



Case Study

application | Asphalt Overlay Restoration
location | First Street, Cary, IL
product | Mirafi® FG100 & MPV 500

job owner | City of Cary, IL
contractor | Road Fabrics

TenCate develops and produces materials that function to increase performance, reduce costs and deliver measurable results by working with our customers to provide advanced solutions.

THE CHALLENGE

First Street is a heavily traveled arterial in a residential area of Cary. The existing pavement was a badly deteriorated full depth asphalt pavement with a PCI rating estimate at less than 10.

THE DESIGN

Mirafi® FG100 fiberglass grid was used with Mirafi® MPV 500 paving fabric on this street to retard reflective cracking. Mirafi® FG was installed in a highly distressed area to give increased tensile strength.

Mirafi® MPV was used over most of the project and has a long history of successfully retarding reflective cracking and lengthening pavement life.

Mirafi® FG is a newer product that is proving to be effective in more severe pavement applications. Mirafi® FG has an open grid pattern that interlocks with hot mix asphalt providing maximum reinforcement by bonding with the new pavement layer. Grids are constructed with fiberglass yarns that are aligned in transverse and longitudinal pattern to optimize transfer loading of a moving pavement. The high crossover junction bond strength improves structural integrity of new overlay. A polyester mat attached to the grid is bonding to the old pavement and tacked with liquid asphalt provid-

ing adhesion of the grid during construction and allows for construction traffic of the hot mix overlay.

The high modulus tensile element, such as a fiberglass grid, helps contain the crack before expansion causes harmful effects to the pavement overlay system.

The Mirafi® FG products are specifically designed to provide high strength at very low strains (less than 5% strain). This product property, commonly referred to as modulus, is the key to adding reinforcement to your paved structure.



Mirafi® FG100 is installed on this heavily traveled street to provide maximum reinforcement by bonding with the new pavement layer.

THE CONSTRUCTION

Fabrics, indicated that they had incurred no problems in spreading a light tack coat to secure the Mirafi® FG100 to the binder course prior to pavement overlay. The binder was spread at a rate of approximately .07 gal/yd² to bond the pavement layers. Mirafi® MPV 500 was applied in accordance with standard practices.

Arrow Construction sequence starting with a leveling course existing course to fill in the irregular surfaces of the pavement followed by the fabric installation by Road Fabrics and one lift of IDOT hot mix were applied to finish the project.

THE PERFORMANCE

Mirafi® MPV 500 has been used by this city for many years and proven to increase pavement overlay life. This is a first application of a fiberglass grid product used by the city. It is anticipated by the that Mirafi® FG100 will be a viable alternative to repair highly deteriorated areas where the only alternative is removal and replacement of pavement section. Mirafi® FG can be applied easily in a pavement section where Mirafi® MPV is used. This project will be monitored for performance on an annual basis.



A light tack coat is spread to secure the Mirafi® FG to the binder course prior to pavement overlay.

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