

RENEW

AUTUMN 2025 EDITION

The **POTHOLE PREVENTION** Edition

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**POTHOLE
PREVENTION
WEEK**

8-12 Sept 2025

The magazine of the Road Surface Treatments Association



editor's note

Mike Hansford | CEO, RSTA



It's a year now since I took over as CEO of the RSTA. In that time I've built on previous successes of the Association in supporting its members, but put a greater emphasis on supporting highway authorities, in educating and informing about the benefits of a preventive road maintenance strategy, supported by surface treatments, and using alternative treatments which offer permanent, lower cost and carbon solutions.

This anniversary is timed with the second year of our 'Pothole Prevention Week' (8-12 September), in which we intend to :

- Launch the preservation and rejuvenation campaign/website.
- Launch the first of our 'Lunch and Learn' Teams sessions – starting with preservation and rejuvenation, with other treatments to follow on subsequent days.
- Publishing of our RENEW magazine.

I'm still surprised at just how many highway authorities (both local and national) are failing to embrace preventative maintenance strategies. Especially given that the reasons offered for not using surface treatments, are often based on a lack of understanding and misinformation, but in some cases may be linked to a historic bad experience.

The significant departure from preventative road maintenance, which was our bread and butter of maintenance (to include cyclic drainage maintenance) at the start of my highways career, has undoubtedly manifested in this situation of poor quality roads and large volumes of potholes on the road network.

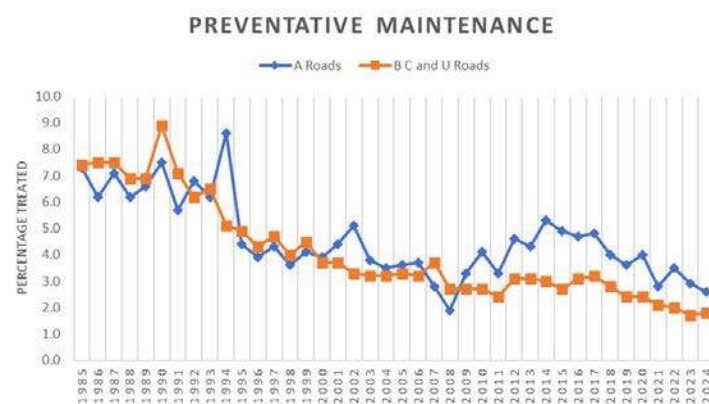
With the Asphalt Industry Alliance ALARM survey documenting that unpredictable reactive defects are now costing £81.62-106.52 per repair, it makes more sense than ever to plan an early life preventative treatments, ranging in cost from £2.50 – £9 per m², to ensure you don't incur these significant repair costs so very soon after these windows of opportunity for intervention have closed, and to provide a better driving experience for motorists.

Permanent, planned and proactive patch repair options offer significantly better value than a reactive 'make safe' approach, especially if this repair is only addressing the 'actionable' part of the defect (often 40mm>).

Equally, instead of repeatedly fixing actionable defects in end of life roads, consideration should be given to cost value, permanent solutions of recycling, to repurpose existing materials to form a new base, providing structural properties to evolved or failing roads.

The Government announced in the June Spending Review; a £24 billion commitment to highway maintenance funding from 2026/27 to 2029/30, which will help local authorities plan future maintenance with confidence. A further £1 billion was also committed by the Government to renewal of broken bridges, ruined roads and tired tunnels and new Thames Crossing funding. We await to hear how these funds will be allocated.

This longer term commitment to funding from Government, will help local authorities with their longer term maintenance planning, but this comes with a requirement for transparency under the Incentivisation Fund, with local highway authorities now required by the Department for Transport to document how they are investing in both reactive and preventive maintenance. Furthermore they are required to document their approach to decarbonising highway maintenance. Initial submissions (Annex A) were due by the 30th June, with Annex B now due by the 31st October.



Collaboration within the industry has been absolutely essential and has helped us make significant progress in communicating our messages of best practice. We continue to work closely with the REA, and our work with the RAC has seen support for our messages right up to ministerial level for which we are truly grateful. Our close relationship with the Department for Transport has also been instrumental in driving change, and I want to take this opportunity to thank Matthew Eglington, who I wish all the best in his new role.



Permanent, planned and proactive patch repair options offer significantly better value than a reactive 'make safe' approach

I supported Emily See as incoming president of LGTAG in June at their 2025 annual conference, and it is good to hear that her presidency will be focussed on a refresh of asset management, as a reminder of how powerful adoption of asset management principles can be to maintaining assets effectively, including roads.

Whole lifecycle projection modelling will demonstrate how preventative treatments can offer better value investment, when compared to solely a 'replace on fail' maintenance strategy.

I was reminded recently of a comment that I made whilst presenting at the RSTA Annual Conference in 2023, being; "How are you managing your road network, if you're not investing in road surface treatments."

That's because current capital annual maintenance budgets do not support a solely reactive maintenance strategy, where road surfaces are replaced so soon, when cost effective surface treatments will extend asset life and therefore manage those roads in good condition, saving on costly reactive repairs.

I would go as far as to say that the time now is one for a 'call to action' for engineers (who are not already) to start making better use of this funding, and learn from those forward thinking highway authorities that are embracing these preventative strategies and alternative materials.

And this approach can be delivered whilst reducing carbon, which will support decarbonisation strategies and climate emergencies, declared by most UK authorities. The launch of our Edition 2 Carbon Guidance document in April, provides data on which carbon comparisons can be made. As Emma Pye from PYE Management commented; "Decarbonisation of highway maintenance activities is within reach."

We are planning more technical training seminars in an area near you, with RSTA technical training events in Cardiff (16th September), later in November 2025, and a number of locations around the UK in 2026. We are also in the process of planning another Fact or Friction skid resistance seminar in March 2026, in the east of the UK.

In the coming year we'll be looking at how we communicate the range of different treatments, in terms of training offerings, so keep an eye out for those. Later in the magazine are details of upcoming training opportunities.

After a highly successful RSTA Annual Conference in April, we will be returning to The Belfry on the 16th April 2026 – so keep the date free in your diary. We intend to make the 2026 Annual Conference bigger and better than before, to celebrate our return.

As a surfacing contractor once told me when I was working within local authority; the driver for change has to come from the client. Which is why we have to ensure that clients fully understand the modes of failure in asphalt roads, and appreciate the appropriate treatments that can be applied at different stages throughout its life to arrest decline, so they can make more informed decisions in defining their road maintenance strategies. Therefore, the commitment I have made to support local authorities who wish to learn more about surface treatments, still stands, so please contact us at the RSTA if you wish to have an informal discussion, or register for more formal CPD training.



The UK's roads are in worse condition than we thought

Late 2024 saw the publication of the PAS2161:2024 Road Condition Standard, arising from a project conducted by the Department for Transport, that reviewed the road monitoring reporting requirements for local highway authorities.

This has opened up the market to new and innovative technologies used to monitor road condition.



RSTA member and highways technology company, GAIST, offer one of these advanced methods of road condition monitoring.

Gaist's method combines high-resolution imaging with AI-driven analysis to deliver an exceptionally detailed view of road surface conditions. Gaist maps the entire roadscape to forensic levels of accuracy. Their platform continuously captures data which is then analysed by advanced AI machine learning models to identify signs of deterioration—such as cracking, edge wear, and surface ageing—long before they become visible hazards.

Gaist CEO Steve Birdsall commented that these findings confirm what road users already suspect: that the road network has deteriorated more than official data suggests. The latest findings for 2024 reveal that:

- 8% of A roads are in poor condition – double the 4% reported in 2023 official figures
- 17% of B & C roads are in poor condition, more than double the 7% reported in official figures
- The data for A, B & C roads in good condition is less than half that reported in official figures
- The data for A, B & C roads in mid-life condition is more than double that reported in official figures.

One of the significant findings is that many roads are now in a mid-life state, meaning they are not yet at the point of failure, but are deteriorating. This offers an opportunity for a timely and targeted, cost value intervention using surface treatments, to prevent these roads degrading into more costly pothole-ridden surfaces.



The availability of these advanced technologies, align with the UK Government's push for AI-driven improvements in public services, as outlined by the Prime Minister earlier this year. Just as AI is to be used to modernise Government decision-making to solve long term complex problems, councils can also leverage these AI-driven insights to allocate road maintenance budgets more effectively, thereby collectively saving the UK billions of pounds, while preventing roads from falling into disrepair.

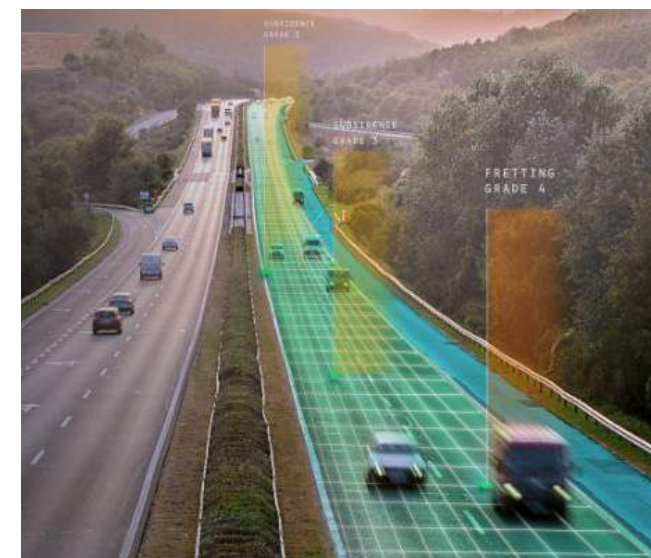


Steve Birdsall, CEO of GAIST, on the AI Road Revolution "GAIST is a UK company which leads in the development of road condition monitoring using AI.

This proactive, data-rich approach allows councils to strategically target roads that are in a "mid-life" state, enabling preventative treatments that significantly reduce long-term costs, minimises carbon emissions and road user disruption. It represents a shift away from reactive pothole filling to intelligent, forward-looking asset management aligned with the UK Government's broader AI strategy for public service modernisation.

With over £2 billion of quick wins identified, councils now have the tools to take proactive action – moving from reactive pothole repairs to smarter, data-driven maintenance. This is a global problem and we are now working with organisations in the USA, Japan, South America, Europe and Australia, to tackle the legacy of underinvestment into roads."

Mike Hansford CEO at the Road Surface Treatments Association (RSTA) commented "The Government has acknowledged the importance of investing in preventative maintenance, even if we still hear some references to 'fixing potholes'.



The use of enhanced data, and asset management systems to model investment and maintenance scenarios will support the case for change. This same data and asset management systems will identify suitable schemes for early and proactive treatment, to secure the best return on investment."

In the recent Department for Transport transparency reporting there is now a requirement for local highway authorities to document their maintenance strategies, to include a split of both reactive and preventative maintenance, which is a huge step forward.

These findings on road condition reinforce the RSTA's long-standing call for a strategic shift in highway maintenance—away from short-term fixes and towards permanent, preventative solutions. By investing earlier and more intelligently, local and national highway authorities can extend asset life, reduce long-term costs, and deliver safer, more resilient road networks.

With budgets under increasing pressure, this is not just a recommendation—it's a call to action to maximise the value of every pound spent on our roads.

The Future of Carbon

Emma Pye of PYE Management, writes on behalf of the RSTA about the future of carbon in our highways sector, and the importance of PAS2080.



In the UK, the highway maintenance sector plays a pivotal role in the national push towards net zero carbon emissions by 2050. Despite growing awareness and policy commitments, traditional road maintenance methods, particularly resurfacing and reconstruction, continue to contribute significantly to the country's carbon footprint.

This has prompted a need to shift towards more sustainable practices, with surface treatments emerging as a lower-carbon alternative. The RSTA has taken a leading role in this transition, offering comprehensive guidance that enables local authorities to assess and compare the carbon impacts of various maintenance techniques.

RSTA Carbon Emissions Report

The second edition of the RSTA Carbon Emissions Report marks a significant advancement in sustainable highway maintenance. Building on the 2023 edition, this updated guidance expands the Life Cycle Assessment (LCA) methodology to include both the product, transportation and installation stage (A1–A5) and the maintenance stage (B), offering a more comprehensive view of carbon impacts over time. The report provides lifecycle-based carbon calculations for a wide range of treatments, empowering asset managers to make informed decisions that align with both environmental goals and long-term cost efficiency.

Developed in collaboration with PYE Management and contributions from 19 RSTA members, the report presents emissions data in kgCO₂e per m², enabling direct comparisons between surface treatments and traditional resurfacing methods.

The findings reveal that surface treatments are substantially more carbon-efficient, supporting local authorities in their net zero strategies. With detailed scenarios spanning 60-year lifecycles, the report empowers asset managers to make informed, cost-effective, and environmentally responsible decisions.

PAS 2080

PAS 2080 is rapidly becoming the benchmark for carbon management across the UK's infrastructure sector, including highway maintenance.

Developed by the British Standards Institution (BSI), it provides a consistent framework for evaluating and reducing whole-life carbon from design and materials to construction, operation, and end-of-life. The 2023 update to PAS 2080 has broadened its scope to align with science-based net zero targets and now mandates collaborative carbon management across the entire value chain.

National Highways, which achieved PAS 2080 verification in December 2022, is leading the charge by requiring all contractors and sub-contractors to implement their own PAS 2080 verified carbon management systems by the end of 2025. This move is reshaping procurement and project delivery, making carbon accountability a core requirement alongside cost and schedule.

What is PAS 2080?

PAS 2080 is a publicly available specification developed by the British Standards Institution (BSI) that sets out a framework for managing whole-life carbon in buildings and infrastructure. It promotes a systems-thinking approach, encouraging organisations to consider carbon impacts from the earliest stages of a project. It defines clear roles and responsibilities and it enables consistent carbon accounting and decision-making.

The future for carbon reduction

The future of the UK highway maintenance industry is unequivocally tied to its ability to reduce carbon emissions across the entire lifecycle of road infrastructure. With road construction and maintenance contributing million

tonnes of CO₂e, the sector faces mounting pressure to adopt low-carbon solutions. National Highways has set ambitious targets, as well as the local highway authorities. Achieving reduction goals will require a fundamental shift in how roads are built and maintained, prioritising sustainable materials, circular economy principles, and carbon-conscious design. PAS 2080 supports this and ensures that whole-life carbon is taking into account and if followed by all in the value chain, will enable the sector to hit their net zero targets.

Adapting Highways to climate change

The UK's highway network is increasingly vulnerable to the impacts of climate change, with rising temperatures, heavier rainfall, and more frequent extreme weather events threatening the integrity of roads, bridges, tunnels, and drainage systems.

Climate volatility is reshaping the landscape of highway maintenance. Leaves sometimes now drop prematurely in summer due to heat stress, clogging gullies and drainage systems long before autumn. Intense rainfall then overwhelms these blockages, triggering surface water flooding and road closures.

Droughts can increase runoff by hardening soil surfaces, reducing absorption and amplifying flood risk during storms. Prolonged heatwaves soften road surfaces, causing

rutting and deformation, while sudden cold snaps, even in spring, spark freeze-thaw cycles that crack and degrade carriageways.

Vegetation grows more aggressively as springs starts earlier, demanding frequent verge cutting, yet newly planted saplings often fail to survive the planting season due to water stress and extreme temperatures, undermining reforestation and biodiversity efforts along transport corridors.

These changing conditions will start to mean that highway authorities will need to rethink traditional maintenance schedules and adapt to a more unpredictable climate. The increase in extreme weather events, altered seasonal patterns, and ecological stress will start driving up costs, straining resources, and demanding more detail on how to predict climate changes. At the same time with the growing pressure to reduce carbon emissions and transition to sustainable materials and practices, it means that resilience is not just a technical challenge, but a critical part of the journey toward net zero.



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Encapsulation – The Future of Surface Dressing

The RSTA continues to work in close partnership with the Road Emulsion Association (REA), and in this article Kev Maw, from the REA discusses encapsulation of surface dressing.

Background

Surface dressing is not new. It has been used for many years as a road maintenance treatment to protect and improve the conditions of the road surface. Incredibly, the Road Emulsion Association Limited was formed in 1928 and will be celebrating its centenary year in 2028, having represented the interests of bitumen emulsion producers over this time. And we continue to see new innovations being applied as we reach this amazing milestone.

Firstly, let's remind ourselves of what surface dressing is, as our main weapon against potholes. It's a system that applies a bitumen emulsion spray to the existing road surface, followed by the application of stone, or aggregate, which is glued to the bitumen, once the chemical and evaporation process is completed. Then, the emulsion returns to a film of bitumen. The new aggregates provide vital improved skid resistant texture, which is a key road safety feature, and the sprayed bitumen emulsion seals the road surface from water ingress.

Over the years, the products, equipment and processes have evolved significantly. From the skilful training of operatives and use of improved durable PPE, to high performing spray machines and aggregates spreaders. Traffic controls and the use of sweepers, or vacuum equipment, are also providing additional safety in the process. So, it's safe to say we've made great strides from an operational perspective.

Further important improvements have undoubtedly been made over the past decades, as we've witnessed the increasing use of polymer modification to the bitumen emulsions. Today, the UK sets high standards. Impressively, we use more polymer emulsions in the surface dressing of our local authority roads as a proportion than any other European country.

But there are still further challenges. Bitumen can become brittle in extremely cold weather, and it will flow in very hot temperatures. The introduction of elastomeric polymers extends the flexibility of the bitumen base and provides a significant improvement in the ability of the surface dressing to withstand increasing extremes of temperatures. The Polymer Emulsions also have increased adhesion properties to ensure the aggregate is firmly stuck to the polymer modified bitumen layer.

In recent years, we have seen increasingly extreme changes to our climate conditions. In particular, we've seen higher and more frequent rainfall, along with increasing summer temperatures. And that's not good news for our roads.

These changes are challenging all of our road networks and materials. Recent data shows the damaging effect of water entering the surface structure of a road and how this can quickly result in deterioration of the road surface. Increasing surface water and modern-day vehicles are the main culprits.

However, we're pleased to say that the industry has risen to meet these unprecedented challenges. While standard surface dressing is designed to seal the road surface, it has not been used extensively across towns and cities, or the strategic road network. This is due to the impact of certain road designs, and traffic flows, on the structure of the open aggregate interface.

And here's where we introduce the new star of the show. Perhaps the most important innovation in the history of surface dressing has arisen from the industry researching the challenges ahead. So, the process of encapsulation was invented and continue to see extensive application across the country, as local authorities realise the benefits.

Encapsulation

Encapsulation (or lockdown treatment) is an innovative development to the process of surface dressing which is a 'game changer' in the use and application of the surface dressing process.

Encapsulation is effectively an over spray of bitumen emulsion over the finished surface dressing. As with many successful innovations, you may think: "why has no one thought of this before?". Especially when to the travelling public, it appears just like a brand-new asphalt surface, but at a fraction of the cost. However, encapsulation does much more than look aesthetically pleasing to road users.



Firstly, it doubly seals the road surface from the protection of water ingress. With the inevitable increase in rainfall in future years, this will be paramount in securing the integrity of our road surfaces and therefore playing a key role in preventing pesky potholes.

Encapsulation also locks in the aggregates that form the main texture of a new safe skid resistance surface, provided by surface dressing. This provides greater resistance to the damage of modern power steering vehicles with modern day, more abrasive tyre treads. Moreover, the overspray adds a protective screening to high road surface temperatures and helps resist hot temperature damage.

In summary, encapsulation provides a safe and renewed road surface at a fraction of the financial and environmental cost of removing the old asphalt road and replacing it with new asphalt. And this has to be an innovation worth celebrating.



Importantly, the carbon emissions during the life span of an encapsulated road is significantly lower (RSTA figures) than a road having to be repaired with newly

laid asphalt. The new encapsulated road has the equivalent life expectancy of an asphalt road, but at a much lower environmental and physical cost.

The practicalities, economics and science point firmly to a future where encapsulation is the pinnacle of preventative road maintenance standards. It's time we embrace this new and exciting development and ensure those outside of our industry also recognise the immense benefits it can deliver for all road users.



Recycling

In the face of a challenging financial climate, increasing infrastructure costs, increased traffic demands, and growing environmental concerns, road recycling has emerged as a sustainable and cost-effective solution for maintaining our roads.

The existing road network is one of the biggest sources of aggregates (especially of higher PSV aggregates), and offers an opportunity to repurpose these planed materials to produce new materials for road reconstruction or resurfacing.

Yet these premium grade materials in some cases, are still being sold to put on farm tracks!

These methods of reusing and repurposing existing

materials not only reduces the need for new resources, but also helps in building construction into many local roads that have evolved from tracks, or have limited or failing construction, but are taking heavy agricultural or industrial traffic.

Road recycling is transforming how some local authorities approach pavement maintenance, and reconstruction, offering a long life, low cost and low carbon option to repairing end of life roads.

What is Road Recycling?

Road recycling involves the process of reclaiming, processing, and reusing the materials from old, deteriorated pavements, to reconstruct or resurface roads, rather than importing new asphalt surfacing materials.

Recycling supports strategies intended to reduce waste, save costs, and minimise the environmental impact associated with traditional road construction.

There are different methods of road recycling, but each of the processes are designed to repurpose and reuse the existing pavement materials to create a more sustainable road system.



Ex-situ recycling

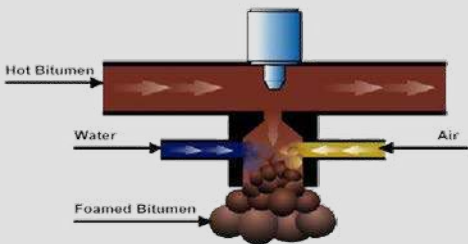
Arisings from existing milled material, is removed from site, to a landing site where it will be crushed, screened, then mixed to produce a material, including:

- Cold bituminous bound base, binder material
- Cold Cement Bound Granular Material (CBGM) (base/binder)
- Roller Compacted Concrete (RCC)
- Hydraulically Bound Materials (HBM)

This material will then be transported back to site to be laid in the new road construction.

The site will require adequate space for stockpiling of planed material, set up of a mixing plant, and room for vehicle movements.

Local authority Planning and Environment Agency permits and consents may be required.



In-situ recycling

In-situ recycling is a process where the existing pavement is milled and pulverised with specialist equipment. The crushed material is then mixed in situ with binding agents such as a bituminous emulsion, foam, or cement, to create a recycled, mixed, bound layer.

In situ recycling includes the following depths:

- Shallow (Retread) recycling 75-85mm
- Medium depth recycling nominal 150mm referred to as Regen
- Deep recycling 150-325mm where the base and subgrade, is recycled.

This bound layer is then sealed with an appropriate surface which might be a surface dressing for lightly trafficked roads and or conventional asphalt surface for busier roads.



New asphalt with Recycled Asphalt Planings (RAP)

Another key component in road recycling is the use of Recycled Asphalt Pavement (RAP). RAP is the material obtained from milling or grinding up old asphalt roads. The recycled asphalt is then processed, refined, and blended into new asphalt mixes.

RAP is commonly used in both hot and cold recycling methods to reduce the need for virgin aggregates and bitumen, helping to conserve natural resources.





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Benefits of road recycling

Cost efficiency

Recycling old pavement materials is significantly more cost effective than rebuilding roads using new materials, given these are materials you have already paid for. Additionally, since road recycling can often be completed in a shorter amount of time, the overall cost of labour and equipment is lowered.

Typical rates for in-situ recycling are £12-14 per m² for shallow depth 80mm (Retread), up to £18-20 per m² for medium depth 150mm, in-situ recycling.

Compared to new asphalt reconstruction which would be significantly higher cost.

Significant financial savings are also offered by cold mix, ex-situ recycling.

Environmental sustainability

One of the biggest advantages of road recycling is its environmental benefits. Recycling reduces the need for mining and extraction of raw materials such as aggregates, gravel, sand, and bitumen, thereby conserving natural resources.

Furthermore, it reduces the amount of construction waste that ends up in landfills, which helps decrease the environmental footprint of road construction.

Carbon statistics documented in the RSTA Edition2 Carbon Guidance document show the following associated carbon with each treatment:

- Medium depth in situ recycling 150mm – 4.7805 kgCO₂e/m²
- Deep in situ recycling 250mm - 13.2778 kgCO₂e/m²
- Deep in situ recycling 250mm using low carbon cement alternative - 7.8261 kgCO₂e/m²

Compared to :

- 100mm binder and surface asphalt inlay 100mm - 17.4123 kgCO₂e/m²

Ex-situ recycling offers a 70–74% reduction in CO₂ emissions compared to traditional hot mix asphalt.

Encapsulation of coal tar contaminated material

If coal tar contaminated material is located on site, recycling offers a significant cost saving by encapsulation of the material and keeping this on site. If coal tar is already located on site, imports from other sites can also be taken.

This would save approximately £150 per tonne in costs associated with removing contaminated material to licensed tip.

Things to be aware of

While road recycling offers numerous benefits, it does come with some things to consider

Material quality and consistency

The quality of the recycled materials may vary depending on the age and condition of the original road surface. Pre construction testing and quality control measures are required to ensure that the recycled mix meets the specifications for new road construction.

Limited application

Not all roads are suitable candidates for recycling. For example, roads with extensive utilities apparatus may need to be carefully considered. Robust ground penetrating radar (GPR) surveys and test pits will be required.

Conclusion

Road recycling is a solution for both the environment and the economy. By reusing old materials, reducing waste, and conserving natural resources, road recycling offers a more sustainable and cost-effective way to maintain and build roads of the future.



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PROCESS SPOTLIGHT

Retexturing

Highways safety and collision reduction is a high priority for local highway authorities, with surface texture and skid resistance key components in the 'Safe System. Government statistics show that 30% of county principal roads are at or below investigatory level for skid resistance.

Skid resistance is lost principally in two ways. The first relates to wear caused by traffic where the continue action of driving on the road polishes the aggregate making it smoother and hence reducing friction. The second relates to the road itself where, typically after very hot weather, the bitumen in the road surface softens and then the aggregate is pushed into the softened bitumen and the texture is lost in this way. This is commonly called 'fatting up'.

An obvious solution is to resurface the road. However, the cost of resurfacing this much pavement is huge. Unsurprisingly most local authorities will cite lack of funds as the reason they can't address all areas identified for requiring improvement this way.

The good news is that there are low cost, low carbon treatment options, that will improve skid resistance, without replacing the asphalt surface – retexturing.

For asphalt surfaces there are the following techniques:

Captive shot blasting

Steel shot fired onto the road surface will restore microtexture and microtexture (re-abrasing the aggregates). This can be used to retexture a polished hot rolled asphalt, for example. Skid resistance values are quickly restored to satisfactory levels.

Hydro blasting

Water forced onto the road surface under pressure to restore macro texture. This is commonly used to strip out excess binder in fatted



As an industry, we continue to develop techniques and procedures that will result in cost effective and longer-lasting pavement rehabilitation. Concrete pavements rehabilitation using traditional milling machines fitted with fine milling drums and repairs to joints and any failed areas of concrete is one such technique – ensuring excellent adhesion and

extension that maintains high tensile strength and compressive resistance.

Industry collaboration

The process can significantly reduce the carbon footprint of a scheme, without impacting on the long-term resilience of the solution, lasting longer than alternative solutions it has become a key part of this thinking.

Summary

Methods of retexturing offer a quick, cost effective and low carbon solution to restoring texture and making roads safer.

Retexturing further extends road life by restoring texture to polished or 'fatty' roads, prolonging the need for asphalt replacement.

surface dressings, to expose the aggregates, and restore surface texture (macrotexture).

Fine milling

Fine milling is used to restore skid resistance in asphalt and concrete roads, using a fine milling drum.

But fine milling also offers an innovative way that local authorities can maintain their concrete roads that have been overlaid with either bituminous surface course, microsurfacing or surface dressings. There are many roads like this in towns and cities all over the UK, and aesthetically it soon begins to look tired and needs an effective maintenance solution.



Get a Grip

The use of High Friction Surfacing (HFS) has declined at an alarming rate according to industry sources, which is concerning given how effective this ‘anti skid’ material is when it comes to improving skid resistance and reducing collisions.

At the heart of most local and national highway authority maintenance strategies, are outcomes linked to improving road safety and collision reduction.

The ‘Safe System’, presented at our recent ‘Fact or Friction – Managing Skid Resistance’ seminar by Suzy Sharman from the Road Safety Foundation, relies on a combination of driver behaviour, vehicle safety features / condition, and road surface characteristics including texture / skid resistance.



High risk locations demand that high confidence is required in aggregate performance and in delivering the required skid value consistently over time, which can only be achieved

through calcined bauxite aggregates used in HFS.

Engineers are increasingly instead; specifying 68 PSV, conventional asphalt materials (at a time when naturally occurring high PSV aggregates are becoming increasingly difficult to source), which simply do not perform in the same way as HFS, and especially over time. Where HFS has become worn, a conscious decision is often being taken by engineers not to replace it.

As a consequence; high friction surfacing has seen a huge decline in the UK, from approximately 3.5 million m², to around 625,000m² today.

So why the decline in use?

Because of the need to import calcine bauxite, which is a key component in HFS, it is more expensive when compared to conventional asphalt. Many engineers will therefore identify the expense of this high performance material, combined with a perception held by some, of poor durability and short life of these materials, for taking the decision to not specify HFS.

So let’s address these points:

- Cost
HFS should only be used on high risk sites where braking distances are critical to maintaining public safety (including approaches to pedestrian crossings, junctions or other high risk, collision cluster locations), and therefore used in relatively small quantities.

The London Accident Analysis Unit reported that the 1,700 sites treated in one year with HFS at a cost of £3 million, saved £24 million through accident prevention.



- Performance and longevity
HFS materials became subject to a new British Standard from 2022 (formerly subject to a ‘product approval scheme’) under BS 8870:2023. This will ensure high performance standards are achieved and recognised, and should provide reassurances to engineers about the performance and longevity of these materials.

The installation element of high friction surfacing materials is subject to HAPAS approval, and should be installed by National Highways Sector Scheme 13 (NHSS13) compliant contractors.

There are many case studies that evidence the longevity and performance of high friction surfacing (both hot and cold applied), which extend beyond ten years.

Further supporting the case for high friction surfacing

The introduction of high friction surfacing in London in the 1960s arose from increased vehicles and subsequently a spike in road traffic collisions. In its first year, the application of HFS reduced the number of collisions by half.

TRL reported that HFS has been found to reduce wet weather accidents by 57% and could reduce the overall number of accidents on our roads by 5.5%.

A ROSPA study identified HFS as one of the most effective methods of reducing collisions, compared to other engineering measures (e.g. traffic calming, markings, warning signs, etc).

Research undertaken at the University of Ulster further concluded from laboratory testing that HFS containing calcined bauxite aggregate outperforms naturally occurring high PSV aggregates in asphalts, in retaining a higher level of skid resistance.

There are multiple case studies around the world that document the impact of HFS on high risk collision sites, which post application monitoring; demonstrates a significant reduction in collisions.

Types of high friction surfacing

There are two types of high friction surfacing:

- Thermoplastic
Premixture of hot screed material including calcine bauxite, which has polished stone values (PSVs) exceeding 68 PSV.
- Thermosetting
Cold resin (Epoxy, Polyurethane/Polyurea, Methyl Methacrylate (MMA) applications, with high PSV calcine bauxite chippings applied manually.

Making the right choices

The safest solution for engineers in high risk locations, is to specify the best performing materials, in order to reduce braking distances in wet conditions, and to reduce the risk of collisions. This can only be guaranteed through the use of high friction surfacing.



TYREGRIP®

The proven high friction system. Saving lives for over 38 years.

TYREGRIP® is the proven high friction surfacing trusted by authorities worldwide to keep drivers in control and prevent accidents at junctions, crossings, bends and roundabouts.



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PROCESS SPOTLIGHT

What to do about roundabouts and high stress areas....

On the theme of 'right treatment, at the right place, at the right time', let's talk about possible treatment options for roundabouts and other high stress areas.

I often get asked what materials I recommend for use on roundabouts and high stress areas, and this often comes out in the training I deliver, specifically the examples where I recommend maybe not using particular surface treatments.

Historically HRA was the material of choice, which as we know is a dense, robust material, but it was always susceptible to rutting in the wheel tracks on roundabouts especially.

In the 90s we moved to thin surface course type materials, and these materials can be vulnerable on the joints, especially given the high stresses on roundabouts.

So what do we do? We keep using the same thin surfacing type materials! And often within weeks after laying, you can see how vulnerable the joints are and can almost foresee the early onset failure.

Treatments options

Highway authorities that have used grouted macadams will undoubtedly have recognised its value for use in high stress locations like roundabouts and junctions.

These materials are grouted with either a bituminous or cementitious grout, so there are no joints.



Somerford roundabout



Woolbridge roundabout

Woolbridge Roundabout in Dorset is in close proximity to Bovington Tank Museum and on a daily basis is trafficked by tanks. The cementitious grouted macadam used on that roundabout is holding up very well, despite the huge stresses it experiences.

And for something really different

Some creative thinking on a small roundabout in Blackpool, saw the roundabout resurfaced / recycled using thermal patching equipment, with fantastic results (shown below). The use of thermal equipment means a further seamless joint repair, with zero waste, and reduced carbon.



BEFORE

AFTER

Patching

Potholes, potholes and more potholes

There's been much discussion about the departure from the use of preventative road surface treatments over the past decade or so. So we are now in the position where we do need to focus on the immediate pothole problem which means securing the quality and permanence of repairs.

It seems that politically there is a continued will to discuss how many potholes have been filled. But the measure of success is not in how many potholes you've filled, but in how many you're preventing. If you're fixing lots of potholes, especially reactively, your asset strategy has failed!

And its common to see 'actionable only' (often over 40mm depth) defects repaired, sometimes with a temporary repair, leaving an adjacent defect (or even part of the same defect) unrepaired. But it could be following next month's inspection, when you have to return once again, and so on. This approach is cost inefficient, and the public perception

of this approach is poor also.

In some cases there is a need to make a defect safe, sometimes temporarily, given timescales for the repair, and to cover Section 58 defences against third party claims. But we need to be careful that this, combined with key performance indicators for repairing defects on time, doesn't drive down the quality of repairs.

The 2012 HMEP Pothole Review made a series of recommendations including "prevention is better than cure" and made further recommendations to include a 'Permanent Repairs Policy' and 'Quality of Repairs and Reinstatements'.

It has been said that "... due to budget shortfalls, we can only do temporary repairs." But this is false economy. And why having made the defect safe, it should be followed up with a permanent planned patch repair, to include the surrounding defective material.

Cost considerations

Consider this hypothetical example:

15 individual temporary repair visits, costing £81.62 - 106.52 per repair (AIA ALARM Survey – reactive repair) costing a total of £1,224 - £1,598.



After the first visit to make safe, a planned patch for this entire failing area, approximately 7.5 m² would cost £406-434 (£54.25-57.87 per m² - AIA ALARM survey planned rates) . So not only is there a significant saving, it a better job (better public satisfaction), with less future visits required.

An award winning local authority, changed their policy in 2022 from 90% temporary repairs, to 90% permanent repairs, and in doing so saved £1.4million per year, reduced the backlog of defects and saw their public satisfaction score increase by 25%.

There are technologies now available that would identify opportunities to compile a proactive, planned programme of permanent patching, that would reduce reactive maintenance requirements and therefore save costs and carbon.

Types of patch repair

The 'cow pat' or the 'pat and splat'

This is the temporary repair referred to, which includes limited preparation, and a shovel of asphalt or even a deferred set material (with question marks over the compaction)!

If not followed up with a permanent repair, this often fails in a short time period of time, resulting in repeat repairs. A follow up, permanent repair could include:

• Conventional repairs

This involves cutting out, and removal of defective material, and reinstating with hot asphalt material. Tack coating and painting the vertical edges and overbanding the joints will make the patch more resilient and less susceptible to failure.

Overbanding has been a taboo subject linked to skidding issues. But modern overbanding materials have the added benefit of incorporating aggregates to enhance skid resistance. Depth of reinstatements can extend to the full construction of base, binder and surface course, where required. Manual removal of material can take time, but modern machinery in larger areas will reduce this. Conventional patching is still a high carbon method of patching 7.2471 kgCO₂e/m². Rates will be comparable with industry quoted planned repairs.



• Alternative patching methods

Alternative patching methods all have their use in the right place and time, with varying benefits which could include speed of repairs, lower cost, permanence / performance, but all of them offer a lower carbon solution to conventional patches.

Evidently, parts of the industry seem reluctant to let go of traditional methods of patching, but whether driven by cost or carbon, maintenance budgets don't support full break out and replacement of asphalt. Many authorities that have trialled or fully adopting these alternative patching methods, often are expanding the use of these methods either for reactive and/or planned repairs.

Alternative patching methods include:

Thermal patching

Thermal patching offers a recycling solution for planned repairs. The asphalt is heated up using specialist infra red heaters, which makes it 'workable' and is then raked, with the addition of asphalt, or binder as required, which is then mixed, before being compacted.

Thermal patches are suitable for repairs up to 100mm in depth, with the burners coming in a range of dimensions. It also offers a solution around ironwork.

Thermal patching provides a seamless joint repair (which is often where the weaknesses in conventional reinstatements lie).

Thermal patching offers a low carbon solution at 2.6929 kgCO₂e/m² with no waste material removed from site. Unit costs per m² will be comparable with industry documented planned repair costs.





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Saving Local Authorities Time, Money & Carbon



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Screed type patching – non intrusive

Unlike conventional repairs that require potholes to be saw cut and excavated, hot flowable or rubberised mastic asphalt is simply poured into and over defects in a fraction of the time. Once applied, the adhesive, flexible material welds itself to the existing road surface, locking out any potential for the ingress of water while extending the life of the carriageway for years to come.

It is applied using either mastic floats, shoes/boxes or hot irons. Any deeper potholes would need to be filled using a regular asphalt, and then screeded over.

Some of these screed materials include recyclable materials, including end of life tyres.

To enhance skid resistance some of these screed systems include a suitable aggregate or overlay, whilst other systems already contain suitable aggregates, negating the need for aggregate application.

In addition to its sustainability credentials, the process is more efficient than conventional repairs - application can be as quick as 1m² per minute once preparation work is completed. It is up to 50% more cost efficient than conventional patching, and avoids unnecessary disruption. It also only uses 3.3176 kgCO₂e/m² (compared to 7.2471 kgCO₂e/m² for a conventional repair).

It can be used on both asphalt and concrete roads and is designed for repairs to cracks, joints, potholes, patching, surrounds to iron work, fretting, pre surface treatment patching and many other areas.

Screed type repairs can also include a resin based screed material, which is similarly applied.



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Mastic asphalt grout material - Intrusive patches

A mastic asphalt grout type material can be used in intrusive patching including regular patching, and reinstatements around ironwork. It's typically a much denser material which is poured into the cut out area, and floated level to the surface or ironwork. Pre coated chippings are then applied to the material.



Spray Injection Patching

Spray injection patching offers a very quick pothole repair solution, including reactive repairs.

All loose material and moisture must be removed from the defect before treating. The bitumen emulsion and an approved aggregate is delivered by the application tube, and is then immediately sprayed into the void at high speed before a mixture of coated chippings are sprayed under pressure, into the defect.

Whilst the process is self compacting, it may require compaction in some cases.

Spray injection patching offers up to a 69% cashable saving when compared to conventional asphalt patching, and uses 3.0830 kgCO₂e/m².

The speed of spray injection repairs, will help keep on top of large volumes of potholes and meet repair timescales.



Cold In-situ recycling patching – new innovation

At the LCRIG Innovation festival, RSTA member Multevo also launched their first of its kind, 'recycle, rejuvenate and repair system'.

The entire operation is a one machine solution, eradicating the need for ancillary equipment and hot boxes or sweepers on site making it must less disruptive and efficient.

Initial trials working with a county council have already demonstrated cashable savings of 20%, omits only 0.05 kgCO₂e/m², whilst increasing productivity to up to 150 square meters per day.



Final thoughts

The Future for Roads Minister, Lillian Greenwood, has discussed permanent repair solutions, and a permanent repair policy, is required, even if initially there is a requirement to 'make safe'.

A proactive planned patching programme using these cost effective repair methods, will speed up repair times, reduce carbon, but ultimately reduce unpredictable, expensive reactive pothole repairs.

RECYCLE, REJUVENATE, REPAIR

A UK first insitu-recycling solution for pothole, patch and defect repairs. In **3 simple steps**, just one person and machine can repair roads to a high quality, whilst reducing environmental impact.

1 // RECYCLE



The system mills the existing surface to a max depth of 100mm whilst also crushing milled materials.

2 // REJUVENATE

It then mixes the recycled millings with a low carbon rejuvenator product, instantaneously ready for compaction.



3 // REPAIR



What's left is a 100% regenerated bituminous product leaving a long lasting and high-quality repair that can instantly be reopened to traffic after compaction.

Book a trial on your network today:

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Preservation and rejuvenation

An untreated asphalt road surface will naturally degrade due to exposure to the elements, UV light, pollutants, and trafficking.

This causes the material to become brittle; resulting in cracking and aggregate loss, which then leads to water ingress which gets into the fabric of the road, debonds the layers, and with velocity of water pushed into the road, and the effects of freeze / thaw, potholes develop. This will eventually lead to the road reaching a point of being unserviceable and will need to be replaced.

Preventative treatment opportunity

But rather than leave roads untreated, there is an alternative strategy, which includes preventative treatment options

which arise typically from year five (which is acknowledged as the initiation of onset deterioration), whilst roads are coming towards the end of the ‘good’ condition banding.

The first treatment might include either a preservation or a rejuvenation treatment, of which both achieve a similar outcome, but in different ways.

But don’t wait until surface cracks appear during condition monitoring. Best practice would be to plan these treatments from the date of construction or resurfacing. Yes, the road will likely still be in good condition, but these treatments will ensure it stays that way!

The differences in these treatments are outlined below.

If texture depths / skid resistance remain satisfactory, then these treatments can be reapplied every five years, to keep roads in good condition. Any low surface texture can be retextured, prior to application however.

These treatments in their own way, all extend the service life of the road, preventing it from deteriorating into amber (or fair) condition, whilst restoring existing surface characteristics, but ultimately keep good condition roads, in good condition for longer, and preventing the formation of cracks and potholes.

Disruption to residents, associated with these surface treatments, is considerably lower with treated roads opened to the traffic shortly after the treatment has cured.

A good asset management approach would involve pencilling in a preventative treatment from year five, from the date of construction/resurfacing, at typically £2.50-4.50 per m². So why instead, leave the asphalt to degrade



when in time, unpredictable and expensive potholes will form, at £81.62 - £106.52 per repair (taken from reactive repair in England, AIA ALARM survey 2025), before a requirement to replace the end of life surface, typically from year 10-15, at approximately £25-30 per m² for a 40mm inlay surface course.

Non-penetrative asphalt preservation

Spray applied bituminous emulsion is used on lower classification roads, which seals the road surface, and protects against water ingress and exposure to the elements. Typically applied during the day.



Not just cost savings

Whether the asset maintenance strategy is driven by cost or carbon, one is supported by the other. Whilst significantly lower cost, preservation or rejuvenation treatments also deliver low carbon figures per m².

- Non penetrative asphalt preservation: 0.2767 kgCO₂e/m²
- Penetrative asphalt preservation: 0.3278 kgCO₂e/m²
- Asphalt rejuvenation: 0.0328 kgCO₂e/m²

Compared to:

- Asphalt replacement (40mm surface course): 7.2471 kgCO₂e/m²
- Repairing potholes (per repair): 9.2 kgCO₂e/m²

Over a 60 year whole lifecycle period the hypothetical strategy of applying these treatments reduces the carbon usage by half.

This scenario doesn’t capture carbon savings associated with preventing potholes, so carbon savings would be even more significant.

In reality; future treatments may include a combination of other surface treatments.

Maintenance Strategy

It’s breaking the cycle of treating the worst roads only, that can be difficult to justify to senior decision makers and other stakeholders.

But the option to invest in keeping good condition roads, in good condition for longer, and preventing potholes, for minimal cost and carbon, if presented in the right way, should be an easy decision for senior decision makers to support.

Asphalt rejuvenation

Spray applied emulsion based treatment, penetrates the depth of the surface course and through a chemical process; alters the binder properties, replacing maltenes lost through the oxidisation process, and creates a softening the binder, improving pavement flexibility and durability. Typically applied during the day.

Penetrative asphalt preservation

Spray applied solvent based treatment, penetrates up to 10mm into the surface course, sealing any micro cracks and acting as a barrier to the elements, therefore sealing the road against water ingress. Can be applied night or day, depending on ambient temperatures.



Case studies

Those engineers not using preservation and rejuvenation treatments will cite that these treatments are “new”, and not tried and tested, and yet there are multiple good news stories where both preservation and rejuvenation treatments have been applied, in some cases for over twenty years, with that road still in good condition.

Examples include the M40 (below), treated every five years with preservation since construction in 2002, is still in good condition.



M40



A140 Daniels Road

The A140 Daniels Road in Norfolk, treated with rejuvenation three times now from its first application in 2012, and is still in good condition. The untreated test section has since had to be surface dressed.



Weymouth Relief Road (L&R)



Challenge

How many newly constructed or resurfaced roads in the UK over the past 5-6 years, on the motorways, A and B roads, have a pencilled in intervention for a preservation or rejuvenation treatment?

Only we've invested hundreds of millions of pounds into this asset, so we want to keep it in good condition, right?

Or are we comfortable that we allow that asphalt to degrade and see defects start to form?

If you invested large sums of money into an asset, such as a car, you would invest in interventions (servicing) to keep that asset in good condition, and performing optimally, not wait until the engine seizes up, then replace the engine (or the car)!





Microsurfacing

Microsurfacing as a solution beyond just urban estates

Slurry and microsurfacing (or microasphalt, as its sometimes referred to) can be hand or machine applied to roads or footways and cycleways, and a range of other applications. Its most commonly considered for application on minor urban roads, but it offers much more than that.



Microsurfacing offers a solution to mid life roads where some areas of minor surface course defects may exist, including thin surface delamination, material loss, cracking, but are otherwise still structurally sound.

Microsurfacing is a cold mixed bituminous emulsion, aggregates and fibres, mixed on site in the vehicle, and laid in a single, or double layers on top of the existing surface, with the first course regulating out any minor lumps and bumps.

Used most commonly in urban estate roads; considerations have to be given to current levels, including thresholds and ironwork, but microsurfacing offers a cost effective solution to overlay rural roads also, up to 250 commercial vehicles, per lane, per day (cv/l/d).

Its use would be discouraged on structurally failing roads, and in high stress locations, including junctions, roundabouts or steep gradients.

Microsurfacing also has a lower carbon footprint at 1.7892 kgCO₂e/m², compared to an asphalt surface course inlay at 7.2471 kgCO₂e/m² and a fraction of the cost.

The RSTA/ADEPT approved Codes of Practice for service life of materials confirm that microsurfacing can be expected to last for ten to fifteen years – similar to that of a conventional asphalt.

What about high use roads?

Cold Applied Ultra Thin Surfacing (CAUTS) are approved

products subject to an acceptance scheme, for use on roads with more than 250 cv/l/d including strategic roads, and is documented in the new SHW under CC 204-2 –Cold Applied Ultra Thin Surfacing (CAUTS).

Therefore CAUTS systems must have a BBA HAPAS approval certificate for use on roads with more than 250 cv/l/d.

The same principle of standard micro surfacing applies in the process of selecting roads that must be structurally sound, and an understanding is required on the extent to which CAUTS will regulate out surface defects.

CAUTS have been used on roads up to mid life, fair condition, including the strategic road network (SRN), (example being the A421), which was treated by National Highways in 2021.

CAUTS also offers a potential solution to restore texture on polished roads, or those experiencing minor bleeding (subject to checking binder content).

Maintenance treatments

So why aren't CAUTS more widely used in the industry, you may ask? Many engineers have been unaware of this treatment option of CAUTS for use on higher use roads, which confirms our need as an Association to continue to educate and inform those in the sector. Improved knowledge will lead to more informed decisions being taken regarding treatment options.



Crack and Joint Repair

Preserving roads, one line at a time

The first visual signs of deterioration in an asphalt road or concrete road, often manifests on the surface in the form of a crack. Equally the centre joint can often become the first point of failure, if left untreated. These crack and joints failures may seem minor at first glance, but left untreated, they can lead to serious structural damage and costly repairs.

Crack and joint repairs are a vital tool in preventative road maintenance, designed to extend the life of roads and other paved surfaces, by sealing the defect to prevent water ingress.

Investing in this routine maintenance activity will be far less cost than leaving untreated and incurring major maintenance at a later stage.

Crack and joint repairs were once upon a time, an essential part of maintenance programmes. Has this been lost, where some highway authorities focus on defects reaching a specified intervention only and not in this preventative activity? There have been examples when a full patch has been cut out and material replaced for a fretted centre joint, adding further vulnerabilities in the four joints.

Types of crack and joint repairs:

- Overbanding for narrow repairs
- Fill and overband
- Inlaid single crack
- Inlaid multiple cracks

Types of approved system:

Thermoplastic (or hot applied)

Capable of softening or fusing when heated and hardening again when cooled

Tape (hot)



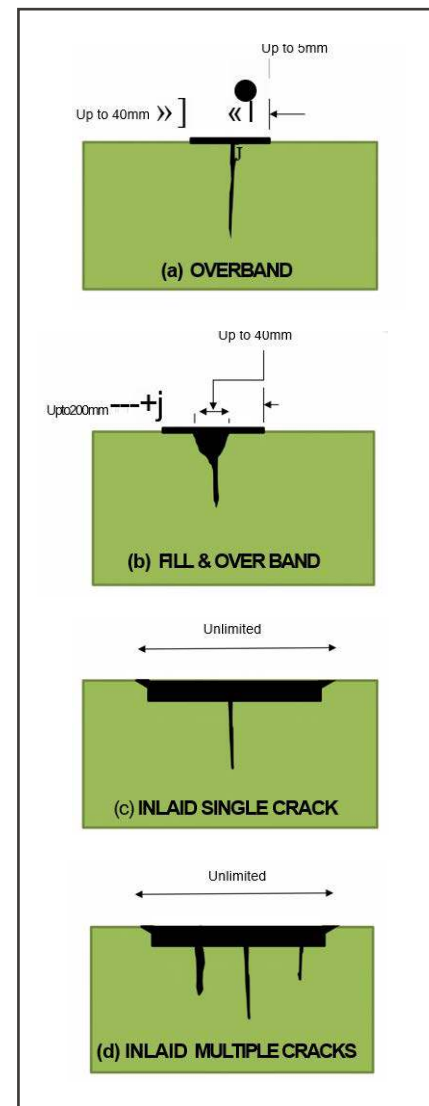
Bitumen (hot)



Thermoset (cold applied)

Capable of becoming permanently rigid when cured

Resin (cold)



Final thoughts

Crack and joint repair systems offer a quick, cost and carbon efficient method of sealing the road, and preserving / extending asset life. Repairing cracks and joints goes right back to those basic principles of road maintenance, which highway authorities shouldn't be ignoring.

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Ironwork



There are purpose-built systems for ironwork including gullies and manholes, engineered to work together, which incorporate bedding material, the ironwork itself and the asphalt material surround.

On heavily trafficked roads gullies are subjected to significant wear and failures can occur. However, if only temporary, reactive repairs to the defects are undertaken then the symptoms of failure can quickly reappear. Fundamentally, the root of the problem is not being addressed.

The ALARM survey estimates that each reactive visit equates to £81.62-106.52, so repeated temporary repairs do not provide a cost efficient solution, even if in the short term, that is perceived as a lower cost option.

Manhole covers and gully grates are manufactured from ductile iron and therefore, by definition, move very slightly under the load of each passing axle. Non-flexible mortar such as standard grades of concrete do not have the flexibility to withstand this and will destabilise the installation and see



the surface material continually break out.

The right solution for ironwork

Therefore, to prevent the process of delamination, separation, reflective cracking, freeze-thaw and subsequent erosion, it's critical that ironwork is installed using bedding material with suitable properties.

As an example, on the heavily trafficked A37, the approach to the repair of repeat failing material around gullies was addressed and a new gully system was installed.

The new system included a flexible bedding material, the ironwork itself, and a mastic asphalt grouted surface course.

This new approach required some initial investment, but in the longer term would undoubtedly be more cost effective. The new gully installations on the A37 are still performing very well after a year of use.

Right treatment, right place, right time

The Future for Roads Minister, Lillian Greenwood has discussed permanent repair solutions. And this was promoted in the 2012 HMEP Pothole Review -Prevention and Better Cure, discussing 'right first time' and recommendations linked to 'quality of repairs and reinstatements' and 'permanent repair policies'.

Whilst this document is thirteen years old, it is still relevant today.

It's time to make more informed decisions and invest in our highways funding more wisely, in this case; in ironwork installations and repairs.



Bond coats in road surfacing

The Unsung Hero of Pavement Longevity

Sasho Kamburov, Vice Chair of the RSTA, Managing Director of Spray Tanker Services Ltd, and representing the Bond Coats Committee, explains why bond coat applications are a critical element of road resurfacing.



Looking Beneath the Surface

When it comes to road surfacing, most of the focus is on the visible layers. However, beneath the surface lies a critical component that not only ensures compliance with specification but also delivers the performance and longevity of the finished road.

What Is a Bond Coat?

A bond coat is a thin layer of bituminous emulsion — applied between every asphalt layer. Its primary purpose is to ensure adhesion between the existing and new layers, preventing slippage and delamination. These issues are major contributors to pavement failure and, ultimately, potholes. This underlines the importance of bond coat and hot joint paint application.

Why Bond Coats Matter

Without bond coat, resurfaced roads are exposed to several risks:

- Slippage cracks
Poor bonding can cause the new layer to slide under traffic loads, leading to cracks and potholes.
- Water infiltration
Gaps between layers allow water to penetrate, debonding the layers and weakening the pavement structure.
- Reduced lifespan
A lack of adhesion accelerates deterioration, requiring more frequent repairs and shortening the road's service life.

In essence, the bond coat is ensuring the structural integrity of both newly laid and resurfaced roads.



The 'Dark Art' of Bond Coat Application

Bond coats are applied using specialist calibrated mobile plant—spray tankers—to ensure uniform coverage.

Key factors for successful application include:

- Selecting the correct emulsion to meet specification.
- Achieving complete, uniform coverage.
- Applying the correct rate—too much or too little can compromise performance.
- Preparing a clean surface—removing all dirt and debris to ensure adhesion.
- Allowing the material to break before permitting any traffic over it.

Conclusion

Bond coats are essential to the success of any surfacing project. They ensure the new pavement layer doesn't just look good on completion—it performs well and lasts for years to come.





Geosynthetics in Road Resurfacing: Reinventing Pavement Performances

Road resurfacing is more than just replacing layer(s) of asphalt—it's about ensuring long-term durability, safety, and cost-efficiency, and understanding the modes of failure to engineer an appropriate solution. Then consider geosynthetic interlayers (or asphalt reinforcement as its also known), which enhances pavement performance and extends the life of roads.

Geosynthetics are not new and have been effectively used for over 50 years in the highways sector.

It was described recently as possibly one of the best kept secrets in the highways industry, reflecting that geosynthetics hasn't seen the growth one would expect, given what it offers in terms of value engineering.

Only, these geosynthetic layers enhance pavement performance by minimising the impact of shear and tensile stresses that contribute to reflective cracking in asphalt and concrete roads.

And in doing so, geosynthetic interlayers can present an opportunity for designers to consider reducing the thickness or layers of asphalt being reinstated in resurfacing schemes, saving on both cost and carbon, but not comprising on performance and longevity.

What are they?

There are a variety of products, which are typically incorporated between asphalt layers, including:

- Steel meshes
- Polymeric grids
- Glass fibre grids
- Composite materials (typical combination of polymeric/ glass grids on non-woven geotextile
- Non-woven geotextiles.

If a preventative maintenance strategy was adopted to maintain the surface of a road, the geosynthetic layer could be installed below the surface course. But these layers are more commonly installed under the binder course layer.

In some authorities geosynthetics are being used as a stress absorbing membrane interlayer (SAMI) in surface dressings to mitigate crack propagation and extend the lifespan of these treatments

This would be a possible solution where roads are experiencing some cracking or crazing and/or low to medium 'bleeding' or 'fatting' of surface dressing, where the fabric has a wicking effect of absorbing and distributing the excess binder.

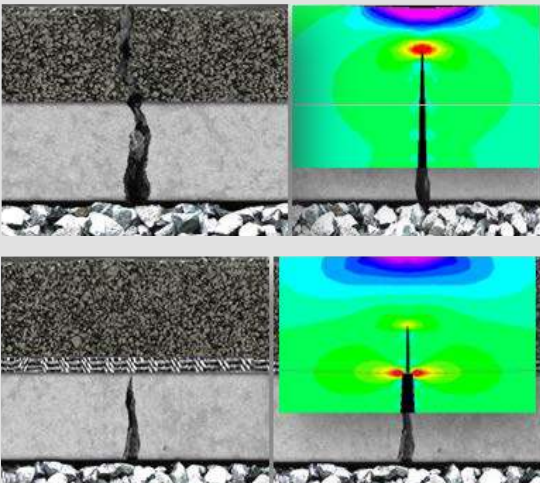
Final thoughts

Geosynthetics are more than just high-tech fabrics—they're a cornerstone of modern engineering. This is another example of a material or system, in which if there was wider and improved knowledge and understanding, its use in road resurfacing would undoubtedly be increased, given the enhanced performance, reduction in costs, protection of the environment, and supporting a more resilient network with extended road life.



What do they do?

Geosynthetics are installed between asphalt layers to retard or mitigate reflective cracking, to significantly reduce the growth of reflective cracks, as the reinforcement grid absorbs and distributes the strain. The reinforcement also reduces asphalt fatigue, thereby extending the service life of the pavement and reducing maintenance costs during the whole life cycle.



Simulated stress distribution with FE-Method without reinforcement (top) and with reinforcement (bottom)



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Low carbon cement alternatives

At our 'Greener Roads Ahead', Decarbonisation event in Wrexham in June, we heard from a company called CemBlend about new, innovative, low carbon cement alternatives being used in construction.

The products are :

- H-EVA – used in road construction
- H-UKR – used in pre-cast applications such as kerbs and furniture.

A case study was presented on the Eau Brink Road in Wiggshall near Kings Lynn, Norfolk, in conjunction with RSTA members Stabilised Pavements Ltd (SPL), Norse Group and Norfolk County Council, in which the H-EVA was directly used as a replacement for CEM-2 in a medium depth 150mm in situ recycling scheme, at the same volume (2%).

The product is called H-EVA which is a calcined clay, and:

- Contains zero cement,
- Is an Alkali Activated Cementitious Material (AACM)
- Activated Calcined Clay
- Has a verified EPD rating of 272kgCO₂e (compared to 604kgCO₂e for CEM2 an OPC/PFA blend)

The use of the H-EVA delivered significant carbon savings when compared to the CEM-2.

The H-EVA offers a significant opportunity to drive down associated carbon in road construction, supporting local authorities who have declared climate emergencies, and established carbon reduction strategies, demonstrating a commitment to Department for Transport requirement to decarbonise highway maintenance.

Whilst the use of H-EVA in road construction is something fairly new, and only developed in the past 2-3 years, SPL have reported equivalent performance in their medium depth recycling, ie similar strength, when compared to the CEM-2.

CemBlend are keen to work with the road construction industry, recognising the carbon savings potential, and encourage any feedback or thoughts about the products and their use.



'Keep on rollin'

As the UK considers how sustainable asset management can deliver decarbonisation of highway maintenance through preventative strategies, and low carbon materials, RSTA members Clee Hill Plant have come up with an RSTA award winning, innovative solution to further support the reduced carbon agenda.

They are launching a new fleet of EV rollers including an electric deadweight roller, which has 12-15 hours running time, fast charge capability, and has the same weight as a standard deadweight/3x pin roller.

These have been built through modifications of existing diesel plant, that were ageing and emitting rollers, with engines which are or will be unable to be used in the UK over the next few years, which have been converted to EV, demonstrating good asset management in extending the asset life of this particular piece of plant.

Also available is a small electric Bomag BW120e tandem roller which has the same fast charge capability, full shift capacity, and zero emissions.

The roller telematics tells them current battery charge levels remotely, and a truck with fast charging capability can

be deployed, the roller can be taken to a location with charging facilities or a battery power cube can be supplied with the roller for localised charging.

Whilst these electric rollers offer a solution to reducing carbon footprint, they also offer a practical solution too, in reducing environment impact through a reduction in noise, especially in built up areas or during night work.

Whilst the cost of the electric roller might appear prohibitive, with a target of 1.5x the cost of a diesel equivalent the ongoing service and maintenance costs are anticipated to be much lower which should offset the higher up front cost.

The Dutch government has funded a switch to EV, with Holland at the forefront of decarbonising highway maintenance, with plant in many towns and cities required to use electric plant.

Clee Hill are also launching mobile asphalt recycler/mixing units towable and fixed, which can be used to recycle



CLEE HILL

planings, to manufacture new asphalt. This will reduce vehicle movements, the extraction of virgin material, promote safe handling of materials, a reduction in contaminated material to dispose of, reduced costs and labour time, whilst again reducing carbon footprint.

As Clee Hill celebrate their 60th anniversary this year, they continue to explore ways to innovate and play a key support role in the decarbonisation of the highway maintenance industry in the UK for the future.



Reduced compliance risks and boosted safety How surfacing is evolving

According to a recent BBC article, one county council issued fines totalling £685,000 last year for non-compliant work on their road system¹.

With so many moving parts, deadlines, and requirements across the highways workflow, a little bit of pain might sometimes feel like par for the course. The fact that the very same county council also rejected between 5,400 of 7,000 applications for unplanned emergency works in the same year, seems to illustrate that clearly.

Rework, overruns, and other costly issues often seem like as much a fact of life as the very idea that working on the roads is potentially dangerous. Of course, this is the reason for a lot of regulations and requirements in the first place.

Within this reality, Quality Marking Services (QMS), a leading line marking and surfacing specialist based in Devon, began a bold transformation of their operations a few years ago. The company, with teams often working on remote sites, wanted to replace manual processes that often led to

delays. Field crews were submitting paperwork days after job completion, causing slow client updates and internal inefficiencies. The risks of fines like the ones at the top of this article came hand in hand.

QMS wanted to move from reactive to proactive operations. They wanted to bring visibility to projects, unify each area of compliance, and streamline their field operations into one platform. This would allow for a more robust management of sites from the office, data-led insights, and the ability to accurately spot patterns. Decision making would be transformed – leading to insights that would build efficiencies, make life safer for teams, and streamline operations in the best possible sense.

They wanted more data from sites to spot issues before they became problems, to enforce compliance even on the most remote schemes, and to gather accurate incident and near-miss data for proactive risk mitigation. All this had to be achieved while bringing a large workforce – not all naturally

inclined toward change or technology – along for the journey.

Their chosen partner for this next stage in the company's evolution,



Re-flow Field Management, helped QMS digitise their systems all while maintaining service delivery. Thanks to Re-flow's highways-centric features, flexibility, ease of use, and close collaboration with its project teams, challenges like those initially resistant field teams were tackled through a phased rollout.

And the results?

QMS has achieved a 90% reduction in paperwork, a 50% cut in job cycle times, and 30 hours saved per week through automation and AI. Incident capture is now at 100%, rework has fallen by 97%, and on-site audits have improved by 136%.

By digitising critical processes like risk assessments, qualification matrices, and training records in one platform, QMS aligned its operations with its core value of delivering safe, compliant, and high-quality work on every project. Live data allows for real-time safety interventions, while operatives are guided through compliant processes on site via intuitive, digital forms. The entire field workflow is supported by a full audit trail, while streamlined jobs reduce delays and admin demands.



By using Re-flow, QMS have reduced on-site durations and minimised traffic disruption, helping them avoid the kind of fines given out by County Councils. Overall, QMS's transformation shows how intelligent technology can power safer, faster, and more efficient delivery. QMS's managing director, Greg Clark, said, 'After the completion and submission of the very first form, we knew we had hit the jackpot.'



Watch the QMS digital field management case study



Wellbeing isn't a "nice to have" – it's a business essential

In construction and highways, safety is always a priority. But while hard hats and hi-vis are visible proof of physical safety, the industry is still lagging in how it protects mental safety.

The cost of ignoring mental health at work is huge – absenteeism, high staff turnover, low morale, and lost productivity. But it's also personal.

In the December edition of Highways Magazine, Mike Hansford, CEO of the Road Surface Treatments Association, shared his own experience of work pressures colliding with personal crisis – and the toll it took on his health.

"I always considered myself very resilient. But when work pressures combined with my son's serious illness, it became overwhelming. I felt all consumed by work. At one point, doctors suspected I'd had a heart attack – it turned out to be severe stress and post-Covid effects."

Mike's symptoms will feel familiar to many:

- Trouble focusing because worries take over your thoughts
- Waking up in the early hours worrying about something on the job
- Working evenings, early mornings, weekends – and still feeling behind
- Snapping at the people you love most and resenting home time
- Physical symptoms that can feel like a heart attack or other life threatening conditions.

For some, it takes a crisis to realise things have to change. For others, it's about self-awareness, and being able to speak honestly to someone they trust.

Small changes, big difference

Sam Munslow of Blue Monkey Coaching works with leaders and teams in this industry to protect wellbeing before burnout hits. A few simple but powerful shifts can make a huge difference:

- Eat away from your laptop – meals aren't a meeting
- Have breakfast before logging on
- Set a sensible finish time and protect it like any other appointment – and plan what you'll do in the evening (even if it's crashing in front of Netflix)
- When you log off, actually log off – mentally and digitally (do a brain dump before you finish if you need to get it out of your head and on paper)
- Avoid making long hours the norm
- Make time for people and activities that aren't work – that includes YOU!
- Stop treating Monday to Friday as "lost" days – mornings, lunch breaks, and evenings still belong to you
- Tell someone... have someone you can offload those worries to.

This isn't about softening work ethic – it's about sustaining it. You can't lead well, work well, or live well if you're running on fumes.

Leaders set the tone

Individual habits matter, but culture matters more. Leaders need to model healthy boundaries, create safe spaces for honest conversations, and understand that productivity isn't about hours worked – it's about energy, focus, and trust.

And finally...

Ask yourself – if your team worked exactly the way you do now, would they thrive or burn out? For more tips and to support your teams mental wealth, contact Sam on 07812 007417, sam@bluemonkeycoaching.co.uk



Competency and Training

The Highways industry has long been discussing concerns regarding the sector’s age demographic, and fear of experienced workers retiring. And many of those experienced engineers have now either left the industry or just waiting for that opportunity to go.

We are already seeing many new faces in the sector, which is great news, but we have to ensure training provisions are in place for these individuals to progress their careers, with structured learning, and adequate mentoring.

So, the ongoing challenge for the highways sector will be in retaining, recruiting and training workers.

Knowledge and understanding

It is apparent from recent data, that a number of local and national road operators continue to shy away from road surface treatments. And this is likely due to a lack of knowledge or understanding of them.

Recent statements and questions demonstrate the many misunderstandings, misconceptions and degree of misinformation about road surface treatments. These include:

- “They (surface treatments) don’t work!” (possibly my favourite quote presented recently)
- “They’re still fairly new”
- “...there’s a risk of failure, which may lead to reputational damage.”
- “We tried that years ago and the nails came through the asphalt (geosynthetic)”.
- “It’s ‘snake oil’ and there’s no evidence it works”
- “We don’t use surface dressing because of the loose chippings.”
- “Microsurfacing can only be used on minor roads”.
- “You would only use surface dressing on rural C and D roads” (only recently)
- “It’s (insitu recycling) very agricultural” (am sure I held this thought once).

However the truth is:

- They do work. These treatments conform to European or British Standards and where required in the specification; conform to HAPAS or an equivalent product acceptance scheme. Furthermore, monitoring and testing has been conducted, with independent reports produced in some cases, and case studies produced, which evidence their performance and longevity.
- They’re not new. Some case studies document how these materials have been used for over twenty years in some cases.
- The risk of failure increases if used in the wrong place (remember - right treatment, right place, right time) or incorrectly installed. These products should be installed by contractors conforming to National Highways Sector Scheme 13 (NHSS13).
- Technologies (including the specialist machines used in these treatments) and materials have significantly developed and evolved over the years
- Surface dressings can now be encapsulated which locks down the chippings, providing an aesthetic similar to conventional asphalt and therefore used in urban environments, plus A (MRN) and B roads.
- There are approved microsurfacing products (Cold Applied Ultra-Thin Surfacing (CAUTS)) which can be used on roads with more than 250 cv/l/d. These have been used on the strategic road network.
- Premium surface dressing (using premium grade binders) are being used on A and B roads including the major road networks. Especially with the developments of encapsulation – removing the problem of loose chippings.
- Insitu recycling may appear agricultural, though its anything but, with the design, testing, materials and specialist machinery that are used.

Learning

Despite the challenges of the day to day, its important that engineers and technicians continue their learning, and take time out to attend sector hosted CPD events (many of which are free to attend). And that they open their mind to doing things differently, learning from those that continue to use these treatments

The RSTA remains committed to trying to educate and inform those that are open to hearing more about surface treatments, and how they can support preventative maintenance strategies, whilst reducing costs and carbon. This can be achieved through informal discussions, or formal training opportunities.

Upcoming events

We will shortly be launching our ‘Lunch and Learn’ type session, as part of the RSTA’s ‘Pothole Prevention Week’, kicking off with a Microsoft Teams session with the Preservation and Rejuvenation campaign on Monday 8th September (followed by different treatments each day that week).

These ‘Lunch and Learn’ Teams sessions will run weekly from the autumn, where we will present across a number of surface treatment options, which we will then be available to answer any questions. Details on how to get involved in these will be released shortly.

We are hosting technical training days around the country which are free for local authorities to attend, so look out for those. The next event is our Greener Roads Ahead in Cardiff on the 16th September, with a further event being planned in November.

And we are hosting a number of CPD training sessions around the country also (see attached flyer) on the subject of surface dressing, microsurfacing, skid resistance and asset management. Alternatively, bespoke courses can be requested on any of these topics. Check out our website for details and to book onto the courses.



DISCOUNTS
FOR RSTA, CIHT &
IHE MEMBERS*

PROFESSIONAL CPD TRAINING

2025 PROGRAMME

During 2025 the RSTA will be hosting a range of CPD courses around the UK, covering some of the key areas for professional training and development within the road surface treatments sector.

SKID RESISTANCE

Wolverhampton | September 2025

SURFACE DRESSING

Belfast | September 2025
Inverness | September 2025
Manchester | October 2025
Belfast | October 2025
Hemel Hempstead | November 2025
Winchester | December 2025

MICROSURFACING

Manchester | October 2025
Hemel Hempstead | November 2025



We also offer bespoke courses
and in-house training sessions

* For more information email enquiries@rsta-uk.org or call 01902 824325



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RSTA CPD training courses are endorsed by



Visit us online for further information on the RSTA, its objectives, membership and programme of industry initiatives and training.

rsta-uk.org

Competency of operational staff – NHSS13

The RSTA Assessment Centre provides NVQ training for operatives and supervisors across a range of courses up to level 6.

Conformance to the National Highways Sector Scheme (NHSS) 13 for Surface Treatments, requires that contractors must have RSTA endorsed CSCS cards (as per Appendix C). This means that assessments are carried out through the RSTA Assessment Centre, or where external assessors are used, they are approved by the RSTA as being suitably qualified and experienced.

This will be further reinforced by the National Highways Super Sector project, which is intended to improve competence across the whole of the construction industry.

The RSTA is part of the CITB Employer Network, which enables us to secure support funding for NVQ courses, for our members if they are levy payers.

We will be taking registrations for NVQs ahead of next season, so please get in contact with Nigel Haycock.

Details of the RSTA Assessment Centre and available courses can be found below.

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Renew | Autumn 2025



TRAINING

NVQ training for operatives and supervisors with the RSTA Assessment Centre



The Road Surface Treatments Association Ltd

NVQ ASSESSMENT CENTRE

Why choose the RSTA Assessment Centre?

- Experienced and professional assessors
- Friendly and supportive learning environment
- Only RSTA endorsed CSCS cards are NHSS 13 compliant
- Supports the wider work of the RSTA

Benefits:

- 15% discount for RSTA members
- CSCS cards applied for
- Assistance in securing CITB levy funding

Further benefits include:

- Qualifying the workforce to meet the demands of the sector
- Demonstrating competency
- NVQs level 2, 3, 4 & 6 for operatives, supervisors and managers

For further details contact Nigel Haycock at: Nigel@rsta-uk.org 07780 113066
Technology Centre
Wolverhampton Science Park
Glashier Drive
Wolverhampton
WV10 9RU

Supporting the Construction Leadership Council's 'Civils Super Sector'

01902 824325 www.rsta-uk.org enquiries@rsta-uk.org

RSTA NVQ Assessment Centre Courses

NVQ level 2
ROADBUILDING (CONSTRUCTION) – SURFACE DRESSING – MACHINE
ROADBUILDING (CONSTRUCTION) – SLURRY/MICROSURFACING – MACHINE
ROADBUILDING (CONSTRUCTION) – HIGH FRICTION SURFACING – MANUAL
ROADBUILDING (CONSTRUCTION) – SLURRY/MICROSURFACING – MANUAL
ROADBUILDING (CONSTRUCTION) – SURFACE RETEXTURING
ROADBUILDING (CONSTRUCTION) – PAVEMENT MARKING (MACHINE & MANUAL)
ROADBUILDING (CONSTRUCTION) – PAVEMENT MARKING (ROAD STUDS)
ROADBUILDING (CONSTRUCTION) – HIGH FRICTION SURFACING (MANUAL & MACHINE)
ROADBUILDING (CONSTRUCTION) – CRACK & JOINT REPAIR (MANUAL)
ROADBUILDING (CONSTRUCTION) – FLEXIBLE & SEMI FLEXIBLE PAVING PLANT WHICH INCLUDES ENDORSEMENTS – SPRAY INJECTION OPERATOR & GEOSYNTHETIC (MEMBRANE OR STEEL MESH) INSTALLER
ROADBUILDING (CONSTRUCTION) – THERMAL ROAD REPAIR
ROADBUILDING AND MAINTENANCE (CONSTRUCTION) – PLANT – ROAD SWEEPING
ROADBUILDING AND MAINTENANCE (CONSTRUCTION) – PLANT – ROAD RECYCLING (MACHINE)
ROADBUILDING AND MAINTENANCE (CONSTRUCTION) – MANUAL ROADBUILDING – RESIN BONDED AND RESIN BOUND SURFACING (MANUAL)
ROADBUILDING AND MAINTENANCE (CONSTRUCTION) – EXCAVATION AND REINSTATEMENT (NHSS 16 COMPLIANT)
DIPLOMA IN CONSTRUCTION AND CIVIL ENGINEERING OPERATIONS – EXCAVATION AND REINSTATEMENT (NHSS 16 COMPLIANT)

NVQ LEVEL 3
NVQ LEVEL 3 DIPLOMA IN OCCUPATIONAL WORK SUPERVISION (HIGHWAYS MAINTENANCE & REPAIR)

NVQ LEVEL 4
LEVEL 4 DIPLOMA IN CONSTRUCTION SITE SUPERVISION

NVQ LEVEL 6
LEVEL 6 NVQ DIPLOMA IN CONSTRUCTION SITE MANAGEMENT (HIGHWAYS MAINTENANCE & REPAIR)
LEVEL 6 NVQ DIPLOMA IN CONSTRUCTION CONTRACTING OPERATIONS MANAGEMENT – GENERAL

Alternatively, to secure CSCS cards with the RSTA logo, if using your own assessors, they will need to be approved and registered by the RSTA, to ensure they are suitably qualified and experienced.

About the RSTA

The Road Surface Treatments Association (RSTA) aims to raise awareness of the benefits of road surface treatments and promote workforce competence and safe working practices.

Membership covers the whole supply chain and includes large national and regional contracting companies, Local Authority Direct Labour Services Organisations, materials and equipment suppliers, test houses and consultants.

Members are required to be registered with the National Highway Sector Scheme 13 or HAPAS Product Certification and Approved Installers Schemes where applicable.

For further information on the RSTA, its objectives, membership and programme of industry initiatives and training visit www.rsta-uk.org.



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Permitting in some areas is becoming a blocker to getting essential maintenance works completed

There is a serious threat to completion of essential maintenance activities, and indeed to the businesses that deliver these treatments, which surely was not the intention of the permitting scheme.

Permitting schemes were introduced through the Traffic Management Act 2004 (TMA) on the highway network to improve coordination of works, reduce road occupancy and reduce delays and congestion caused by road works.

However, it is important that we do not lose sight of the fact that there are essential highway maintenance works that need to be completed, supported by the Government's increased highways maintenance funding for 2025/26.

RSTA consultation

In July 2021, the RSTA responded to consultation on the permitting scheme, highlighting the weather dependency of surface treatments, which need to be completed in a narrow seasonal window. It also documented the fact that works are quickly completed, often within a single day, or up to two days.

The feedback included concerns about the short durations of permits being issued by some authorities for these activities, with no flexibility to extend them. Whilst road closures (TTROs) are used, they are for very short durations, but still considered to be major works, further reducing flexibility.

If works are aborted, this lack of flexibility to extend permits, means contractors are moving plant back and forth across large geographical areas, at extra cost and carbon.

The Association recommended a system of flexible permits, as documented in the consultation document, which would include a single permit for all phases of the work.

It is understood that when this was put to local highway authorities, this was presented to their permitting teams, who widely rejected the proposals.

Concerns

Contractors working on behalf of local highway authorities or term maintenance contractors, to carry out these essential maintenance works, are reporting concerns about the variation in how permitting legislation and guidance is being interpreted by different permitting authorities which, in an unintended consequence, is often acting as a barrier to completing this essential work.

In one example an 800,000m² programme of work that was awarded, was reduced to 350,000m² that was actually delivered, due to issues securing or extending permits / road closures.

Securing permits

Some permitting teams, recognising the narrow seasonal window for surface treatments and further challenges of the unpredictable UK weather, and are being very accommodating and flexible, providing adequate windows to complete works, whilst still operating within the permitting legislation.

Other permitting teams are less accommodating, and reportedly in some cases:

- being very officious
- widely declining permits
- issuing small duration permits
- Issuing large fines
- threats of being removed from tender lists
- and even in some cases threatening contractors with prosecution.

Given that these contractors are working on behalf of the highway authority, to complete essential maintenance work, is this really the spirit of the permitting system? Many suggest it is certainly not.

Restrictions

In some authorities many roads are now seemingly completely out of bounds for daytime working, with permitting teams insisting works be done at night or outside of the recommended season. Unrealistic, restricted hours are sometimes also specified.

These stipulations can be ill-advised, due to conditions required by some treatment applications that if done at night for example, could compromise the quality of the installation, be operationally impracticable, may be unsafe, and/or add significant costs to projects, funded by already stretched budgets.

Risk

There are costs to abortive and remobilisation of works, which must be borne by one of the parties, and in most cases, this is absorbed by the contractor. This is on top of any fines being issued also.

There are a small number of contractors operating in this sector, completing a large volume of essential work, in a narrow seasonal window, and these issues have been flagged as a serious risk to contracting businesses, at no fault of their own.

Concluding thoughts

The RSTA will be calling for a review of how these permitting schemes are being implemented, to build on the positive practices of those permitting authorities that acknowledge these technical difficulties, and therefore demonstrate flexibility in their permitting and a will to collaborate with works promoters and contractors to find solutions. It is hoped this will secure a more consistent approach to permitting, that will ensure that essential maintenance works can be completed, whilst minimising disruption on the network.

A longer term commitment to maintenance funding announced earlier this year by the Government, will enable authorities to forward plan, and therefore allow sufficient time for works promoters, permitting teams and contractors to agree appropriate traffic management, programmed dates, and to secure permits and Orders / Notices for closures.

Wiltshire Council

Wiltshire Council's highways permitting team is headed up by their Traffic and Network Manager, Kevin Cheleda.



Kevin is a trained civil engineer and brings a varied experience from a career that included managing a highways maintenance team before he settled on a network management career, so is able to draw on his knowledge of highways engineering techniques and methodologies to facilitate the agreed works to go ahead for the benefit of the asset improvements.

Kevin sees his team as "enablers" of necessary works in a managed way, and ensures his team applies a pragmatic "can do" approach to facilitate necessary works. Kevin states "We want to get these essential maintenance works completed, so a pragmatic approach is required to the management of works through our permitting scheme to ensure they are undertaken for the benefit of all."

Wiltshire's collaborative approach starts with reviewing at an early stage, the proposed works with the client. Kevin said "We agree potential TM solutions at this stage, timings of work and any possible restrictions. The officer who leads this on my team behalf is Chris Hoskin, who is well versed with the methodology of works and the limitations also. We have at this early planning stage questioned if the client is pursuing the right solution with the site restrains, (for instance a lesser solution at one site had to be found as the Rolls Royce solution required a 48 hour closure that simply wasn't acceptable from a network management perspective). Agreeing the outline of the program ensures there are no surprises when the permit is submitted and there is constant dialogue between Chris and the area-based Network Permit Officers to ensure there are no clashes on the network."

Most of their surface dressing, microsurfacing and other surface treatments programs require road closures, and as these works are obviously weather dependant, the program needs to be fluid and flexible. Wiltshire use blanket orders for the majority of the works programs on their class 3 and 4 roads. It must obviously be remembered that any road closure requires a legal Orders to ensure the works are legally covered and all the statutory consultees and road users are able to make informed journey choices.



Blanket Orders are made for an agreed period, which covers a specific program, but is as condensed as possible and on an advertising area basis. These can be recommenced at any time within the 18-month period. The longest period we have made an order for pre-surface dressing patching is 14 weeks. Anything outside of that is managed by recommencements or stand-alone closure Notices as agreed in the weekly meetings. They are supplemented on

site by advance warning signs stating that the road will be closed 2 weeks in advance and then as the start date gets nearer changing this to "this road will be closed tomorrow, weather dependant....". Stakeholder emails notifying of the changes to the delivery are sent out every one to two weeks during the program being delivered, so changes are well notified – communication is key! The permit team helps enforce a proactive approach to this and attend the weekly progress meetings.

There has to be flexibility in delivering schemes that your members are delivering for the HA's, but to do so in a

managed way so it can be sold as a good news story by all sides and the weekly progress meetings are key to this collaborative delivery of the programs.

Disclaimer: The above is of course the general framework of how Wiltshire try to work; however, some works and sites require a degree of nuance and pragmatism.



Our Members



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The content of this newsletter has been written by the RSTA or guest writers and is accurate to the best of our knowledge