REINFORCE

JOURNAL OF THE BRITISH ASSOCIATION OF REINFORCEMENT

2024

Sustainably raising the bar

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BAR
BRITISH ASSOCIATION OF REINFORCEMENT

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REINFORCE 2024

Welcome

Achieving sustainability and the reduction of carbon emissions is rightly at the top of the construction industry's agenda. The significant ongoing achievements in developing low carbon cements combined with the initiatives delivering reduced CO_2 emissions for steel reinforcement manufacturing and fabrication means that the reinforced concrete sector is fully engaged with meeting government and industry environmental objectives.

The sector is aided in this by the growing recognition of the long-term sustainable performance of reinforced concrete. It is a construction material that provides unrivalled thermal efficiency to minimise the need for air conditioning and needs no additional materials or finishes – with their additional CO_2 and cost impact - for fire resistance, sound insulation, robustness or flood resilience. It requires no regular maintenance and can be fully recycled at the end of life.

All BAR members are fully committed to reducing their CO_2 emissions. In terms of manufacturing, they use the Electric Arc Furnace process using recycled steel and emitting only one sixth of the CO_2 compare to the Basic Oxygen Steelmaking process. In addition, they are committed to using local supply chains, green national grid electricity supply, alternatives to road transport, staff education and ongoing process and operational efficiencies. All are fully compliant with the relevant responsible sourcing and sustainable certification schemes.

This issue of Reinforce highlights how reinforced concrete in general and BAR members in particular are raising the bar for reducing CO_2 emissions.

The British Association of Reinforcement (BAR) is the industry association for UK manufacturers and fabricators of steel reinforcement products including cut-and-bent and mesh.

BAR aims to add value to the reinforcement industry via market and product development, the promotion of health and safety as well as social value and environmental best practice and providing a forum to help forward the reinforced concrete industry as a whole.

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REINFORCED FIRE SAFETY

BAR has welcomed the publication by the Building Safety Regulator of its first three-year Strategic Plan for 2023 – 2026. The plan forwards a vision of a built environment where buildings, particularly high-rise, are of high quality and safe. BAR believes that the inherent non-combustible fire resistance of reinforced concrete means that the construction material is unrivalled in providing the safe buildings envisaged by the Regulator.

The Building Safety Regulator is the Building Control Authority for higher-risk buildings. This includes buildings with at least two residential units that are at least 18 metres in height or at least seven storeys. The Regulator was a key requirement of the Building Safety Act 2022. The Building Safety Act forwards the majority of recommendations of the Grenfell Tower Inquiry – the Grenfell Tower fire in 2017 tragically resulted in the death of 72 people in the worst UK residential fire since World War II.

Following the Grenfell Tower fire, a ban on the use of combustible materials in and on the external walls of flats over 18m in England as well as hospitals, student accommodation and dormitories in boarding schools, was introduced in December 2018. This has been extended to new hotels, hostels and boarding houses over 18m. In addition, new statutory guidance restricts the combustibility of materials used in and on the external walls of residential buildings between 11-18m in height.

The Building Safety Regulator aims to lead leading a critical change in culture and behaviours across industry and the whole built environment. The Strategic Plan establishes a vision to create a built environment where everyone is competent and takes responsibility to ensure buildings are of high quality and are safe. It sets out the guiding principles that the Building Safety Regulator has established in order to deliver a new regime of fire safety which will embrace fundamental changes to the safety and standard of all buildings.

Concrete is one of the most fire-resistant construction materials. Under European Standards (EN 13501-1:2007-

A1:2009), it's classified as an A1 material – the highest grade of fire resistance.

The construction fire safety of concrete is underlined by the fact that it is non-combustible, is non-toxic and has low thermal conductivity.

This means that concrete does not easily transfer thermal heat and does not react easily with other substances (meaning that in the event of a fire there are no noxious gases released). These inherent benefits make concrete one of the safest and most effective materials for structural fire protection. The inherent fire resistance also means that concrete buildings can provide a high level of fire resistance and safety well above that required for life safety. This provides greater evacuation and rescue time plus increased structural integrity and safety for fire fighters entering burning buildings.

In most cases, concrete does not require any additional fire-protection because of its built-in resistance to fire. Concrete ensures that structural integrity remains, fire compartmentation is not compromised and shielding from heat can be relied upon.

The Grenfell Tower tragedy underlined how fire safety must be an essential key consideration in the design and use of buildings and structures. The inherent fire resistance of concrete enables owners, developers, designers and constructors to fulfil their legislative and regulatory responsibilities and deliver, with confidence, the necessary fire safety.

To download a copy of 'Regulating fire safety: a concrete overview', visit **www.uk-bar.org/publications**

SUSTAINABLY RAISING THE BAR

The pledge of six major infrastructure clients to specify the lowest possible carbon sourced concrete and steel is significant. The BAR manufacturer and fabricator members are confident that the steel reinforcement that they supply 'raises the bar' when it comes to reduced CO_2.

Anglian Water, Heathrow, the Lower Thames Crossing, National Highways, Northumberland Water and Sellafield have all signed up to the Construction Leadership Council's 'Five Client Carbon Commitments' aimed at forwarding net zero objectives. These include:

- Procure for low carbon construction and provide incentives in contracts,
- Set phase-out dates for fossil fuel use,
- Eliminate the most carbon-intensive concrete products,
- Eliminate the most carbon-intensive steel products,
- Sign-up to PAS 2080 allowing a common standard in carbon management and reporting.

These pledges have been piloted by the Lower Thames Crossing that achieved a 50% carbon reduction in its procurement process. Other organisations expected to sign-up to the pledge include: East West Rail, the Environment Agency, Houses of Parliament Restoration & Renewal, and National Grid.

BAR members are fully committed to reducing their CO_2 emissions as they aim to achieve net zero.

Their sustainability objectives are fully embedded within the BAR members' business approach. Whilst their carbon emission initiatives demonstrate what can be achieved when the commitment is there.

BAR reinforcement manufacturers use the Electric Arc Furnace (EAF) steelmaking process. Compared to the Basic Oxygen Steelmaking (BOS) process, EAF steel consumes only a third of the embodied energy, emits one sixth of the CO_2 and produces approximately half the amount of co-products (waste). BAR members are committed to only manufacturing and fabricating EAF produced steel reinforcement.

In addition, the steel reinforcement produced by BAR manufacturers is made from 98% recycled scrap metal and can itself be recovered, recycled and re-used. The final 2% consists of ferro-alloys and minerals added to the production process in order to remove impurities from the steel and to ensure the finished product has the correct properties. The impurities are removed through the blast furnace slag. This acts as a steel by-product that is recycled as an aggregate for the construction industry and as clinker for the concrete industry thereby reducing mineral and aggregate extraction. All other by-products of production are recycled, ranging from mill-scale – used as an iron-bearing source in the cement industry – to flue dust, from which zinc and other metals are recovered.

All BAR members are committed to reducing the greenhouse gas emissions associated with their operations and processes to a level that is as low as is practically possible through the use of a greener national grid electricity supply, local supply chains, waste management and reduction, improved transport efficiencies including using alternatives to road transport, staff education and ongoing process improvement strategies. In addition, BAR members are fully accredited and compliant with the relevant responsible sourcing and environmental certification schemes. Environmental performance and data are monitored and reported.

Steve Elliott, BAR Chairman, said: "Customers of BAR members can be assured of a quality product backed by a commitment to reduce environment impact and carbon emissions. They look forward to working with the signatories of the Construction Leadership Council's pledge to achieve the common aim of net zero."

To download a copy of 'Reducing Reinforcement Carbon Emissions' visit: **www.uk-bar.org/publications**

SUCCESSFUL ZERO EMISSION CEMENT TRIALS

The Materials Processing Institute has successfully completed the pilot Electric Arc Furnace (EAF) trials, a major project milestone for the UKRI Cement 2 Zero project. These trials started in September 2022 and involved 12 induction furnace trials and 8 eight trials in the Institute's 7 tonne EAF. Industrial trials will now be undertaken by Celsa UK, with the project due to be completed in February 2025.

These trials have been developing and testing the use of end-of-life cement as an electric arc furnace flux to produce steel, whilst also capturing the slag to produce clinker for use in the cement industry. Research has shown that Portland Cement can be made from recycled cement in an EAF during the steel recycling process. The Cement 2 Zero project will demonstrate, on an industrial scale, the production process for Cambridge Electric Cement prior to its use in a construction project in the UK.

The trials have enabled the project team to finalise the process for making electric cement and to also successfully de-risk the process for the next stage of the project, which will be the full-scale trials at Celsa UK using their industrial EAF.

This project will not only transforms cement production but also diversify, expand, improve steel recycling, and reduce process emissions. It is a significant step towards achieving a zero-carbon society.

HINKLEY HURRAH

The Hinkley Point C project employs Dextra's Griptec rebar couplers and Headed Bars PC solutions, underscoring Dextra's ability to deliver top-tier products for large-scale, complex projects. Dextra's involvement in this project is a testament to their capacity to support mega projects from engineering to manufacturing to final implementation and after-sales support.

Griptec is a reinforcement mechanical splicing system and is renowned for its 100% proof-load testing, ensuring that each connection is tested for undeniable quality. Griptec splices are easy to install, reducing construction time and labour costs while maintaining the highest quality and safety standards.

Headed Bars PC provide an efficient reinforcement anchorage solution for reinforced concrete structures. This solution enhances buildability, minimizing congestion in heavily reinforced areas and optimizing structural integrity.

Both the Griptec and Headed Bars PC solutions are CARES TA1-C (Class A) certified. Dextra also holds ISO 19443 nuclear specific certification, reflecting their commitment to quality and safety.

The dedication and flexibility of the Dextra team have been crucial in maintaining a seamless supply chain, ensuring timely progress at every stage. Dextra is proud to significantly contribute to the advancement of sustainable energy and is honoured to play a vital role in shaping the future.

By integrating innovative solutions and leveraging their industry expertise, Dextra continues to set benchmarks in the construction and nuclear sectors, reinforcing their position as a leader in quality and reliability.

For more information visit: **www.dextragroup.com**

SUSTAINABLE OFFICES

There is a growing demand for new offices that, instead of being over-designed energy guzzlers and CO_2 emitters, offer a simpler, more sustainable approach whilst still managing to be hi-spec. It is a demand that is best met by reinforced concrete office construction.

The demand is being led by a number a factors. According to property consultant Carter Jonas some 55% of existing UK office floorspace inventory is over 30 years old and at risk of functional obsolescence. It certainly does not meet current sustainability standards such as the Minimum Energy Efficiency Standards (MEES) where a minimum Energy Performance Certificate (EPC) E is required to let a non-residential building. This may be raised to EPC B by 2030. Analysis by Carter Jonas underlines the shift to energy efficient offices. It found that in 2023 over 40% of London office leases have been for EPC-rated A or B. This is up from 21% in 2018 as office developers seek to meet new regulatory requirements

However, regulatory measures are not the only factor. Office occupiers are increasingly seeking more sustainable and healthy buildings as they seek to reduce energy bills, meet their sustainability objectives and provide a more healthy working environment. This is echoed by their employees that increasingly expect employers to follow sustainable business practices. For example, according to a recent JLL survey up to 81% of workers aged 21 – 30 expect their employer to have sustainable business practices.

The range of inherent benefits offered by reinforced concrete can reduce the ongoing operational energy costs and CO_2 emissions of offices. The latter is particularly important when you consider that the day-to-day operation of commercial buildings in the UK accounts for some 27% of the total UK CO_2 emissions. These benefits include thermal mass plus inherent sound proofing and vibration damping, robust finishes and long-term performance which means no need for additional finishes or chemical preservatives with their additional financial and CO_2 costs.

For example, reinforced concrete's thermal mass when used in combination with night time ventilation can provide a sustainable method of cooling that reduces or even avoids the need for air-conditioning. Often referred to as Fabric Energy Storage (FES), the basic approach is to expose the concrete building structure. Thermal mass can be provided by all structural elements but the bulk of it is provided by the soffit of concrete floor slabs. This is not only because of the larger surface area available for heat transfer but also because the soffit can be exposed for radiant heat transfer. The soffit can absorb heat gains on warm days and so reduce the internal temperature. The introduction of night air ventilates and cools the soffits in readiness for the following day. The UK variation in diurnal temperature rarely drops below 5°C, ensuring that night cooling relatively effective. As an alternative, or in addition to night-time ventilation, water cooling via pipes embedded within the concrete slabs may be used. This can offer improved flexibility and control of the slab temperature.

The use of concrete construction may raises questions concerning a higher level of embodied CO_2 when compared to other structural materials This is, however, quickly offset by the significant reduction in ongoing operational CO_2 over the lifetime of the office building. Indeed office projects report an offset period of less than a year whilst even the most pessimistic comparisons have demonstrated an offset period of only 6 years.

The Featherstone Building, London, demonstrates the future of low-carbon workplaces

REINFORCED CONCRETE MAKES THE GRADE FOR STUDENT ACCOMMODATION

With the demand for purposed-built student accommodation (PBSA) predicted to soar, a new report from the British Association of Reinforcement (BAR) explains 'Why Reinforced Concrete Makes the Grade for Student Accommodation'.

The latest student population data from the Higher Education Statistics Agency (HESA) show that for the 2021/22 academic year the number of full-time students rose by 4%, to over 2.26 million. Meanwhile, the number of international students from India and China has more than offset the fall in EU students in the wake of Brexit as the UK continues to be one of the key global destinations for students looking to study abroad. Between 2019/20 and 2021/22, the number of full-time international students rose by 117,500.

The increase in student applications and numbers is set against a growing shortage of student accommodation. This shortage is being exacerbated by the falling supply of Houses of Multiple Occupation (HMOs) resulting from landlord regulation and tax changes. Since 2017 there have been over 300,00 buy-to-let mortgage redemptions which has reduced the number of 5-plus bedroom rental properties by 31% since 2019. The reduced supply of private landlord HMO's is increasing the demand for PBSA particularly from overseas students.

To address the disparity between supply and demand more PBSA needs to be constructed. Reinforced concrete offers a wide range of inherent and free performance benefits that are particularly suited to building student accommodation. These include built-in fire resistance, significant noise and vibration reduction, thermal mass for energy efficiency and long-term robust finishes.

Steve Elliott BAR Chairman explained: "Reinforced concrete offers a number of unrivalled performance benefits that means it should be awarded a 1st class degree with honours for the construction of PBSA. These concrete benefits are inherent and built-in. There is no need for any additional products, finishes or chemical preservatives. This significantly reduces both initial capital and the ongoing maintenance costs."

With regards to long-term sustainability reinforced concrete again gets top marks. The issue of sustainability is important for PBSAs. Students are some of the most motivated in tackling climate change reducing CO_2 emissions. Elliott said: "Admittedly, the use of concrete construction raises questions concerning the level of construction embodied CO_2 when compared to other structural materials such as timber. However, if you have to mechanical ventilate and cool a lightweight timber or steel building then the resulting operational CO_2 emissions, over the lifetime of the building, will far outweigh any initial construction embodied CO_2 savings."

He continued: "Similarly, concrete does need additional fire proofing, sound insulation, wall finishes, flood resilient materials. All of these additional materials have an additional CO_2 impact for their manufacture and installation. With concrete construction all of the above performance benefits are provided without any further environmental or financial cost".

All the reinforcement made in the UK is made from recycled scrap steel using the Electric Arc Furnace (EAF) process which consumes only a third of the embodied energy, emits one sixth of the CO_2 and produces approximately half the amount of co-products (waste) compared with the traditional BOS blast furnace steelmaking process. Reinforcing steel can be recovered, recycled and re-used at the end of a building or structure's service life.

To download a copy of 'Why Reinforced Concrete Makes the Grade for Student Accommodation' visit: **www.uk-bar.org/publications**

REINFORCED RESISTANCE

BAR member ArcelorMittal Kent Wire (AMKW) is warning that its rebar facility at Chatham that supplies 30% of UK needs may have to close as a result planning consent being given by Medway Council to developer Peel Waters to transform Chatham Docks into a new business park.

AMKW has warned that if the scheme goes ahead, it would force the closure of one of the country's main steel reinforcement facilities. This would potentially hit around a third of UK supplies as there are no viable alternative sites in southern England – the location closest to greatest level of demand. AMKW has vowed to fight the application, which now needs to be rubberstamped by the next Secretary of State for Levelling Up, Housing and Communities after the forthcoming July General Election.

Phil Taylor, former chief executive of ArcelorMittal Kent Wire said: "The decision brings the decimation of Chatham Docks and the loss of 800 direct jobs one step closer and it all now rests with the next Secretary of State to intervene and stop this threat to the UK construction sector. There are many deficiencies within this application and the fact that it was rushed through even with a holding direction in place is shameful.

He continued: "The resolution to grant consent poses a grave risk to our UK operations and the supply of 30% of reinforced concrete steel products to major UK infrastructure projects. Every significant infrastructure project that you can think of – HS2, the London Thames Tideway, steel reinforcement – was supplied from Chatham."

Britain has £8 billion of pipeline investment in infrastructure and construction planned for London alone across the 2023/24 and 2024/25 financial years, and a further £27 billion planning up until 2032/33. These projects could be severely impacted by the loss of the Kent reinforcement facility including significant costs to the economy and leave Britain vulnerable and exposed to the volatility of international supply chain shocks. There are also environmental considerations. Chatham Docks are the only non-tidal enclosed dock in Kent. Businesses operating out of the Docks have an extra strategic angle to supply London and other regions with materials in a much more sustainable way. A report commissioned in 2020 found that existing activity at Chatham Docks saved approximately 9,100t of CO_2 emissions in 2019 through the transport of finished goods that are currently moved by water as opposed to Heavy Goods Vehicles (HGVs).

The Association of Chatham Docks Commercial Operators, which AMKW belong to, has submitted an alternative masterplan, prepared by architects SPPARC, to create nearly 100,000 sqm of new industrial floorspace, save 800 existing jobs and create up to 2,500 new jobs at Chatham Docks making full use of the port's unique position as the only non-tidal dock in the South East.

In addition to the employment opportunities, the masterplan provides for the creation of a green landscaped riverfront route linking St Mary's Island to Chatham Waters, new enhanced public green spaces and upgrading of the port facilities including the erection of new piers and upgrading of the lock gates. The masterplan may be viewed and commented on the Save Chatham Docks website: **www.savechathamdocks.co.uk**

Taylor added: "In an increasingly unstable global world, the necessity of industrial security makes perfect sense, and a continued presence for AMKW at Chatham Docks secures for the UK a vital construction material. The fight isn't over and we will now be calling on the next Secretary of State to do the right thing and call-in this application."

THE ULTIMATE SOLUTION

When constructing a building structure, it is critical to ensure that all the materials and components are strong enough to withstand the forces that it will experience during its lifetime. nVent LENTON solutions not only safeguard this by presenting a higher fatigue performance, but also allow maximum efficiency, cost and time savings on the job site.

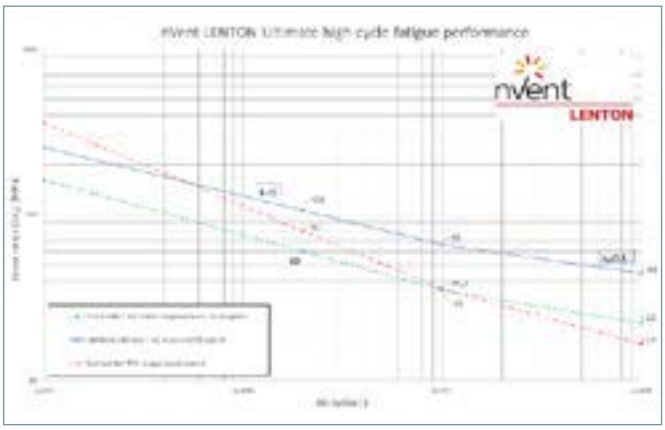
An important part of determining fatigue performance is to undertake fatigue testing. This is a crucial process for ensuring materials and construction components have the strength to withstand strain, tensile and cyclic stress forces. The result of these tests is the S-N Curve, which is a graphical representation of a component's durability. The S-N Curve is significantly important, as it helps determine the expected lifespan of a building subject to fatigue before structural failure—hence, a higher S-N Curve assures more years of integrity and safety.

Contractors should aim to use products that can guarantee high performance for the most number of years possible, even under demanding fatigue conditions. Infrastructure such as bridges and railways are often designed to withstand a long lifespan, with some even requiring an infinite lifecycle. In such cases, it is increasingly common for engineers to consider the fatigue strength of components at 10 million cycles and beyond.

As a world leader in advanced mechanical rebar splicing systems, nVent LENTON solutions are designed not only to meet the local standards—in this case, CARES TA1-A—but exceed them by ensuring a higher fatigue performance than indicated by the specifications.

The graph shows the minimum S-N curve required for rebar couplers according to Eurocode 2. Also shown is the S-N curve for a swaged type coupler system, which exhibits a steep reduction in performance with increased cycles, finally dropping below Eurocode 2 requirements soon after the 10-million-cycle mark.

When looking at the S-N Curve of nVent LENTON Ultimate, it is clear that it both performs better at higher stress cycles compared to similar solutions, but also above the European standard (Eurocode2).



Performance in Action: The Value in Prefab Rebar Cages

Due to the characteristics mentioned above, and the superior performance and assistance of our solutions and teams, nVent LENTON is the trusted partner of some of the largest fabricators in the country, including ArcelorMittal (AMCS) involved in the construction of infrastructure projects such as HS2, Tideway, etc.

It was during the construction of a bridge under one of these projects that AMCS needed to find the ideal rebar splicing solution for its reinforcement cages to ensure safety, efficiency, structural integrity, and consideration of increased fatigue requirements.

nVent LENTON Ultimate was chosen specifically for the job, as it offers improved fatigue results over similar solutions, maximized performance and efficiency, as well as minimized installation difficulties in the field—helping contractors respect looming deadlines.

This not only eases the job of fabricators but also allows provides contractors with:

- Time savings—rebar cages can be detailed, inspected, manufactured, delivered and fixed into place for a fraction of the time due to the quick self-aligning rebar connections
- Cost efficiency and safety—increased productivity and reduced labor at elevated heights
- Reduced storage on-site—prefabricated reinforcement cages can be fixed into place upon arrival.

For further information visit: **www.erico.com**

UK CBAM NEEDED TO PROVIDE **LEVEL CARBON PLAYING FIELD**

UK Steel has set out how the Government can best implement a UK Carbon Border Adjustment Mechanism (UK CBAM) in order to ensure robust carbon leakage protection and create a level playing field on carbon costs.

The UK Government has confirmed that it will introduce a UK carbon border by 2027, which will be vital to ensuring a level playing field on carbon costs for the steel industry. However, if the UK CBAM policy is not designed correctly steel that did not face a carbon price could flood the UK market and, therefore, undercuts the domestic market with high-emission steel thus making a mockery of the Government's Net Zero ambition.

In its new report, 'UK CBAM: Creating a level playing field with robust carbon leakage protection', UK Steel sets out twelve crucial design principles for guaranteeing a robust policy with minimal risk of circumvention, strong carbon leakage protection, and simplicity of administration for governments and industry alike. A key recommendation includes bringing the UK CBAM forward to 2026, in line with the EU, to minimise the risk of trade barriers and trade diversion. The European Union is already implementing a CBAM policy, initially phasing in reporting requirements from October 2023 before the CBAM compliance carbon costs apply from 2026 onwards.

UK Steel believes that the UK CBAM must:

- Be brought forward to 2026 to minimise the risk of trader barriers and trave diversion,
- Delay inclusion of Scope 2 emissions until complete decarbonisation of the electricity grid,
- Cover all UK Emission Trading Scheme (ETS) sectors to minimise the risk of material substitution and ultimately cover complex projects where CBAM materials make up a substantial part to avoid value chain circumvention,
- Be linked to the UK ETS and be based on weekly average ETS prices,
- Place the reporting and compliance obligation on the importer with the data undergoing a rigorous verification and robust penalty system,
- Have robustness tests built in the CBAM,
- Be based on actual, verified emissions data. Default values must be time-limited and based on the highest emissions intensity,
- Obtain mutual recognition with EU CBAM,
- Exempt non-EU exports from the UK ETS costs to avoid disadvantaging trade to non-EU members,
- Be rigorously enforced by HMRC,
- Earmark the revenue gained for industrial decarbonisation,
- Extract insights and lessons learned by the EU CBAM.

The need for a level playing field is considerable. UK and EU steel makers already have to contend with higher carbon prices than anywhere else in the world. Indeed, many countries either apply minimal carbon pricing of less than £3/tCO_2 or none at all. Only the UK, EU, Canada, and New Zealand apply comparable carbon pricing (£30-£70/tCO_2e) responsible for 8.2% of global steel production in 2022. This means that 91.8% of global steel production does not face comparable carbon pricing with the UK.

UK Steel Director General, Gareth Stace, said: "Over 90% of global steel production faces no carbon cost, so it is crucial that a new UK carbon border creates a level playing field on carbon pricing. This will ensure that imported steel faces similar levels of carbon costs as domestic steel producers.

"The UK CBAM must be designed to be robust and impenetrable. Otherwise, there is a substantial risk of significant damage to the UK steel industry at the time of once-in-a-lifetime investment in state-of-the-art, modern Net Zero steel production.

"In our new report, we put forward twelve new recommendations to get the implementation of the CBAM right. It provides a stake in the ground for designing a UK CBAM to work for industry, Government, and consumers alike while providing necessary carbon leakage protection and enabling free trade. We look forward to working with the Government to ensure the UK CBAM works for industry and provides shielding against high-emission imported steel, enabling a fair, competitive environment."

To download the report visit: **https://www.uksteel.org/uk-carbon-border-adjustment-mechanism-1**

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30 YEARS OF CONCRETE EXCELLENCE

In 2024, CONSTRUCT Concrete Structures Group proudly marks three decades of advancing excellence in the concrete construction industry. Over the past 30 years, the industry association has been dedicated to fostering collaboration, driving innovation, and upholding the highest quality standards in the concrete structures sector. As part of its commitment to the industry CONSTRUCT has played a crucial role in shaping industry standards, advancing technological innovations, and promoting best practices.

Through the changing landscape of the construction industry, CONSTRUCT has adapted and evolved in order to provide robust support and advocacy for its members and is committed to further develop procedures and systems to support them through challenging times. For example, the association's presence at Construction Leadership Council meetings allows it to influence industry policy, foster collaboration, and engage in effective government lobbying. This engagement has been crucial in addressing key issues such as labour shortages and material price rises.

Highlights of ongoing initiatives include:

- Concrete Frame Training Forum (CFTF)

Under the leadership of Martyn Price of MPB Structures Ltd, the CFTF has been instrumental in streamlining the entry of new talent and setting up effective training schemes in collaboration with providers like The Skills Centre. Martyn's efforts in grant funding have helped members secure deserved funding from CITB.

- Health & Safety Committee

This committee continues to make significant strides in enhancing site safety. By developing safety guidance and providing a confidential forum for sharing accident stats and near misses, we aim to ensure safer working environments for all.

- Groundworks Committee

The Groundworks Committee has strengthened its efforts to develop best practices, safer working procedures, and training options. Despite ongoing discussions with the CITB to establish a Groundwork Training Forum (GWTF), CONSTRUCT remain committed to advocating for this initiative and securing additional funding for groundwork training.

- Sustainability Forum

Chaired by Lee Richardson of Expanded/Laing O'Rourke, this newly established forum addresses environmental challenges within our sector, with a focus on greener concrete and broader sustainability initiatives.

- Formwork Suppliers Group

Led by Stuart Bamford of Ischebeck Titan, this group works on advancing formwork technologies and practices within the industry. External affiliations CONSTRUCT extends gratitude to all our external affiliations who have contributed to our achievements as a trade association for the concrete frame and groundwork sector.

In addition, CONSTRUCT has active involvement and dialogue with a wide range of construction associations and organisations including: the British Association of Reinforcement; Build UK; CITB; Cross-industry Construction Apprenticeship Task Force, Youth Build UK, Temporary Works Forum, The Concrete Centre/MPA and the Concrete Society.

All of the above is made possible by the CONSTRUCT members' continued unwavering support and active participation in committees, forums, and working groups. This support has been vital to the association's success. CONSTRUCT has a significant contribution to the growth and sustainability of the concrete construction industry and is dedicated to many more years of shared success and advancement in the concrete construction industry.

For more information see: **www.construct.org.uk**

BRC SUPPLIES NEW OFFSHORE MONOPILE FACILITY

Rainton Construction, part of the MGL Group, appointed BAR member BRC to supply steel reinforcement for the new SeAH Wind Offshore monopile factory at Teeside, Redcar.

The 40-metre high, over 800-metres long building sits on a 90-acre site and offers 1.13 million square feet of factory space for the production of monopiles up to 120 metres in length, 15.5 metres in diameter and weighing approximately 3,000 tonnes. Once fully operational, the facility, which will become SeAH Wind's first such resource outside South Korea, is expected to produce between 100 and 150 monopiles per year that will be transported directly from the factory to Teeside's new heavy-lift South Bank Quay before heading to the North Sea for installation using specialised pile driving equipment.

BRC supplied 1945 tonnes of reinforcement bar. Rainton appointed BRC as a key supplier to meet challenging sustainability specifications. With the lowest EPD (Environmental Product Declaration) values in the UK – 500 kgCO_2 per tonne for cut and bent rebar post-fabrication and delivery – BRC's dedication to sustainable practices aligns with the overall approach to the project. Its products are 100% UK made, from 98% UK recycled scrap resource and ECO-Reinforcement, CARES and BBA certified. In addition to supplying low CO_2 steel reinforcement, BRC is facilitating the development of a national circular economy. In collaboration with CELSA UK, 21K tonnes of scrap materials from the decommissioned Redcar Steelworks will be transformed, through EAF (Electric Arc Furnace) technology, into a valued product ready for use in the local supply chain. This collaboration is a massive success for the resource efficiency of UK steel, sustainable construction and supply chain resilience.

For more information see: **www.brc.ltd.uk**

JOIN THE 100 CLUB

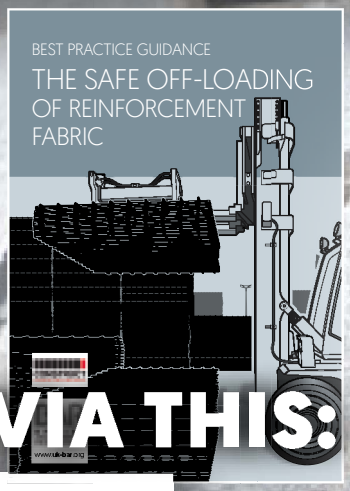
BAR member Express Reinforcements has launched a new sustainability campaign. Called 'The 100 Club' is it open to all those clients and contractors who want reinforcement that is 100% UK supply chain supporting UK manufacturing jobs with 100% full UK traceability.

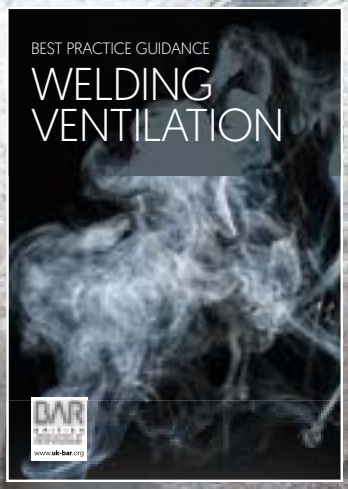
Furthermore, 100% of the reinforcement bar and coil used by Express Reinforcements for cut and bent rebar and mesh is produced via the Electric Arc Furnace (EAF) recycled scrap route.

Express Reinforcements believe that its ongoing investment means it is one of the lowest carbon UK suppliers for cut and bent rebar based on its independently verified Environmental Product Declaration (EPD). The EPD assists customers by providing exact reinforcement carbon figures rather than unverified industry averages.

For further details of The 100 Club, email: **Robert.Kennett@expressreinforcements.co.uk**

A LIBRARY OF REINFORCED INSIGHT AND BEST PRACTICE





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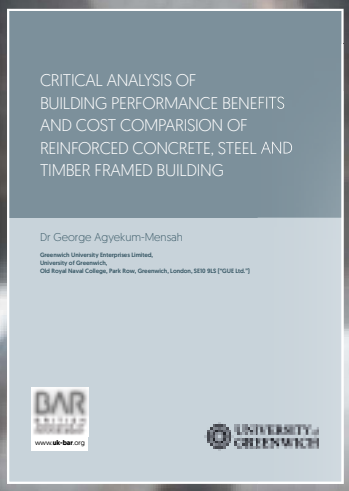

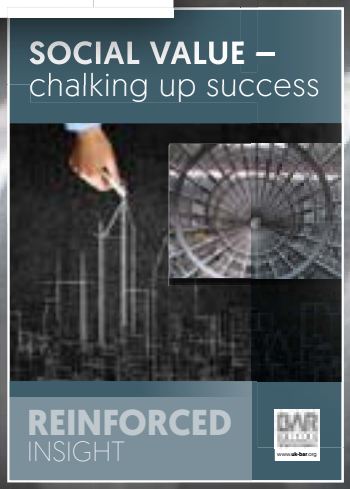

BRITISH ASSOCIATION OF REINFORCEMENT

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RAISE THE BAR

BAR: THE BUSINESS BENEFITS

In addition to forwarding the reinforcement sector via the provision of an industry forum, providing input to British Standards and regulations and the publication of best practices guidance, BAR membership provides specific business benefits. These include:

- Access to and liaison with key industry organisations such as UK Steel, the Mineral Products Association, CONSTRUCT, The Concrete Centre, British Board of Agrement. Such liaison is not limited to the UK but is being developed internationally, for example with the Steel Reinforcement Institution of Australia,
- Free editorial promotion of member projects, products and services and raising of business profile via the BAR Reinforce annual magazine which is disseminated widely to the construction industry as well as placement of member project and product case studies on its website and linkedin platforms,
- Opportunities to present at the BAR annual industry seminar specific to the UK reinforcement sector.

All of the above are aimed at providing BAR members with the platforms to help raise their business profiles with potential customers and employees.

To find out more and request a BAR membership form, use the BAR contact form at:
https://www.uk-bar.org/Contact-Us

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www.**uk-bar**.org

BAR Members' Directory

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Email: enquiries@brc.ltd.uk
Web: www.brc.ltd.uk

Celsa Steel (UK) Limited
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Web: www.celsauk.com

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Wolverhampton
WV10 7EL
Tel: 01902 624220
Web: www.total-group.co.uk

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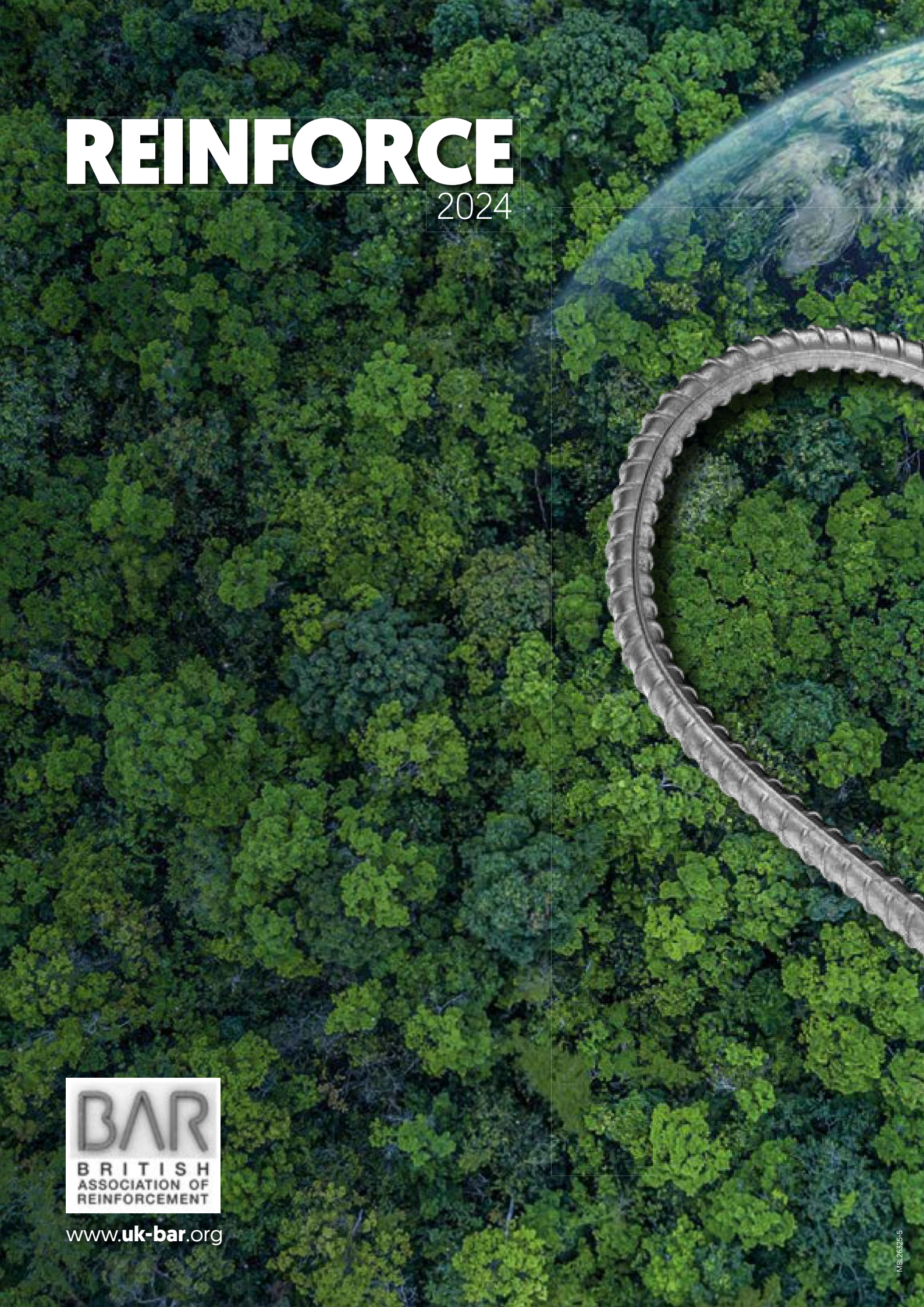

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