CASE STUDY

SOLMAX

A617 ROAD, DERBYSHIRE, ENGLAND

Making roads more durable with MIRAGRID PGM-G

Industry:	Transportation
Application:	Asphalt overlay
Location:	England
Product:	**MIRAGRID**® PGM-G

Overview

The A617 is a primary A-road in Derbyshire and Nottinghamshire (East Midlands) in England. Over time, cracks appeared on the road, and rehabilitation was needed. After careful evaluation, the most cost-effective and technically sound solution was found to be **MIRAGRID** PGM-G 100/100. This product increases the road's lifetime by serving as an asphalt interlayer system that provides crack retardation, sealing, and stress absorption.

Challenge

The A617 Millennium Way in Rainworth was opened in 2000. The original construction consisted of a 200 mm (7.9 inches) thick high modulus base, a 60 mm (2.4 inches) binder course, and a 40 mm (1.6 inches) SMA surface course. After a few years of use, signs of reflective cracking from the lower joints became evident throughout the road, and surface course failure (such as alligator cracks and potholes) occurred in large areas. Core samples were taken, revealing good structural integrity in the bituminous layers but no bond between the base and binder course layer. It was assumed that this lack of bond contributed to the surface course failure, as the upper layers flexed over a stiff base. Following consultation with the main contractor Lafarge Tarmac,

The A617 road in Derbyshire and Nottinghamshire, England, underwent rehabilitation to address cracks and surface failures. MIRAGRID PGM-G 100/100 served as an asphalt interlayer, providing crack retardation, sealing, and stress absorption, resulting in improved road durability.

it was decided to remove the existing material to a depth of 140 mm (5.5 inches) and install a reinforcing asphalt interlayer to ensure a strong bond between the layers and prevent future reflective cracking. Asphalt Grid Systems Limited, recommended by Lafarge Tarmac due to their previous success, was chosen to supply and install **MIRAGRID** PGM-G 100/100. The total area of the project was 12,000 m² (129,166 ft²). Due to the road's layout, which included a dual carriageway, roundabout, and single carriageway, the work was performed during a full road closure, with dual shifts employed to reopen the road as quickly as possible. The asphalt grid and bitumen bond coat were laid over two shifts (Saturday and Sunday evening) to align with Lafarge Tarmac's schedule. The entire project was completed in 9 days, one shift ahead of the original plan.

Solution

Asphalt Grid Systems Limited (AGS) is a leading UK company specializing in supplying and installing **MIRAGRID** PGM-G 100/100. paving fabric interlayers. With their extensive experience, they have successfully completed numerous projects, including airfields, motorways, and local authority work. AGS is conveniently located in South Yorkshire, allowing them to have easy access to all parts of the UK. AGS's installation teams are available 24/7 to meet client and National Highway Specification 13 requirements for

the supply and installation of asphalt Geosynthetics. AGS chooses to use **MIRAGRID** PGM-G 100/100. M products based on their long experience. These products are specially designed for asphalt pavement applications, including new road construction and the rehabilitation of existing roads, complying with EN15381.

MIRAGRID PGM-G 100/100. is an asphalt interlayer that serves as a barrier, reinforcement, and stress relief. It consists of a non-woven fabric reinforced by high-strength glass fibers. When combined with a sprayed tack coat, it prevents water and oxygen from penetrating the lower layers, reduces stress between the sub-base and wearing course, and provides reinforcement for the new asphalt.