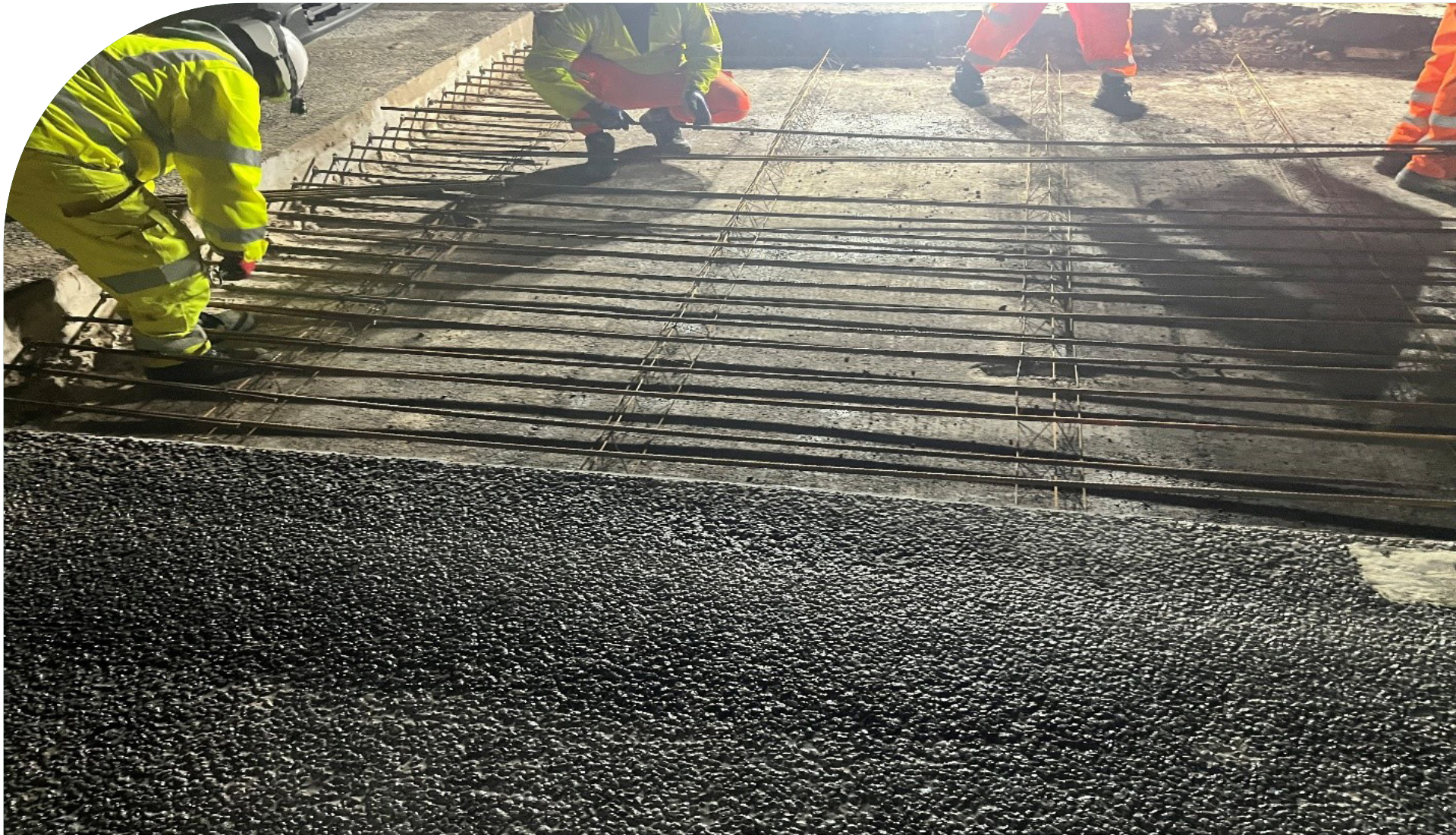
Heidelberg Materials

Concrete Pavement Repairs on the A40/ A449 near Abergavenny



Background

In early 2025, Heidelberg Materials was appointed to undertake a programme of major concrete pavement repairs on the A40/A449 near Abergavenny. The works involved the replacement of 20m³ concrete patches across the dual carriageway to restore structural performance and extend the service life of the pavement.

Process

To ensure both safety and quality, a systematic approach was adopted:

- **Worksite Preparation:** A controlled safety zone was established around the works area, complete with temporary lighting to maintain visibility.
- **Cutting & Removal:** Each defective patch was marked and cut out using precision saws. At the match cast joint, a double cut—approximately 300 mm apart—was made to prevent spalling during removal. Spoil was excavated with mechanical plant and transported to a pre-approved waste facility.
- **Substrate Preparation:** The cut section was drilled and reinforced with rebar dowels to integrate with the existing pavement.
- **Concrete Placement:** Fresh concrete was delivered to site, tested for slump and temperature, and then poured into the prepared cavity. A 50 mm high-frequency poker was used to consolidate the material before a vibro-screed was drawn through to achieve road levels. Final finishing was completed with an easy float to seal the surface and ensure level accuracy.
- **Curing:** A spray-applied concrete sealant was applied immediately after finishing to prevent hydration loss and surface dusting.

Safety Measures

The project placed strong emphasis on workforce and public safety:

- Dust suppression was used during drilling operations to minimise exposure to respirable silica.
- A robust traffic management system and exclusion zone prevented plant–people interface risks.
- Temporary site lighting ensured safe visibility during extended working hours.

Testing & Quality Assurance

To guarantee compliance and long-term performance, all concrete was subject to stringent testing:

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- **On-Site Testing:** Prior to discharge, slump and temperature tests were carried out by an independent third party. Only once results confirmed compliance was pouring authorised.
- **Cube Sampling:** Four test cubes were taken in accordance with BS EN 12390 for compressive strength testing at 7, 14, and 28 days, with a spare retained for contingency.

Outcome

The successful completion of the patching programme restored pavement integrity on this strategic route, with strict adherence to safety, environmental, and quality standards throughout. The works demonstrate Heidelberg Materials' capability in delivering durable, high-quality road surfacing solutions under challenging site conditions.