

## **SealBoss® Case Study**

**Date of Completion:** July 14, 2011 - Present

**Location:** Dwarka, India

**Contractor:** Various

**Supplier:** S.N. Engitech Developers Pvt. Ltd.

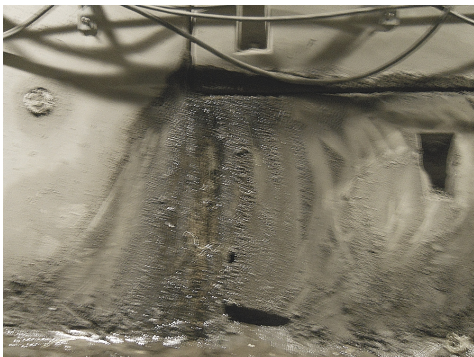
**Client:** Delhi Airport Metro Express

**Scope:** Client is experiencing significant water intrusion through tunnel joints and shrinkage cracks throughout a several kilometer section of the newly constructed Delhi Metro Express Line Project. Many sections of the tunnel have experienced extreme water intrusion during rain season in India.

The **Dwarka Sector 8** Metro Station is located on the Blue Line of the Delhi Metro. This station was built as an extension to Dwarka Sector 21 in order to serve Dwarka residents better and provide interchange with the Delhi Airport Express. The station was opened on October 30, 2010 after the completion of successful trials and approval from the railway inspector.

**Repair Method:** S.N. Engitech has proposed and has overseen the injection of 2000 kgs of SealBoss<sup>®</sup> 1510 hydrophobic polyurethane resin for phase I of said project. The polyurethane resin was injected through 1/4" (6mm) steel mechanical packers spaced approximately .35m apart in cracks and joints. Injection pressures of phase I ranged from 4-7 Kg/sq cm. Upon first application procedure the leaks have been 90%+ sealed. Individual spot injections have been performed in order to seal the all residual leaks.

To date, Phase I is considered a successful injection procedure with work orders issued for continuing the project.



**Figure 1: Leaking Sections of Tunnel**



**Figure 2: Dry Tunnel**