

WINTER 24/25 ISSUE 28

products today

200 years young! Cement's coming of age







Safer by sharing Moving closer to Vision Zero

Access all areas Tactile precast paving

Standard bearers Sense and sustainability

WELCOME



Following the Government's first budget in October, the Office for Budget Responsibility upgraded Britain's economic forecast to grow by 2% in 2025. This is welcome news as the mineral products sector looks to bounce back from a period of declining volumes and sales.

I said previously that we must continue to focus on the topics that will build resilience and put us in the best shape to capitalise on the future opportunities. This continues to apply, as we now look forward with a sense of cautious optimism. The resilience of our sector is demonstrated by the recent cement bicentenary celebrations. The industry has come a long way since English bricklayer, stonemason and inventor Joseph Aspdin was granted the first patent for Portland cement back in 1824.

If we look at our recent successes as a sector in transitioning to net zero, whether that be reducing carbon emissions, increasing the use of renewable energy and recycled materials, or our efforts to create new wetlands and woodlands, we should be extremely proud of the milestones we've achieved to date.

What we cannot lose sight of is the fact that there is still a long way to go on this journey. We need to continue working in partnership with all relevant stakeholders as we move towards the next phase of decarbonisation. Carbon capture and industrial scale clean energy technologies such as hydrogen will need to feature heavily but they do not come without their challenges. We must work closely with the UK Government to unblock these challenges and turn them into opportunities that will enable our sector to continue making a significant contribution towards the UK's economy and wider net zero objectives.

Finally, turning to the people who make the mineral products industry successful, I want to congratulate the winners and everyone involved in the MPA's 2024 Health & Safety Awards. Your contributions ensure that our sector places the health, safety and wellbeing of people at the very forefront of our agenda – this is a subject that I will continue to advocate strongly for.

The mineral products industry is full of passionate, dedicated and talented people and – if history is anything to go by – I know they will step up to meet future challenges and seize opportunities as they present themselves.

Lex Russell, MPA Chair

Industry unites for Strategic Safety Forum

A major initiative to improve health and safety in the mineral products sector has been established to share information and improve collaboration.

The Strategic Safety Forum (SSF) for Health and Safety is a new collaboration between the MPA and other industry bodies (BAA, IQ, MPQC and QNJAC). Acting as secretariat, the MPA will facilitate coordination between the different organisations to help deliver on a common purpose of keeping people safe and healthy.

Martin Riley, Chair of the SSF, said: "I am delighted to see the collaborative work initiated by the previous strategic forum being taken forward with the support of the five key member bodies. We all have a duty to ensure that our sector is safe, and that the wellbeing of our employees is delivered on a day-to-day basis."

Mineral Products Association 1st Floor, 297 Euston Road London NW1 3AQ Tel: 020 3978 3400 Email: info@mineralproducts.org Web: www.mineralproducts.org Chair: Lex Russell Launched at Hillhead 2024, the SSF will help to ensure the highest standards in health and safety as part of a collective and individual, legal and moral responsibility, to keep everyone safe and well.

All parts of the industry are covered by the new Forum, which will seek to develop consensus across the sector to encourage alignment of members' initiatives and practices, facilitating collaboration and sharing. Particular emphasis will be placed on eliminating harm arising from 'The Fatal 6' key areas identified as being responsible for the majority of fatalities and serious injuries:

- Contact with moving machinery
- Transport and pedestrian interface
- Work at height
- Respirable crystalline silica
- Struck by moving/falling object
- Road traffic accidents

Mineral Products Today

Managing Editor: Elizabeth Clements Special Advisor – Communications Email: elizabeth.clements@mineralproducts.org Editor: Andi Hodgson Communications Consultant Tel: 07972 533728 Email: andi.hodgson@mineralproducts.org To achieve its objectives, the Forum will coordinate its efforts on:

- Key health and safety issues
- Standards, skills, education and resources
- Data collation and interpretation to inform action
- Consistent and aligned communication
- Engagement with contractors
- Other priorities as Forum members agree.

MPA welcomes and supports the SSF as an important piece of the jigsaw to help deliver Vision Zero – the elimination of the causes of 'The Fatal 6' – something which can only be achieved if everyone in the industry understands and commits to this aim.

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Regional construction market guide published

Data from Britain's regional construction markets has been decoded in an insightful new MPA report.

The new regional overview of construction and mineral products markets in Great Britain offers a comprehensive, one-stop guide to industry activity across nine English regions plus Scotland and Wales, and anticipates market recovery from 2025.

Bringing together construction market analytics from several credible sources, the report features historical trends and detailed insight into how construction is expected to generate the demand for aggregates, asphalt, concrete and mortar in the coming years.

Often complex and fragmented data is interpreted with the key metrics

presented in a clear, user-friendly format. A consistent region-by-region approach enables readers to compare trends in activity, within one unique document.

The report's appeal is bolstered by the inclusion of the MPA's sales volume figures direct from surveys of its member producers – a reliable and robust stream of data that's crucial for monitoring underlying market activity given the lack of Government statistics on Britain's minerals industry.

A recovery in construction demand for mineral products is anticipated from 2025 onwards, supported by a revival in new-build housing output. Energyrelated infrastructure, including new wind farms and nuclear power stations, is also expected to be a catalyst for higher



construction work, with the East of England, Scotland and Wales among the regions expected to benefit.

Luke George, Economist at MPA and author of the report, commented: "This report is a one-stop, region-by-region guide to our industry's key markets. While construction data is abundant, it can be difficult to navigate and, on its own, often lacks practical value. By consolidating fundamental market information and strengthening this with MPA's robust sales data, we aim to provide industry professionals with a reliable resource that supports informed decision-making."

Industrial strategy miss

The UK Government's draft Industrial Strategy risks missing huge opportunities for growth and decarbonisation.



The MPA has expressed concern that the draft strategy, published in October 2024, fails to detail the vital role foundation industries will play in the development of growth-driving sectors.

MPA has called for streamlining of mineral planning as well as more clarity and certainty surrounding the infrastructure pipeline to boost investment. Measures to counter carbon

leakage and alleviate the pressures to deindustrialise the UK are also sought.

Robert McIlveen, Senior Director for Communications and Public Affairs at MPA, said: "Significant mineral resources will be required to drive growth, an area where the UK has both strong capabilities and untapped potential. These resources will support every sector of the economy as it adapts, grows, and seizes future opportunities.

"Yet persistent issues in mineral planning continue to be a barrier to investment, while failures in infrastructure delivery further deter growth. For the Industrial Strategy to succeed, the Government needs to prioritise effective strategic planning and delivery to unlock the full potential of the UK economy."

First for asphalt EPDs

The first verified Environmental Product Declarations (EPDs) for four generic asphalt product types used on UK highways have been published by the MPA.

The new 'reference' EPDs for road materials enable effective and reliable comparisons to be made on each product's whole life environmental performance using consistent methodologies – providing much needed clarity on sustainability indicators such as a product's carbon footprint.

Brian Kent, Chairman of MPA Asphalt, said: "Our industry is making significant strides as we collectively work towards net zero carbon. However, a key challenge for producers, their customers and end clients has been how to accurately and dependably measure our impacts and, importantly, progress. "MPA members are increasingly asked for published and verified EPDs relating to the supply of asphalts. But doing so for numerous individual product types from specific plants on a site-specific basis is costly. The introduction of these industry EPDs will mean costs won't be passed on, benefiting all stakeholders. The MPA reference EPDs can immediately be used across the asphalt sector with confidence."

Director of MPA Asphalt, Malcolm Simms added: "The outputs from these EPDs will hopefully prove to be invaluable for highways projects. It also means we are well placed to adapt to changes to the EPD landscape, including the revision of the Construction Products Regulations. We'll continue to work to ensure that these EPDs offer a transparent, verified and comprehensive breakdown of our sector's products' total environmental footprint."



Working in mineral products it is hard not to feel proud of what our industry achieves every day – 80,000 people meeting the demand for essential materials that literally form the foundations and fabric of our built environment, underpinning quality of life and economic prosperity.

And we have a lot to be proud about – whether that's celebrating 200 years since the first patented cement, and the groundbreaking work to decarbonise its production (MPT, page 5), or our world leading approach to health and safety improvement (MPT, page 12). Then there's our impressive track record in product innovation, resource efficiency, biodiversity gain... the list goes on.

Following the Chancellor's Autumn Budget 2024, I remain hopeful about the Government's stated commitment to long-term capital spending, even as we navigate the near-term challenges of tax hikes and road project cancellations. These adjustments will be a real test of our resilience as an industry, prompting all of us to focus firmly on our approach to recovery.

Pledges in the Budget for increased capital spending on schools, hospitals and rail projects is a positive step, and freezing fuel duty will help our members in delivering essential materials. But the increased tax burden will present a serious challenge for many businesses, not just for our members but across the whole supply chain.

Despite the subdued market conditions of the past 18 months, there is cautious optimism that demand for mineral products will rebound in 2025. It is important, however, to remain circumspect about potential obstacles. The rise in employer costs, especially around National Insurance, underlines

VIEWPOINT

the importance of fostering a policy environment that encourages investment and jumpstarts the UK's economic recovery. My colleagues in the MPA have wasted no time in getting onto Government departments about the challenges and, so far, dialogue has been constructive.

One key sector that is critical for materials suppliers and remains uncertain is housebuilding, but at least we're seeing some signs of momentum returning. With careful navigation of cool pressures and expected interest rate cuts next year, we believe there is a path to unlocking growth and improving affordability, particularly among firsttime buyers.

On road infrastructure, while it's disappointing to see five major projects shelved, especially given the underinvestment of recent years, the allocation of extra funding for maintenance is a reminder that there is still room for progress. Industry is crying out for consistent, long-term, sustainable planning to build confidence and encourage investment.

Encouragingly, measures like capping corporation tax at 25%, full expensing for plant and machinery, and maintaining the £1 million annual investment allowance provide a degree of stability for businesses. Predictability in the tax regime is vital for our sector, and we look forward to the Government's continued delivery on these promises.

Energy and decarbonisation efforts are also moving in the right direction with investments in carbon capture and offshore wind infrastructure making significant strides. Next, the Government needs to ensure that implementation of the UK's Carbon Border Adjustment Mechanism (CBAM) is watertight to enable it to fully level the carbon cost playing field between domestic producers and importers. Again, MPA continues to engage with Government on such matters and recently received an encouraging response from Energy Secretary Ed Miliband, specifically commenting on how much his department values the engagement with MPA and expressing his hopes to see the relationship develop.

Elsewhere in the Budget, we knew the Aggregates Levy would increase – an extra five pence per tonne will cost producers an additional £8.5 million in 2025/26 alone – but this should serve as a reminder to the whole construction industry of the need to value the domestic resources available to us, especially secondary and recycled aggregates. And while state-backed loans for 'critical' mineral imports are understandable, we'd like to see stronger incentives for sourcing these materials domestically. Investing in UK supplies of minerals - both critical and essential would bolster industry, reduce reliance on imports and support growth.

Finally, a word on mineral planning which is the lifeblood not just of our industry but also the supply chain for construction and manufacturing. As the rate of mineral consumption continues to outstrip the rate of replacement of mineral reserves (as identified in the MPA's latest AMPS survey – see MPT, page 14) the announcement to recruit new planning officers is very promising. We hope this marks a clear step towards addressing the systemic issues our members experience in the mineral planning and permitting process.

Ultimately, we are a pragmatic and resilient industry, and we stand ready to support the Government, especially given a huge percentage of our products go into publicly funded projects. Our sector is fundamental to the functioning of the UK, and so clearer, stronger and longer-term commitment from policymakers is the key to unlocking vast potential for our industry to help the country build a brighter, more sustainable future.

Chris Leese, Executive Chair MPA Executive Management Committee

YEARS YOUNG! CEMENT'S COMING OF AGE

The UK cement industry has been celebrating the bicentenary of the invention of Portland cement with a fresh call to Government to back the sector's transition to net zero manufacturing.

Few industries can claim to have made such a profoundly positive impact on the way we live as the cement sector. Over the past two centuries, the ability of cement to bind together the ingredients for concrete has literally shaped our world.

Cement remains essential to delivering new homes, schools, hospitals, workplaces, roads, railways and ports, as well as the infrastructure that provides us with clean water, sanitation and lowcarbon energy.

As a result, today concrete is the most consumed manmade substance on earth. No other construction material is as versatile as concrete – liquid rock that can be poured and moulded into any shape, to produce the safe, durable buildings and structures we all rely on every day.

It was English bricklayer, businessman, inventor, and stonemason Joseph Aspdin who was granted the patent for Portland cement in Leeds in October 1824, setting not just the UK, but the whole world, on a new construction journey – and one that we are still on today and will be for the future.

The production of cement has grown from a single factory in Wakefield 200 years ago, to a highly sophisticated and essential industry, with a peak annual UK output of 20 million tonnes of cement in 1973. Worldwide there are now more than 3,500 cement plants.

Delivering such vast quantities of material is not without its challenges. Cement production relies on extracting calcium carbonate (limestone or chalk) and clay minerals from the ground and heating them in a rotating kiln to volcanic temperatures (1450°C). This chemically combines the raw materials into 'clinker' which is ground to a fine powder with a small amount of gypsum to control the setting time of the end-product.

200 YEARS YOUNG!

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As a consequence of the chemistry, production is highly carbon and energy intensive. Unlike many other industries, around 70% of the carbon dioxide from cement production are 'process emissions' that arise as a result of the chemical reaction, changing calcium carbonate (CaCO₃) into calcium oxide (CaO) which then reacts with silica (SiO₂) to form calcium silicates.

The remaining 30% of emissions are from the combustion of fuels used to reach those high temperatures. The production of cement emits around 6 million tonnes of CO_2 per year, which is about 1.2% of total UK emissions.

The UK cement industry has long been at the forefront of carbon emission reductions. Since the 1990s the sector has been switching away from coal to waste derived fuels. And by 2023 thermal input to kilns reached 54% waste derived fuels, with 25% classified as waste biomass, and trials are already well underway on other sources such as hydrogen and plasma.

That's in addition to sourcing alternative raw materials and cementitious substitutes. While Portland cement is the original general-purpose and highly trusted material, long before its invention ancient builders were using volcanic ash as a binding material in concrete. These early practices laid the foundation for the UK's long-standing tradition of incorporating supplementary cementitious materials into cement formulations.

"Portland cement is arguably one of the most important, and often overlooked, British inventions"

Today, innovation in cement formulations is more advanced than ever, and MPA plays a lead role in research projects as part of the drive to find ever-lower carbon formulas. That has included the development of 'multi-component' cements, with some blends demonstrating a carbon dioxide profile 60% lower than ordinary Portland cement. If fully deployed this would result in a reduction in direct emissions from cement production of over 4 million tonnes of CO₂ every year.

These multi-component cements were recently introduced into the UK concrete standard (BS 8500) to encourage their use and help designers, specifiers, contractors and the wider construction sector reduce emissions related to the use of concrete. In other research, production and testing of reclaimed calcined clays, such as from brick waste, has shown promising results and longer-term durability tests are ongoing.

To go further the MPA published the *UK Concrete and Cement Industry Roadmap to Beyond Net Zero* in October 2020. Five of the seven key decarbonisation levers in the roadmap relate to cement production: (i) Indirect emissions from decarbonised electricity; (ii) Transport; (iii) Low carbon cement and concretes; (iv) Fuel switching; and (v) Carbon Capture Usage and Storage (CCUS).

Of these, it is widely acknowledged that CCUS will need to provide the majority (61%) of the emissions reduction for the UK cement industry, due to the need to abate unavoidable process emissions.

Dr Diana Casey, MPA Executive Director for Energy and Climate Change, said: "Net zero is a major opportunity for growth in the cement industry. The future of cement production in the UK relies on domestic producers being able to compete with global production where decarbonisation ambition and associated costs are lower.

"Today, cement imports are increasingly arriving from outside the EU, from

countries not subject to a carbon price. With the right policy support the UK is ideally placed to deliver a net zero cement sector, particularly given the abundant carbon dioxide storage capacity in depleted oil and gas fields. Key policies to enable this transition are already in motion.

A carbon border adjustment mechanism (CBAM) will help level carbon costs between domestic producers and importers to maintain competitiveness, the UK has a clear vision for deployment of CCUS, and electricity generation is well on the way to decarbonisation.

"This is an exciting time to be part of a sector that has a rich heritage in the UK"

"As we celebrate the bicentenary of UK cement production, our industry has a clear commitment to net zero and UK manufactured cement remains essential to delivering the UK's energy transition and development pipeline. It's therefore important that Government continues to back the sector's decarbonisation journey, and that UK construction buys cement that is responsibly sourced and made in cement kilns that are decarbonising."

UK CEMENT INDUSTRY KEY FACTS

- Six companies make cement in the UK 2 are UK-owned and 4 are UK subsidiaries of global multinationals.
- There are ten cement manufacturing sites in the UK
 6 in England, 2 in Wales, 1 in Scotland and 1 in Northern Ireland.
- The average annual demand for cement in the UK over the last 20 years has been around 11.3 million tonnes.
- The UK produces around 8.4 million tonnes a year (2022) with the remaining demand increasingly met by imports.
- The cement sector contributes approximately £171 million in GVA and directly employs over 2,300 people in the UK.
- Bulk cement is distributed by rail and road. Local delivery is done by powder tankers to ready-mixed concrete and mortar plants, as well as precast concrete factories, and is also bagged and delivered on pallets to builders' merchants nationwide.

A special brochure celebrating 200 years of cement production is available to download on the MPA's website. It covers the history of cement, the development of cement kilns and cement formulations as well as the future of cement, developments in low carbon cements and the journey to beyond net zero.

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Standard Dealfers

Some of the MPA's most important work is also its least well known. An expert team is busy behind the scenes ensuring the myriad of standards and codes that govern mineral products are fair, practical and beneficial. And that's more important than ever with an increasing number of regulatory layers.

Standards are widely recognised for enhancing product quality, safety, and reliability, fostering consumer trust and marketability. For companies, they're designed to simplify access to internal and overseas markets, reduce liability risks and streamline compliance.

Yet the process of developing standards can seem anything but streamlined with years of research and testing, consensusbuilding between different stakeholders, risk assessments and an overwhelming level of technical detail throughout.

And the UK continues to align with EU standards to encourage smooth two-way trade, maintain high safety and environmental standards, and ensure regulatory compatibility.

"Standards aim to deliver a reliable basis for people and organisations to use common language and set expectations for a product or service," said Mike Wharton, MPA Technical Director - Aggregates & Concrete Standards who coordinates MPA Standards Forum along with Chair Tony Jones, Technical Director of MPA The Concrete Centre.

"They exist to facilitate trade between different parts of the supply chain or different geographic markets, to provide a framework for technical requirements, economies, efficiencies and the exchange of information, as well as to enhance consumer confidence and protection. In that sense standards are there to make things better and are effectively our licence to operate," added Tony.

"And standards are increasingly playing a key role in addressing sustainability issues, be that the introduction of lower carbon concretes and asphalts, changes to design standards to allow more efficient concrete solutions, or product end of life considerations. They provide a mechanism to introduce these developments in a way that gives the end user confidence of the final product."



The Standards Forum coordinates the MPA standardisation strategy between different MPA product groups (aggregates, asphalt, concrete, precast, etc) to establish a clear and consistent industry view on changes to standards, codes and regulations, and lobbying for improvements where necessary. MPA engages with more than 100 standards committees in the UK and Europe, leading nearly 20 of these on behalf of the UK mineral products industry.

"Our job is to ensure that the standards set are pragmatic, proportionate and appropriate to the realities of production, our customers in construction and manufacturing, and of course end users of our products in situ," Mike continued.

"To have your voice heard and your expertise considered you've got to be in the room with a seat at the table"

The list of standards and codes scrutinised by the Standards Forum, and the depth and detail of that scrutiny is mind-boggling and more complex than ever. The current scope includes all relevant European and British Standards, the EU and UK Construction Product Regulations (CPR), European CE and UKCA Marking and UK & EU REACH (Registration, Evaluation, Authorisation and Restriction of Chemicals) among others.

Participating in the development of standards usually involves extensive understanding of materials, production processes, and end-use design, engineering and construction. Little wonder that changes to standards are often incremental and take time to negotiate and develop, let alone to implement and allow industry to adapt to and, where possible, take advantage of.

Standards are designed to protect taxpayers and consumers, and they must be developed thoughtfully.

"Quantifying the benefit of any single contribution made by the MPA to a particular standard or code is near impossible" said Tony. "That's because by the time the benefits of a new or updated standard start to be realised by industry or end users, the standard makers have already moved on to subsequent improvements."

Product innovations and technical advancements can take years to be incorporated into standards, and only then can the gradual adoption process start. Customers seek strong assurance of a product's long-term performance, which standards help guarantee. As a result, innovations require years of evaluation and testing before acceptance, with slow uptake as no one wants to take perceived risks.

MPA members work diligently not only to meet product standards but also to produce guidance, enabling designers and engineers to specify products that ensure long-term performance. However, with continual updates to existing standards and codes—not to mention new legislation—the volume and complexity of conformity are everincreasing, along with risks of inconsistency and contradiction.

Standards are designed to protect taxpayers and consumers, and they must be developed thoughtfully. Maintaining representation on standards committees is essential for guiding decisions and, importantly, preventing unintended consequences from well-meaning but misinformed revisions.

The MPA Standards Forum strives to co-ordinate cross-product issues and gain consensus to ensure the best possible outcomes for all MPA members. The advantages of this approach can be substantial not just to mineral products manufacturers but also to customers of the mineral products industry in construction and manufacturing.

Standards snapshot

A summary of a few of the current areas under scrutiny by MPA Standards Forum.

1. EU CONSTRUCTION PRODUCTS REGULATIONS

The updated EU Construction Products Regulations (EU-CPR) introduce more and tighter obligations for product information, sustainability and circular economy practices. Key updates include new requirements for digital access. environmental impact transparency, and rules covering both new and reused construction products. The revisions, aligning with the European Green Deal, aim to improve product traceability, sustainability, and market compliance across Europe. They were approved by the European Parliament in April 2024 and the European Council agreed to adopt them in November 2024. Once signed by the Presidents of the European Parliament and Council the new EU-CPR will be published in Official Journal of the EU, coming into force 20 days later.

2. THE CPR ACQUIS PROCESS

The CPR Acquis process is harmonising EU construction product regulations ensuring standardised safety, performance, and environmental criteria for products sold across the European market. The process involves collaboration among EU representatives, industry stakeholders, and technical committees at various stages to update the old standards mandates to new Standardisation Requests. This ensures rigorous safety, environmental, and sustainability standards for construction products. The revised CPR is expected to be implemented gradually over the next few years.

3. BRITISH STANDARDS

Recent updates in specific British Standards include the 2023 revision of BS 8500 Concrete – Complementary British Standard to BS EN 206, is a major step forward that allows the use of multicomponent cements in concrete to reduce embodied carbon and enhance sustainability. Led by the MPA, the next update is expected in 2026. Additionally, BS Flex 350, a low-carbon concrete code of practice, is being updated reflecting ongoing improvements in British construction standards aimed at sustainability and low-carbon technologies. For asphalt, the installation standard BS594987, published at the end of 2024, provides enhanced guidance for the use of lower temperature asphalt mixtures, supporting decarbonisation.

4. UK REACH

The regulations for REACH (Registration, Evaluation, Authorisation and Restriction of Chemicals) are aimed at managing the production and use of chemicals to protect health and the environment. In response to government consultations, the MPA advocated for amendments to UK REACH regulations to reduce costs and improve regulatory efficiency. Proposed changes aim to streamline registration with the Health and Safety Executive (HSE) and simplify UK REACH compliance for businesses transitioning from the EU framework.

5. UKCA MARKING AND ADOPTION OF EU-CPR

The UK government extended the deadline for recognizing CE marking to accommodate industry's transition to UKCA marking, with the Ministry of Housing, Communities and Local Government overseeing this regulatory shift. With legislative updates pending, the construction sector anticipates further government decisions on CE/ UKCA marking and alignment with the new EU CPR. This extension aims to provide clarity and continuity for UK product standards amid regulatory transitions post-Brexit.

6. BUILDING SAFETY REGULATIONS

The Building Safety Regulator has yet to finalise a list of safety-critical construction products or specific standards for them. For now, interim guidance refers to the Code for Construction Product Information (CCPI). Industry stakeholders await formal criteria and timelines, which will clarify safety protocols for essential construction materials. This ongoing work reflects a focus on building safety and regulatory accountability in response to recent building safety concerns.

Access all areas

Recent decades have seen a quiet revolution taking place beneath our feet! Tactile paving has become commonplace to improve access and safety in the built environment. And its purpose, design and specification are more complex than you might imagine.

It's impossible to walk around our towns and cities without setting foot on precast concrete products, notably the increasing use of tactile paving – also known as tactile paving surface indicators or detectable warning surfaces.

Tactile paving is the collective phrase for commonly precast concrete flags, blocks or other components with profiled surfaces designed to provide sensory cues to people with visual impairment or neurodivergence, helping them navigate public spaces safely and easily.

The concept was born in Japan in 1965 by Seiichi Miyaki who created what he called Tenji Blocks – profiled paving blocks to help a friend who was losing his sight. And in 1967 the innovation was first used in streets near the Okayama School for the Blind.

Worldwide attention was drawn to the idea during the 1970s and 1980s as authorities and developers started to consider creating more accessible public spaces, but it wasn't until the 1990s that the UK, along with Australia and the USA, began to adopt tactile paving. Nowadays tactile paving products manufactured by MPA Precast members are ubiquitous in public areas where there are potential hazards, such as ramps and stairs, bus stops, railway platforms, pedestrian crossings and street furniture, as well as entrances and exits to buildings.

"We're not even halfway to properly meeting users' accessibility needs around town centres"

The raised patterns of tactile surfaces typically come in two main forms, as Colin Nessfield, Technical Manager for MPA Precast and currently President of the Institute of Concrete Technology, explains: "Blistered paving profiles alert users that they are approaching some kind of hazard - either pedestrian crossings with dropped kerbs or the edges of rail and tram platforms.

"On the other hand long bars of 'corduroy' paving are used to either direct somebody when the raised bars are aligned with the direction of travel or warn them of a hazard if the bars are across their path. Profiles with long bars can, therefore, give direct messages to users with impaired vision."

But you'd be forgiven for thinking that tactile paving is that straightforward. Whilst the introduction of tactile paving has been an important advancement in accessibility design, it's an area that's become increasingly complex for manufacturers, specifiers and designers alike.

"There's actually very little statutory guidance regarding tactile paving," said Colin, "but the closest thing we have is Part M of the Building Regulations. This outlines some of the legal requirements in relation to adhering to the Disability Discrimination Act (DDA) as it was when introduced, and now part of the Equalities Act.

"More detailed information is available in the British Standards, specifically BS8300 which covers the external environment (Part 1) and access to buildings (Part 2). Although standards are not a formal part of the Building Regulations and do not directly relate to the DDA, it's generally thought that meeting BS8300 standards fulfils the DDA's requirements.

"So in terms of a legal hierarchy, the DDA must be complied with, but it doesn't explain how to comply. Next is the Building Regulations, part M and BS8300 Parts 1 and 2, although these are only codes of practice, so there's no legal requirement to meet these standards." Inconsistencies in standards and guidance, combined with a lack of legal obligation, can make designing and specifying tactile paving something of a minefield.

"The Department for Transport's Guidance on the Use of Tactile Paving Surfaces and also Inclusive Mobility Guidance offer excellent guidance, and are free to download from the gov.uk website. Likewise, charities and support groups for the visually impaired also provide good advice. So there's a lot of information out there, but we have to remember that it's only guidance. It's not written in law."

Fortunately, according to Colin, things are slowly improving. "Compliance is relatively high in transport, especially railway stations, but inconsistent across towns and cities in the UK. Casual observation suggests we're not even halfway to properly meeting users' accessibility needs around town centres.

"It's tricky to be 100% compliant when things are open to interpretation, and

until there's a legal obligation to ensure guidance is followed, the specification, design and installation of tactile paving will be difficult to enforce."

"There's a lot of information out there, but it's only guidance it's not written in law"

Colin says there are four main areas where particular problems are encountered in the UK. "The most common are spaces where tactile paving should have been used, but hasn't. This is obviously a failure, but it's just as essential to ensure the correct profiling is used, too. For example, a hazard warning at a crossing point gives a person with visual impairment the completely wrong impression of what they will face.

"And in many cases the problem is using colours that don't contrast. Many people who are registered blind still have some vision and contrasting colours can help them identify that they are approaching something and focus their attention to the object or hazard.

"There is also confusion over redcoloured products which should only be used at a controlled crossing, but are frequently found at uncontrolled crossing points and for hazard warnings, which isn't their purpose.

In partnership with MPA Precast members who manufacture tactile paving, Colin is playing a key role in ongoing work to try to improve things, updating the manufacturing standard TS15209 to make products fit-for purpose and improving consistency with BS8300 Parts 1 and 2.

"In the meantime the industry will continue to do its best to ensure consistent manufacturing, and educate local authorities and developers on the right specification and application of tactile paving until a time when public spaces are as accessible and safe as possible for everyone."

There are six common profiles of tactile paving, all of which stem from Miyaki's original concept. Over the years, material technologists have extended the core principles of tactile pavers to create the profiles needed to fill the gaps.



1: BLISTER TACTILE PAVING

Blister paving is typically used at roads or other crossings, and the red colour specific to blisters is used to denote a controlled crossing point. Other colours are for uncontrolled

crossings where pedestrians are relying on the traffic (either the absence of it or the goodwill of drivers) to be able to cross.



2: PLATFORM EDGE BLISTER PAVING

Platform edge blister paving is for railway platforms and light rapid transit platforms (eg underground) not in a street

environment. These differ from blister pavers for crossing points because each line of 'blisters' is

intermittently spaced or 'staggered'. Colours are normally buff or yellow (but not red) and should provide good contrast with the surrounding paving.



3: LOZENGE TACTILE PAVING

This design is for light rapid transit platforms that are specifically within a street environment such as tramway platforms. Colours are normally buff or yellow

(but not red) and should provide good contrast with the surrounding paving.



4: CYCLE TACTILE PAVING

Cycle and footway paving exists to define pedestrian and cycle sections of shared pathways. For the cycle portion they are meant to align with the direction of travel, whilst for

the pedestrian half, they're set perpendicular to the direction of travel to make it uncomfortable for a bike to go over.

5: CORDUROY OR HAZARD WARNING PAVING

Corduroy paving is designed to run across the approach to specific hazards such as at the top or bottom of a flight of stairs, at level crossings

or where a footway joins a shared route. Colours are normally buff or yellow (but not red) and should provide good contrast with the surrounding paving.

6: GUIDANCE PAVING



Guidance paving is used sparingly to guide pedestrians around obstacles in open spaces or across large open spaces to ease the route to specific locations. Normally buff or yellow

(but not red), it's important that the pavement contrasts with its surroundings.

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For an industry that was once perceived to be one of the most dangerous to work in, the mineral products sector has come a long way in its drive to keep people safe and well through sharing.

The mineral products industry's health and safety awards is a highlight of the MPA events calendar, a culmination and celebration of members' outstanding actions, initiatives and innovations that have made working environments safer and healthier.

Yet the awards, first introduced 25 years ago, have grown to serve a much bigger purpose – 'safer by sharing' – which today is a cornerstone of Vision Zero 'Safe and Well Every Day', the MPA's strategy to eliminate the most serious incidents and to raise health and safety standards across the industry.

Sharing practical ways to make the industry's workplaces safer – whilst celebrating the achievements of those involved – is recognised as a key to health and safety improvement and the MPA has been leading the way to facilitate more sharing.

"Sharing is a critical part of keeping people safe," said MPA Chair Lex Russell, whose day job is Managing Director of CEMEX UK. "There was a time that some of us can remember when our industry was thought to be an unsafe place to work, and we were compared to the likes of North Sea fishing.

"But we've moved a long way since those days, and that's because we share more – we share concerns with each other, we share good practices together, we share learnings together, and we move the industry forward. The next step is to make sharing cultural so it's second nature to everyone – that's something that all MPA members can do.

"There's nothing more important than spending time with people on the sites, talking about health and safety, about the issues that affect people, and how things can be improved. And it's just as important to understand how people are feeling, to get a sense of their wellbeing, because that has a massive impact on health and safety as well."

Lex has first-hand experience of the devastating impact of a workplace fatality: "I don't want anyone in our industry to have to go through the pain and suffering that comes from a major accident in a quarry or other production site.

"Sharing is a critical part of keeping people safe"

"Anyone who has experienced a serious event like that becomes an advocate for health and safety improvement, looking after people, looking after their wellbeing, and making sure that those who work in our industry in any capacity, go home at the end of their shift safe and well.

"Now, because of the actions taken by the industry, we're no longer looked at in

the same way as we were 25 years ago. We're now seen as a safe place, and a good place, to come to work and have a good career. That said, incidents do still occur, but increasingly our members are happy to share details of those incidents, including those high-potential incidents which could have been more serious.

"This year we've seen an impressive array of health and safety initiatives and ideas"

"Sharing in this way focuses the mind, prompting people to reflect on their own situation. They ask themselves 'what can we learn from that?', 'why did that happen?', 'what were the circumstances?' and 'what can we do to make sure that doesn't happen here?' So step-by-step, as an industry we have been changing our culture to one where we want to share these incidents, in the interests of the whole sector, so that we all become safer together. We need to make sharing cultural.

"The MPA Health and Safety Awards is a time when we get to see the efforts and the contribution that everyone is making. It doesn't matter whether entries come from small, single site operators or larger companies – what's important is that people are coming up with these improvements, innovations and practices, and whether they win an award or not, we're sharing them, others are embracing them, and it's making a huge difference.



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"Equally important is the recognition of those efforts, because it's all about people, and the fact that we have a series of prizes that have become sought-after gives a great sense of competition and suspense as the day of the awards approaches!"

Behind the scenes a lot of effort goes into judging the entries, creating video shorts for the finalists in each category, planning the event and producing a good practice guide summarising the entries for everyone to use. The diversity of categories and breadth of entries means that there are opportunities for all businesses, large and small, in every part of the mineral products industry.

In recent years the awards have alternated between an all-day live, in-person conference and an accessible online event. That allows thousands more people in the industry's workforce to see the awards live from their own workplaces, maximising the potential for initiatives to be shared and adopted.

In 2024's awards, Brett Group won the coveted John Crabbe Trophy for outstanding performance in health, safety and wellbeing (for companies with over 250 employees), while the top prize for SMEs – the Sir Frank Davies Trophy – was awarded to AG Paving + Building Products.

Other award winners and highly commended entries were from Aggregate Industries, Burlington Stone, CEMEX, Clubb Sand & Gravel, Heidelberg Materials UK, Hogan Holdings, Marshalls, MecTech, Northstone Materials, Pat Munro (Alness) Ltd, Prospare and Tarmac.

"We all have a shared responsibility to do whatever we can to promote good health, safety and wellbeing"

Colin Mew, MPA Head of Health & Safety, congratulated the award winners and thanked all those who had submitted entries: "With entries from 33 companies across eight topics, numbering 142 entries, this year we've seen an impressive new array of health and safety initiatives and ideas shared from every corner of the industry.

"Most important of all, we hope that everyone who watches the awards event returns to work with fresh inspiration, new ideas and better practices to implement to make their own businesses safer than ever.

"If just one initiative or activity helps to prevent a serious injury in the workplace by sharing the awards will have been worthwhile. But of course we'd like to see more widespread sharing and adoption across the industry as the awards are proof that these initiative make a difference."

Chris Leese, Exec Chair of the MPA Management Committee added: "All the 2024 entries – as well as those from previous years – help to provide MPA members with a wealth of good practices and innovations which they can put into action, where appropriate, within their own operations. A lot more can be done to make sharing good practices – and the root causes of serious incidents – an intuitive part of what the industry does every day.

"The awards are a great opportunity for everyone to see what our members are doing day-to-day, and we need to expand sharing and adoption as we know it's an effective way to bring about change. Wherever we work, in whatever role, we all have a responsibility to do whatever we can to promote good health, safety and wellbeing across our industry, and deliver Vision Zero so we eliminate the most serious incidents from our industry once and for all."

MPA HEALTH & SAFETY AWARDS SAFER BY SHARING

Details of all the entries into the MPA Health & Safety Awards are added to SafeQuarry.com, the free-to-access mineral products global hub for health and safety. Videos of the finalists and winning entries can be viewed on the MPA YouTube channel which also features a film of the whole of the 2024 awards event as well as previous years.



Approaching a cliff edge

An abundance of mineral resources makes Britain almost entirely self-sufficient in aggregates for construction. So why has the rate of consumption outstripped the rate of replacement of mineral reserves over the past decade?

The Government needs to take urgent action to address diminishing reserves of the UK-sourced minerals that are essential for housing and infrastructure.

That's according to the MPA's latest Annual Mineral Planning Survey (AMPS) which reveals further decline in the levels of permitted reserves – geological resources of sand, gravel and rock for which planning permission to extract and process has been granted.

The report reiterates that Britain has an abundance of essential mineral resources and is almost entirely selfsufficient in meeting the 250-milliontonne-a-year demand for materials, 30 per cent of which comes from recycled or secondary sources.

But for more than a decade the rate of consumption – mainly for construction – has not been matched by the rate of approval for new planning consents for quarrying, due to a 'broken' mineral planning system that often allows local interests to be prioritised above national need.

Between 2014 and 2023, for every 100 tonnes of sand and gravel used in Great Britain, an average of 61 tonnes of new permissions have been granted. And for crushed rock the figure is even lower, with only 33 tonnes of new material consented for every 100 tonnes consumed.

The MPA warns that this situation is not sustainable in the medium term, especially given the Government's ambitions in housebuilding and energy infrastructure. Britain could face negative consequences both economically and environmentally if the current issues are not addressed as part of the Government's planning reforms.

Like the country's geology, the picture varies between regions, with areas that have traditionally been nationally important 'strategic' suppliers, such as the East Midlands and South West, seeing significant shortfalls over the last 10 years.

"MPA members are working hard to produce and deliver the essential mineral products needed to deliver the Government's ambitions"

The South East of England consumed three times the volume of new permitted reserves for sand and gravel, while the East Midlands saw materials sales 18 times the volume of new permitted reserves.

And whilst the average time taken for planning permission to be obtained has remained broadly the same, the entire planning process can often take ten to fifteen years to complete.

Looking ahead, MPA economic analysis indicates that between 3.8 and 4.1 billion tonnes of aggregates will be required over the next decade to support the country's construction needs. Maintaining the sustainable and costeffective supply of these strategically important materials will require active management, planning and investment, supported by regular surveys and up-todate data to monitor performance.

Aurelie Delannoy, Director of Economic Affairs at MPA, said: "Our new AMPS report is timely, published as the new Government looks to reform the planning system with housing and infrastructure at the top of their agenda. MPA members are working hard to produce and deliver the essential mineral products needed to deliver the Government's ambitions.

"But unless there are significant reforms to streamline mineral planning and permitting, along with a change in the investment environment, these mineral reserves will not be fully replaced. That will not only impact the mineral products industry but also the UK construction industry and the wider economy."



The full AMPS 2023 Report can be downloaded from the MPA website.

MEMBERS A snapshot of recent news stories from MPA members

Study confirms hydrogen trial success

The results of an academic research study have confirmed the success of the net zero fuel trial carried out at Heidelberg Materials' cement works in Clitheroe, Lancashire.

The world-first trial, facilitated by the MPA and funded by the former Department for Business, Energy and Industrial Strategy (BEIS), used a mix of 100 per cent net zero fuels – including hydrogen – to successfully operate the cement kiln.

During the demonstration, the proportion of fuels in the cement kiln's main burner was gradually increased to a wholly net zero carbon mix, demonstrating a pathway to moving away from using fossil fuels in cement and concrete production.

The study, carried out by academics from Aston University and the University of Leeds, analysed the quality of the clinker and performance of cement produced during the trial and concluded that net zero fuel-produced clinker met the requirements for plain and blended cement.

New species first at restored quarry

A large-scale conservation project at Tarmac's Sandy Heath Quarry in Bedfordshire is paying off after an exciting discovery.

For the first time the species Weedy Frillwort (so called due to its 'frilly' yellow green leaves) has been recorded in the county, along with other rare species of liverworts, mosses, lichens and fungi. This tiny plant is easily overlooked at just 5mm long.



The observations were made by local expert plant surveyors in restored areas of the 80-hectare site, managed in partnership with the RSPB, whose headquarters are on land opposite the quarry.

Peter Bradley, Senior Site Manager at RSPB The Lodge said: "The discovery of this liverwort, a first for Bedfordshire, along with so many other rare species, shows how thoughtful restoration of quarries can provide the right conditions for nature to thrive."

Carbon removal tech comes to UK

New technology that removes carbon from the atmosphere and locks it into recycled concrete is being introduced in the UK.

Aggregate Industries has partnered with cleantech start-up neustark to set up a mineralisation plant in Greenwich. The technology injects liquefied carbon dioxide into granulated concrete from demolition, triggering a mineralisation process which locks the carbon into the granules. The material can then be used as aggregate to make new concrete.

Lee Sleight, CEO of Aggregate Industries UK, said: "This isn't just a great carbon removal innovation but a great circular economy innovation where we are taking what was once a waste stream and reusing it, saving us from digging up virgin materials in the first place."

Renewable readymix

CEMEX has installed renewable energy in Staffordshire, using a 90kWh battery and solar panels to save around 200 tonnes of CO₂ a year.

Until recently, Alrewas readymix plant could only be powered by diesel generators, so the new hybrid solar unit significantly reduces CO₂ as well as reliance on fossil fuels.

A second battery and solar unit installation is now planned at Hamer Warren quarry in Hampshire to drive the plant's onsite water pumping activities.

Oil change saves CO₂

FM Conway has extended its use of hydrotreated vegetable oil (HVO), shifting away from diesel power across its fleet.

HVO is a synthetic biofuel made from re-used cooking oil and acts a direct replacement for diesel with up to 90% CO₂ savings. HVO delivers big emissions savings in the short-term whilst longer term solutions to replace fossil fuels are developed.

The move is expected to save around 3,000 tonnes CO₂e this year and a permanent switch will be assessed in 2025.

Neighbourly couple

Breedon has teamed-up with Neighbourly, an award-winning giving platform that connects companies and their people to over 30,000 local good causes.

Part of the firm's company-wide volunteering scheme, the partnership allows employees to support local community activities and track the impact of their efforts.

Each employee has one day's leave each year to use for volunteering, including work to protect and improve the environment, increase social mobility and promote mental health and wellbeing.

CONCRET

LEARNING THE LESSONS

MPA has welcomed the findings of the second and final report of the Grenfell Tower Inquiry into the circumstances surrounding the tragedy in the early hours of 14 June 2017.

The Grenfell Tower Inquiry published its Phase 2 report in September 2024, marking the end of a process that began in June 2017 to ensure that a similar disaster could never occur again.

The fire at Grenfell Tower was the worst residential fire in the UK since the Second World War and resulted in the deaths of 72 people.

The Phase 1 report focused on how the fire started and how it spread over the whole building with tragic consequences. Phase 2 of the Inquiry examined the underlying causes of the fire to identify where mistakes were made and how Grenfell Tower came to be in a condition which allowed the fire to spread in the way identified by Phase 1. The report found that the deaths that occurred were all avoidable and identified a series of recommendations to bring about lasting change. Responding to the publication of the Phase 2 Report, Exec Chair of the MPA Management Committee Chris Leese said: "We welcome the findings of the Grenfell Inquiry report which sadly underline the system-wide failings that led to the tragedy of 14 June 2017.

"The lessons from Grenfell must drive us to prioritise fire safety through every phase of the design and construction process. "The lessons from Grenfell must drive us to prioritise fire safety through every phase of the design and construction process.

"The inquiry report is clear that to ensure the safety of people in buildings requires reform of structures and regulations. There is also a clear need for behavioural and cultural change across the construction industry and its supply chain.

"While the Grenfell Tower tragedy was the result of systemic failures, it is important that testing, education, training and the use of non-combustible materials are part of the Government and industry's response."

CONCRETE'S ROLE IN FIRE RESISTANCE

Concrete has the highest fire resistance classification possible:

- Concrete does not burn and can't catch fire
- Concrete does not emit toxic fumes
- Concrete does not produce smoke
- Concrete's slow thermal conductivity means it acts as a heat shield

Crucially, a fire cannot feed on concrete because it provides no fuel. Unlike many combustible materials like timber and plastic, concrete does not help a fire to grow. Concrete's characteristics all help in the event of a fire, allowing more time for escape and limiting fire damage. Structures made of concrete are also far less likely to collapse, protecting the people in the area surrounding a fire, whether that's neighbours or emergency services.

Using non-combustible construction materials like concrete is a responsible design decision, especially for high-risk situations, densely populated environments, multiple occupancy buildings such as flats, hotels and student accommodation, and those with vulnerable occupants like care homes, hospitals and schools.