



Case Study

application | New runway construction
location | Denver, CO
product | Mirafi® 170N, MPV600 geotextiles

job owner | Denver International Airport
engineer | City & County of Denver, CO
contractor | Interstate Highway Construction (IHC) & Meza Construction

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

To construct DIA's sixth runway (16R/34L) that was 16,000 feet long, the longest commercial precision-instrument runway in North America. Also to be use as an alternate runway for the space shuttle landings. In addition to the large concrete mass, runway shoulder drainage was a critical design issue.

THE DESIGN

With the thick sub-base of cement treated base (CTB) and 17" of concrete paving thermo cycling at greatly different rates, a high quality bond breaker was needed to provide for the extreme temperature changes of the Denver climate. Mirafi® Construction Products and Bowman Construction Supply of Denver supplied over

one and one-half million square yards of Mirafi® MPV 600 to meet the needs of the FAA specified Bond Breaker Geotextile. Mirafi's ability to produce 18' wide rolls added substantial savings in both material and labor with the reduced number over laps on the 100' wide runway.

Over 400,000 square yards of Mirafi® 170N was used for the shoulder drainage geotextile.

THE CONSTRUCTION

Installation of the geotextile in wide rolls increased production efficiency for the placement crews as it had to be hand placed and cut around every runway light. The light weight, wide rolls were very easily handled by a two man team. Concrete paving kept pace with the placement crews as high winds were prevalent and created adverse installation conditions.



Mirafi® MPV 600 was used as a bond breaker.



Mirafi® 170N was used for shoulder drainage.



18 ft wide rolls were used to minimize overlap.



16,000 ft of runway was needed to accommodate space shuttle landings.

THE PERFORMANCE

The Mirafi® MPV600 and Mirafi® 170N are performing very well and have held up very well to the high volume of runway traffic.



Protective wrapping was used to prevent UV degradation while the geotextiles were stored on the site.



The Mirafi® MPV600 bond breaker paving fabric was placed between concrete pavement and subbase.



17 inches of concrete pavement was placed over the Mirafi® MPV600 and CTB subbase.

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