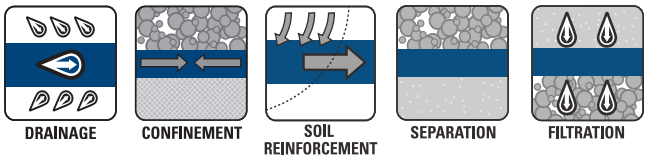
TENCATE Mirafi®



Case Study

application	Base Stabilization	job owner	City of Machesney Park
location	Machesney Park, IL		
product	Mirafi® RS380*i*	date of installation	July 2011

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

Roosevelt Road in Machesney Park, IL was in need of replacement. The existing mixed use street is in a residential area with heavy car, school bus and some semi truck traffic on a daily basis. The asphalt was failing and the city was pushing for more focus on a green initiative. The city wanted to use a sustainable road surface and they were hoping to use porous pavers. This would require stability, as well as the ability to pass water through the road base. The concern with any full depth road replacement is getting the water out of the road cross section. While edge drains help, they only work if the water is moved out of the road base and over to the drains.

THE DESIGN

The typical Illinois DOT road design uses Mirafi® 500X woven geotextiles for stabilization and separation. Research and installation history have shown that these slit tape products are inadequate when it comes to road design, particularly applications requiring higher strength and the ability to pass water.

Adequate drainage is critical.

The existing high-moisture soil subgrade was unable to pass the proof roll.

Mirafi RS380i lays flat and goes into tension well. Maintaining overlap was no problem using 3M Geotextle Seaming Cylinder Spray Adhesive.

The design team used TenCate Mirafi® RS380i* on a past project with great results in similar soils. The city chose TenCate Mirafi® RS380i woven geosynthetic due to its high strength to low strain ratio and its ability to pass water. Mirafi® RS380i also provided separation of the engineered fill from the soft sub-soils and a high interaction coefficient allowing for no increase in base course depth.

THE CONSTRUCTION

The road was constructed using an "end dump and push" method. Mirafi® RS380i was placed and aggregate was dumped on the leading edge and pushed using a bull-dozer. The contractor and equipment operators appreciated the bright color of the fabric. It gave them confidence to know where Mirafi® RS380i was during installation. During construction of the road section, maintaining overlap of adjoining rolls of Mirafi® RS380i was an issue due to wind and the soft soils beneath. 3M Geotextile Seaming Cylinder Spray Adhesive (formerly known as 3M Scotch-weld Holdfast Cylinder Adhesive 70) was used to seam adjoining geotextile panels. This process allowed the geotextile to be pulled in tension during backfill and prevent overlap movement.

THE PERFORMANCE

The road section was approximately ¼ mile long and has been in use for over a year and a half. No movement of the pavestone drive surface has been noted. To date, the road has lived up to the design team expectations.

*Patent pending

Wrinkles are easily pushed in front of the the geotextile when pushing aggregate from one end and the orange color let the equipment operator know right where it was.

Roosevelt Road nearly two years (and a lot of traffic) later.

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