

PAVING SOLUTIONS FOR THE R357, BALLINASLOE COUNTY ROSCOMMON, IRELAND

PAVEMENTS

Product: Road Mesh™

Problem:

The R357 is a regional road linking Athleague, County Roscommon to Blue Ball, County Offaly in Ireland. Part of the road is founded upon peat subgrades of up to 3m thick.

The existing pavement showed rutting, fatigue and settlement cracking, typical of a peat going through a wetting and drying cycle.

County Roscommon wanted to rehabilitate the road and limit future maintenance costs.

Solution:

To prevent further deterioration, the client used Road Mesh™ to reinforce a new 50mm asphalt overlay, subjected to traffic of up to 200 heavy vehicles per day.

Road Mesh™ is typically used on peat subgrades to extend the life of thin overlays against differential settlement cracking.

The method for installing Road Mesh™ varies depending upon the application and subsequent overlay depth. In this case contractor Kilsaran used the blinding installation technique to fix the Roadmesh ahead of the paver, allowing paving operations to progress at full speed.

This technique involves the placement of small quantities of the asphalt mix directly onto the Road Mesh™ as a blinding layer. This temporarily fixes the mesh to the pavement, and removes the need for nailing the mesh to the scarified surface.



Fatigue Cracking



Installation of Road Mesh



Blinding installation technique

Client:

ROSCOMMON COUNTY COUNCIL

Main contractor:

KILSARAN

Designer:

ROSCOMMON COUNTY COUNCIL

Products used:

13,600m² ROADMESH™

Date of construction

August 2010

Maccaferri Road Mesh™ provides high tensile strength at low strain and, together with its unique 3D geometry, creates excellent aggregate interlock to optimise load transfer and shear resistance. The system was initially developed to inhibit reflective cracking in asphalt layers and research has shown that the incorporation of Road Mesh™ can enhance the working life of the whole pavement.

The system has been used widely in Europe and has been shown to increase the duration of pavement maintenance lifecycles.

Road Mesh™ is made from hexagonal woven steel wire mesh. Every 160mm, a transverse steel bar is woven within the mesh, locking it into position. The steel is heavily galvanised (in accordance with BSEN 10244-2 Class A) to offer an expected design life in excess of 60 years. As it has a very open mesh, Road Mesh™ allows excellent contact between the existing pavement and the new overlay. This means that the bond between the two layers is not compromised by the presence of the Road Mesh™ reinforcement interlayer.

Maccaferri recommends a minimum of around 70mm overlay to Road Mesh™. However, 50mm was used in this project by an experienced contractor.



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