Asphalt Reinforcement

Heavy Trafficking Trial, Rotaflex, Meltham Mills Road, UK

abg creative geosynthetic engineering

Case Study

Project Description

Kirklees Council Asset Management Policy aims to maintain the 1900km of roads in its area by maximising customer satisfaction levels and to look for the most efficient whole life costs possible. The council assessed the state of the heavily trafficked Meltham Mills Road to be unacceptable for safe passage due to a very stressed road surface. The road receives some of the highest loading in the area taking approximately 1800 HGV vehicles per week either passing or delivering to the local factories. In addition as a bypass to Meltham town centre it takes approximately 4000 light traffic movements per week. Using the guidelines from the West Yorkshire Combined Authority (WYCA) guidelines the council decided on a 60mm binder course with 40mm SMA overlay with a predicted lifetime of 15 years including first light maintenance at 5 years.

The Challenge

Whilst the design was to the required guidelines Kirklees Council, in line with their policy of reducing whole lifetime costs were looking for any improved techniques which could extend the maintenance periods still further. The site runs along the length of ABG Geosynthetics Ltd own offices and being heavily trafficked and easily monitored presented an ideal site for a trial.

The Solution

ABG proposed a **Rotaflex** asphalt reinforcement geocomposite comprising a glass fibre grid backed with a polyester geotextile. The grid reinforces the road surface preventing propagation of cracks through the surface course. By stopping these cracks it delays the breakdown of the road surface considerably extending its life.

Project Information

Client	Kirklees Council
Contractor	Thomas Bow City Asphalt
Consultant	Kirklees Council
Products	Rotaflex
Quantity	700m^2
Benefits	• Prevents settlement cracking • Stops reflective cracking • Reduces rutting • Waterproofing • Cost effective solution to road maintenance

ABG Rotaflex asphalt reinforcement layer

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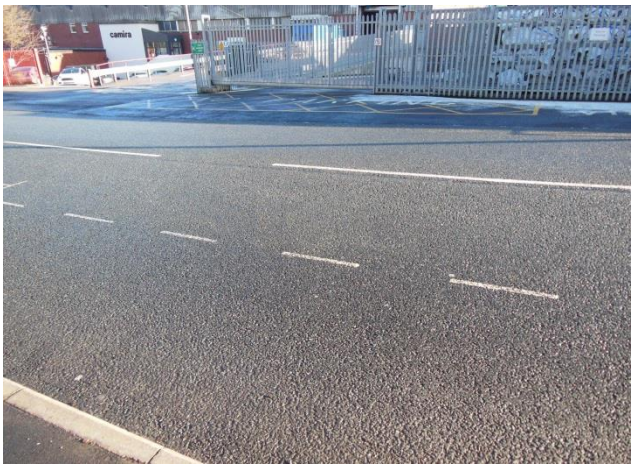
The polyester geotextile binds the bitumen used in the installation process sealing the subsurface and avoiding damage caused by water penetration.
The trial included Rotaflex reinforced and unreinforced areas which were to be monitored over the following 5 years up to the first predicted maintenance point. At first the finish was even across the whole road surface but after only 4 years in 2015, following several harsh winters and high traffic volumes the unreinforced areas were showing distinct signs of distress. Depressions, potholes and delamination started to occur. These areas had to be patched prematurely.
The reinforced **Rotaflex** areas showed no signs of stress. The conclusion is that the trial is a success showing **Rotaflex** helps to strengthen new surfacing layers, prevents cracking and deformation. **Rotaflex** provides a cost effective solution to road maintenance by extending the maintenance intervals and reducing whole life costs.

In 2015, one year before planned road maintenance period, the UNREINFORCED half of the carriageway showed premature breakdown and potholing. Note the Rotaflex REINFORCED half of the road remains in an unstressed state.

The ABG Service

Assistance with technical comparisons, costings, design, supply and Installation where all provided by ABG.

Stressed road surface needing re-surfacing late 2010



New road surface after installation late 2010

Contact ABG today to discuss your project specific requirements and discover how ABG past experience and innovative products can help on your project.

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