



Case Study

application Runway Resurfacing Asphalt Overlay
location Cape Canaveral, FL
product Mirafi® MPV 400

job owner NASA
engineer Cape Design Engineering Co.
contractor Ranger 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

In previous attempts to improve this runway, the U.S. Air Force performed several resurfacing paving procedures over the existing pavement. The challenge involved several different scenarios. First, the slope of the runway was not at the required limits based on the FAA standards. Second, the system had been compromised by water. Third, strength parameters were very important due to the fact that C-5 Cargo planes will be utilizing the runway. Cape Design Engineering looked at several different options, but the testing and recommendations performed by the U.S Air Force suggested using a paving fabric to help remediate the problem.

THE DESIGN

Cape Design Engineering used a paving fabric to prevent premature degradation of the system by reducing water from entering the pavement. The slope issue was resolved by milling differ-



A paving fabric was chosen to prevent the degradation of the pavement.

ent thicknesses throughout the section. Mirafi® MPV 400 was chosen for its waterproofing and crack reduction benefits.

THE CONSTRUCTION

Ranger Construction decided that they would do the installation of the paving fabric instead of

sub-contracting that portion of the work. Cape Design allowed Ranger to utilize up to 30% of recycled material in their asphalt mixes design. Ranger decided to utilize 20% recycle mix and 80% virgin mix. Due to the variances in pre-existing asphalt depth, the true thickness is difficult to characterize. Generally, throughout



Screed machine spreading hot asphalt over Mirafi® MPV 400. This automated machine levels the asphalt to the correct height.



A smooth drummed roller follows the screed machine for proper compaction.



the runway, there will be a 1.5" layer consisting of modified P-401 and another 1.5" layer of a final asphalt. Mirafi® MPV was placed with a 0.25 gal/sy application of tack coat to create an impermeable layer under the surface of the asphalt system to prevent water from compromising the integrity of the asphalt.

THE PERFORMANCE

The purpose of this runway, which totals 10,000 feet and varies between 200' and 300' wide, is for landing cargo planes (C-5). Typically, there will only be about one or two landings every couple of days, and a maximum landing of two planes per day. U.S Air Force dignitaries and other special invitees will utilize this landing pad in the future. Overall, the customer was satisfied with the initial performance of the Mirafi® MPV 400. It has proven to be simple to install and should hold up to the rigors involved in day to day activities on the base.



Above: The milled surface on the left, and the binder, right, 1.5" with 20% recycled asphalt.

Below: Mirafi® MPV 400 applied with 0.25 gal/sy of tack coat.



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