from Makers Construction comments: "The agreed programme was 21 weeks but, thanks the ease of installation of the Decothane Ultra system and the skill and project co-ordination of our installation team, the project completed ahead of schedule."

PROJECT PARTICIPANTS

Contractor:	Makers Construction
Roofing Client:	Lakeside Shopping Centre
Size:	15,000m ²
Products:	Decothane® Ultra 20-year system, Sikalastic® Primer PVC



CONTACT

Phone: +44 1772 259781

Fax: +44 1772 255670

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Ravatherm XPS X ULTRA 300 SL Specified for £50 million Mayfair Development



Ravago Building Solution's BBA certified ultra-thin high-performance extruded polystyrene (XPS) thermal insulation boards has been delivered to 22 Hanover Square, in Mayfair, London, as part of a £50 million project to deliver a new collection of luxury residences.

Led by global construction company ISG, the project is set to offer 80 new apartments as part of a multi-level development linked to the 5-star Mandarin Oriental Hotel, offering residents access to exclusive hotel facilities that include a spa, 25m indoor swimming pool, and a rooftop bar overlooking Mayfair. 1200m² of Ravatherm XPS X ULTRA 300 SL was selected for by flat roof insulation specialists Quantum Insulation, keeping in mind that leading roofing

Ravatherm XPS X ULTRA 300 SL is the thinnest insulation of its kind, and so presented the ideal solution for this demanding specification.

company, BriggsAmasco, needed to attain a U-value of 0.12 – a requirement easily met by ULTRA 300 SL.

Ravatherm XPS X ULTRA 300 SL is a thermal insulation product designed for inverted flat roofs, offering architects and specifiers the thinnest XPS insulation with a design

lambda of 0.028 and declared lambda 0.027 W/mK for the whole thickness range from 70 to 205mm.

Paul Davies, Director, Quantum Insulation, said: "Ravatherm XPS X ULTRA 300 SL is the thinnest insulation of its kind, and so presented the ideal solution for this demanding specification. Alongside their product, Ravago offer high-level expertise and superb customer service, both of which were equally vital in getting the insulation from cradle to gate as smoothly as possible".

Tony Lawther, Operations Director, BriggsAmasco, said:

"This project came with added logistical challenges, which Ravago were able to overcome with reassuring expertise, anticipating our needs and ensuring on-time Saturday delivery to a quiet site".

Richard Powell, Roofing Sales Manager, Ravago Building Solutions, added: "Having provided solutions for similar projects in the past, we were confident in meeting both technical and logistical requirements, ensuring the client received timely and safe delivery of the product. We look forward to seeing the final outcome of the development next year".



RAVATHERM™ XPS X



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