

Advancing Sustainable Construction on the A512 Shepshed Project



Background

The A512 Shepshed project, commissioned by Morgan Sindall for Leicestershire County Council under the Midlands Highway Alliance (MHA), was a strategic infrastructure scheme aimed at improving connectivity and road safety. Valued at £2.2 million, the project required 22,000 tonnes of high-performance asphalt supplied by MQP with a mixture of day, night and weekend shifts to ensure efficiency. Running from March 2020 to May 2021, this major development enhanced traffic flow and durability through road dualling, junction improvements, slip-road widening, and new surfacing.

The scheme required:

- Dualling an existing single carriageway link road
- Constructing a new roundabout
- Widening and resurfacing two junctions
- Resurfacing the existing roundabout and widening four National Highways slip roads
- Surfacing central reserves and footways

A mix of Base & Binder Hardstone CI.929 materials and HAPAS Thin Surface Course was used, ensuring long-term durability and performance. This initiative highlighted Heidelberg Materials UK's ability to deliver sustainable, high-quality materials for complex infrastructure projects.



Key achievements

The successful completion of the A512 Shepshed project marked several key accomplishments:

- **High-Quality Surfacing Solutions:** Use of Base & Binder Hardstone CI.929 materials and HAPAS Thin Surface Course, ensuring road resilience, longevity, and safety
- **Optimised Road Layout & Traffic Efficiency:** The dual carriageway expansion and widened slip roads significantly enhanced traffic flow and reduced congestion.
- **Precision Engineering & Timely Delivery:** Despite complex conditions, working both online and offline, the project was delivered on schedule
- **Safety & Operational Enhancements:** Improvements to junction layouts and resurfacing, reducing accident risks while elevating road functionality

Sustainability

Sustainability was embedded throughout the A512 Shepshed project, reflecting Heidelberg Materials UK's commitment to environmentally responsible construction:

- **Low-Carbon Materials:** Use of high-performance, durable materials designed to minimise any environmental impact
- **Reduced Carbon Footprint:** Sustainable material sourcing and efficient manufacturing contributed to lower CO₂ emissions. We used warm mixes and 40% recycled aggregate and base/binders, as well as our propriety surface course, Maxiflex, over HRA which allowed the road to remain partially open as opposed to a full road closure. This also reduced haulage to site and surfacing plant usage. 100% of the planings from the existing resurfaced A512 were returned to our own asphalt plants, predominantly backhauled.
- **Circular Economy Approach:** Waste-reduction strategies optimised resource use, incorporating recycled aggregates where possible, such as the 40% recycled aggregate in the base and binders and the backhauling of road planings
- **Eco-Friendly Surfacing:** We utilised innovative material supply, from HRA and PCC to Maxiflex to secure future maintenance. All of our thin surfacing material complied with the HAPAS accreditation, enhancing durability, reducing resurfacing needs and minimising maintenance-related emissions
- **Biodiversity Considerations:** Construction adhered to responsible land-use guidelines, safeguarding ecosystems in surrounding areas

Collaboration

The success of the A512 Shepshed project was underpinned by strong collaboration among multiple stakeholders:

- **Client & Contractor Partnership:** Heidelberg Materials UK worked closely with Morgan Sindall to ensure seamless material supply and engineering integration
- **Public Sector Engagement:** Coordination with Leicestershire County Council for infrastructure planning and regulatory compliance
- **Cross-Sector Collaboration:** Engagement with National Highways enabled strategic slip-road improvements to boost safety and efficiency
- **Supply Chain Efficiency:** Collaboration with trusted local suppliers ensured timely delivery of 22,000 tonnes of premium construction materials
- **Technical Excellence:** Industry specialists optimised surfacing methodologies, enhancing durability and cost-effectiveness

Community Benefits

The A512 Shepshed project provided lasting benefits to the local community, reinforcing Heidelberg Materials UK's commitment to social responsibility:

- **Improved Transport Infrastructure:** Upgraded junctions, expanded road capacity, and enhanced surface quality improved safety and efficiency
- **Reduced Congestion & Enhanced Mobility:** The dualling of the carriageway and widened slip roads significantly improved commuter and business transport
- **Job Creation & Economic Growth:** The project supported local employment, strengthening workforce development in construction, engineering, and logistics
- **Safety & Accessibility Enhancements:** The central reserve and footway surfacing improved pedestrian accessibility and walkability
- **Environmental Stewardship:** Adherence to sustainable construction practices preserved natural habitats and ensured responsible land use
- **Social Value:** Collaboration across multiple schemes facilitated the resurfacing of a footway and access at Groby Pool

By integrating infrastructure advancements with community-focused outcomes, the A512 Shepshed project has delivered lasting benefits for residents, businesses, and road users.

Conclusion

The A512 Shepshed project is a testament to Heidelberg Materials UK's leadership in sustainable infrastructure development. Through high-performance materials, innovative engineering, sustainability-driven approaches, and strong collaboration, the project successfully enhanced transport efficiency, road safety, and environmental responsibility. With a commitment to delivering durable, high-quality solutions, Heidelberg Materials UK continues to shape the future of sustainable construction, ensuring that projects like A512 Shepshed pave the way for greener, smarter infrastructure networks.