







Salerno - Reggio Calabria (Italy) A2 Mediterranean Motorway

THE HYDRAULIC FUNCTIONALITY OF THE PAVING WAS RESTORED. BY CARRYING OUT ANTI-CRACKING AND ANTI-PUMPING WORK

The A2 "Autostrada del Mediterraneo" (Mediterranean Highway) runs through Campania, Basilicata and Calabria regions in Southern Italy and – together with the Al "Autostrada del Sole" (Sunshine Highway) – it forms the backbone of the road network connecting North and South Italy.

Still generally known as the "A3 Salerno-Reggio Calabria Motorway", it took on its new name following the modernisation work that had commenced in the 1990's, when it became necessary to carry out a complete overhaul to withstand the changing traffic conditions and meet new requirements for the circulation, and to bring the motorway in line with European standards.

Running for a total of 432.2 km, the motorway connects the cities of Salerno to Reggio Calabria and is characterised by its particularly complex route that had to be adapted to suit the characteristic morphology of this mainly mountainous part of the country: along the route there are 51 junctions, 185 tunnels

34 RM International 85/2021

and 1,070 bridges, viaducts and flyovers

The A2 will be the first "smart motorway" in Italy, with Wi-Fi hotspots every 300 m to allow motorists access to useful and important road safety information.

The problem: rising groundwater and pumping phenomenon

The overhaul of the A2 motorway in the area around the Rufoli tunnel led to significant modifications being made along that particular stretch, which also involved having to deal with considerable quantities of aroundwater.

In correspondence with the containment works, a substantial defence system was also installed to intercept the groundwater and channel it into the natural drainage system, which until then had not been fully efficient.

In fact, in the event of particularly bad weather, the groundwater would rise up and flood the road surface and lead to pumping phenomenon, damaging the superstructure.

Works carried out

To solve the problem, the first step was to mill the top 10 cm from the road surface (5 cm of binder and 5 cm of wear layer). A drainage trench was then dug out along the side of the motorway, along with a series of smaller, transversal channels to capture and channel the water away.

The next step was to apply a 2.5 mm POLYSTRADA SA PLUS anti-pumping membrane (made by Polyglass SpA, a subsidiary of the Mapei Group) and then restore the layer of binder and the wear layer

The POLYSTRADA SA PLUS membrane, which has anti-cracking properties to protect the structure and anti-pumping (waterproofing) properties, was positioned in such a way that any milling work required in the future, or repairs to the wear layer, can be carried out without having to remove it

POLYSTRADA SA PLUS is designed to ease/absorb deformation stresses within the road surface and represents an innovative solution for strengthening bituminous systems and replacing strengthening mesh or other traditional systems (SAMI, geotextiles, etc.). Its excellent dimensional stability and mechanical properties make it particularly suitable for waterproofing (anti-pumping) applications, as a barrier to block the propagation of cracking phenomenon, to strengthen road surfaces and to distribute loads acting on road surfaces. road surfaces and their resistance to It is particularly recommended for intense traffic of heavy-goods vehicles and when the existing road surface is

Using this type of membrane allows employed.

TECHNICAL DATA A2 "Autostrada del Mediterraneo" motorway, Salerno-Reggio Calabria (Southern Italy) Period of renovation

works: July-October 2020 Period of the Polyglass intervention: July-October 2020 Intervention by Polyglass: supplying waterproofing membranes for restore the

hydraulic functionality of the road **Client:** Anas SpA – Calabria Regional Department, Autostrada del Mediterraneo Design: Nicola Megale (Anas SpA) Works direction: Carmine Avagliano (Anas SpA) Main contractor: Domenico Sposato **Technical directors:**

special equipment. POLYSTRADA SA PLUS helps improve the structural behaviour of fatigue and reflective cracks, thereby guaranteeing considerable savings in future maintenance work on stretches of road where it has been

a thinner layer of conglomerate to be

applied, including recycled conglom-

erate, thereby significantly reducing

the time required and the cost of car-

rying out work. It can also be milled

and recycled without having to use

POLYGLASS PRODUCTS

POLYSTRADA SA PLUS

Cold-glued self-adhesive membrane

bituminous compound reinforced with a

It is used for the renovation of pavements

such as severely cracked road surfaces

subjected to high levels of traffic.

comprising a self-adhesive SBS

glass fibre mesh carrier.

ና የ

FIND OUT MORE

Costruzioni e Strade Srl Mapei distributor: Agenzia G.N. Rappresentanze Sas di Gioiello Nicola e Libero Alessandro

Polyglass coordinators:

Domenico Sposato,

Giuseppe Tedesco

Subcontractor:

Ines Antunes and Simonetta Rossi, Polyglass SpA (Italy)

Waterproofing membrane: Polystrada SA Plus

products visit polyglass.com

For further information on

RM International 85/2021 35



badly worn or damaged.