

# Asphalt Reinforcement

A87 Trunk Road, Rotaflex, Portree, Isle of Skye, Scotland



## Project Description

The 99 mile long A87 is the major trunk road for the Scottish Highlands North West Axis running from Uig on Skye across the Skye Bridge to central Scotland at Invergarry. It is an all-purpose mostly single carriageway trunk road which receives 2,200 Annual Average Daily Traffic vehicle movements of which 5% are heavy goods vehicles. The road bypasses Portree and then climbs up between Loch Portree and a steep scarp. Transerv Scotland, who carry out the maintenance design for Transport Scotland, identified the need for a full resurfacing of the road from the south of Portree past the Varragill section of the Portree Forest.

## The Challenge

This highly exposed area of road not only receives heavy rainfall and surface runoff from the scarp slope, it is founded on deep layers of peat. Peat by its nature is very flexible and swells in wet weather conditions and contracts when dried. Whilst the road construction takes account of this it is still susceptible to flexural cracking when loaded with heavy traffic. The edges of the road are particularly vulnerable. Transport Scotland have had to undertake multiple repairs with resulting traffic delays and no alternative routes for commuters.

## The Solution

Transerve Scotland needed a solution to the differential movement and flexing of the carriageway which lead to surface cracks which allow water to penetrate from the top down causing further swelling of the peat.

**ABG Rotaflex 830** asphalt reinforcement geocomposite was selected to control cracking and produce a seal on

## Project Information

Client	Transport Scotland
Contractor	Bardon Contracting /ABG Ltd.
Consultant	Transerv Scotland
Products	Rotaflex 830
Quantity	26,000m <sup>2</sup>
Benefits	<ul style="list-style-type: none"><li>• Extended maintenance period</li><li>• Fast in-line installation</li><li>• Reduce reflective cracking</li></ul>



**ABG Rotaflex 830**



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the road surface. **Rotaflex 830** comprises a high strength/low strain glass fibre grid reinforcing grid combined with a nonwoven geotextile. **ABG**, the installer, sprayed the prepared binder course layer with a K1-70 bitumen emulsion bond coat and applied **Rotaflex** to the surface. The nonwoven geotextile absorbs some of the bond coat and holds fast to the road. When the hot asphalt surface course is placed the geocomposite becomes saturated with the bitumen and then sets hard within in the road surface forming a complete seal which is reinforced against lateral movement. **Rotaflex** was installed to the edge of the road surface and was shaped to follow the curvature of the road as it climbs the slope. **Rotaflex 830** can extend the average maintenance period by four times giving substantial savings in construction and delay costs.

## The ABG Service

**ABG** provided design advice for this highly exposed site and worked closely with Bardon Contracting to avoid any delay to the installation process.



**Rotaflex** laid to the edge of the road surface to minimise edge failure over the peaty soils beneath. **Rotaflex** has been bonded to the surface ready to receive the final surface coarse layer. The bitumen saturates the **Rotaflex** embedding it as a stiff waterproof layer between the road surface layers preventing cracks and water infiltration.



Previous multiple attempts to patch the road edge



The finished road surface handling the weather

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