

AUTOROUTE A25 RECONSTRUCTION NIEPPES - BERGUES (59), FRANCE

PAVEMENTS

Product: MacGrid® AR

Problem:

The works on the Autoroute A25 consisted of the renovation of 42km of highway between Nieppe and Bergues, with a total duration of 20 months. The objective was the reduction of fatigue cracking due to traffic loading, and to increase the life of the pavement.

Solution:

To address this requirement, it was recommended to use an anti-cracking glass-fibre geogrid. This would improve the resistance to the propagation of cracks through the pavement, thereby extending the time before the cracks appeared at the pavement surface.

MacGrid ARG 10.7 was used on the 80,000m² of pavement experiencing this phenomenon. MacGrid ARG 10.7 is a glass fibre geogrid with an integral geotextile. The geogrid is pre-coated with bitumen, enabling a good bond between adjacent pavement layers. This was further enhanced by the addition of a bond-coat consisting of hot modified bitumen, placed with a dosage of 0.8 - 1.2kg/m².

The MacGrid was unrolled onto the bond-coated pavement, avoiding wrinkles.

Following this, the wearing course was placed and rolled.

MacGrid® AR is a geocomposite manufactured from glass fibres woven into a grid configuration, with a polymeric protective coating grid. It is available with a geotextile backing or with an optional pressure activated self-adhesive backing. It offers high tensile strength and high modulus of elasticity at low elongation. Stress concentrations in the asphalt matrix are relieved and redistributed by the reinforcement, delaying the initiation of the cracks.



Removal of fatigued surface layer



Surface ready to receive bond-coat and MacGrid



MacGrid ARG placed on prepared surface

Client:

DIR NORD CELLULE INGENIERIE

Main contractor:

DIR NORD CELLULE INGENIERIE

Designer:

APPIA TRAVAUX PUBLICS/FRANCE MACCAFERRI

Products used:

80,000 M² MacGrid® ARG 10.7

Date of construction

2009 - 2011



Asphalt placement onto MacGrid



Asphalt placement onto MacGrid

MacGrid® AR is increasing in popularity on resurfacing projects where clients want to limit reflective cracking because of its cost effectiveness and ease of installation.

Maccaferri offers a full range of products for asphalt and unbound pavements, as well as drainage geocomposites to remove water from the pavement structure.



The works progressing



Rolling wearing course

Officine Maccaferri S.p.A. Global Headquarters

Via JF Kennedy 10, 40069 Zola Predosa (BO) - Italy

T: (+39) 051 6436000 F: (+39) 051 236507

E: comes@maccaferri.com

www.Maccaferri.com

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