

Lessons Learned on a Runway Reconstruction Project

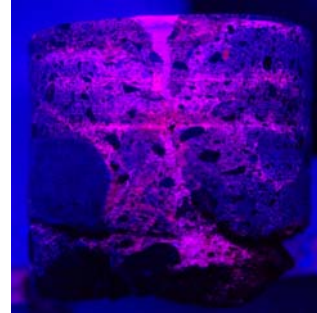
Parsons Brinckerhoff (PB), through their Project Manager, Peter Florian reported via their in-house newsletter on a unique opportunity to save a contractor and owner a significant amount of time and money. This report addressed the effective repair of concrete cracks using Ten Minute Concrete **Mender** from Express Polymers. These cracks, near the end of a runway ranged from four to twelve inches in length and to the depth of the rebar and possibly the slab bottom. Epoxy injection was compared to a polymer product, **Ten Minute Concrete Mender**. Express

Polymers, known at that time by Elas-Tech provided **Roadware Ten Minute Concrete Mender** for



comparison. The results were most gratifying as **Mender** provided the most significant penetration into the concrete to the bottom of the cracks, while the epoxies barely penetrated the crack. **Mender** also provided a strong bond with the concrete for long-term durability.

Mender was selected for further testing to confirm its performance. Due its low viscosity, **Mender** easily flowed into the cracks all the way to the bottom. The crack preparation and Mender application was very simple and fast. As further proof of performance cores were taken from cracked and repaired concrete and uncracked concrete for testing under freeze-thaw cycling conditions. *Here is the best part. The test concluded that the concrete core that had been cracked and then sealed with **Mender** exceeded the performance of the uncracked concrete sample!* The reason for this superior performance can be seen in the concrete core black light photo shown below. Here Mender was injected into the crack and due to its low viscosity and superior penetration can be seen to have spread into extremely small cracks



(angstrom sized) on the interior of the concrete. In essence Mender has reconstituted the concrete and bonded it together. No other product can make this statement!

No deterioration after five years in service!

The contractor repaired all of the cracks with **Mender** and topped them with cement for color blending. There was little visible evidence of the cracks upon completion. After five years of inspection it was concluded that the pavement remains in an excellent range, with no change in its condition since opening to traffic. No additional repairs have been required, and even the surface stains of the concrete are no longer visible.

Example of the service and technical support provided by Express Polymers, Inc.

Express Polymers, Inc. is pleased to have been a part of this successful concrete repair effort. It was no surprise to us that **Mender** would perform the way that it did. One needs only to look at its performance characteristics to see that it is unique in every respect. Other products may mimic **Mender** and sales people say their products work 'like' **Mender**, but the truth be known – nothing even comes close to **Mender** performance. *'It's thin, it gets in and it won't pop out.'*

Call us at **888.433.6922** and tell us about your problems with concrete cracks, potholes, etc. **We like to help**
Nelson R. Tonet, P.E., President