

M5 Motorway repair completed with minimal lane closure time

The SAFETRACK® Crack Infill system reinstates and protects M5 Motorway



Project	M5 Motorway
Client	Balfour Beatty Mott Macdonald
GCP Solutions	The SAFETRACK® Crack Infill system

Project

Older asphalt needs protection

Aging asphalt surfaces on the M5 are generally in serviceable condition, but like many older asphalt surfaces, they are suffering from degradation at the joints between the asphalt mats. As water gets into the joints, hydraulic action and abrasion from vehicles opens up the joint.

Balfour Beatty and Mott MacDonald, maintaining the motorway network throughout the southwest on behalf of the Highways Agency, identified the problem. This not only posed a significant safety risk, but if left untreated it could lead to a substantial breakdown of the surface, ultimately resulting in the need to fully resurface the road.

Preventative measures extend pavement life

Balfour Beatty Mott Macdonald opted to take timely preventative action to restore the profile of the asphalt along the joints. This would provide appropriate skid resistance and prevent further water ingress, delaying the decay process. They needed a flexible, high modulus material to reinstate the surface and protect and support the broken edges of the asphalt.

Previous joint repair work on the M5 had involved having asphalt locally planed out and reinstated to full depth. However, this process was very time consuming. To avoid disruption to and maximise pavement life, Balfour Beatty Mott Macdonald were looking for a crack and joint repair system with a life expectancy of greater than five years.

Due to the heavy traffic experienced along this route, it was essential that the system used was robust and hard wearing. Minimising disruption to the travelling public was also a high priority, so a high output repair system was required. Rapid progress for each lane closure also meant that fewer lane closures would be required overall, reducing the cost of traffic management.



Proven system for highway reinstatement

Balfour Beatty Mott Macdonald selected the machine grade variety of SAFETRACK[®] Crack Infill. Developed by Stirling Lloyd (now GCP Applied Technologies), SAFETRACK[®] Crack Infill is based on a unique flexible resin that has been proven in the field, giving the project team confidence in the longevity of the reinstatement.

The team used SAFETRACK[®] Crack Infill with a revolutionary new machine application process that is safer, more efficient and more cost effective than traditional techniques. Using this process on the M5, the joint was prepared and then filled and sealed with the SAFETRACK[®] Crack Infill.

The works were carried out over eight night time closures of the road, leaving an eight hour window to set out the traffic management, prepare the crack, apply the SAFETRACK[®] Crack Infill system and remove the traffic control. The fast curing time of the system enabled approximately 1,000 linear metres per hour to be treated. In addition, the rapid cure of the bespoke resin meant that application could continue up to 30 minutes before the traffic management was due to be removed, and the road returned to full traffic load just 30 minutes later.

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