



eliminator®



Arthur J. Di Tommaso Bridge . Fitchburg MA . USA

Client MASSACHUSETTS HIGHWAY DEPARTMENT
Authorised Contractor CHAPMAN WATERPROOFING INC.



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Products in action

The town of Fitchburg, northeast of Boston, owes its existence to its position on the Nashua River. Mills were built on its banks to take advantage of the waterpower. When roads and railways were developed they followed the river. It was therefore important that people could get across the river. In 1912, the Nashua River was spanned by an arch bridge which, with a 212m span, was the largest in the state of Massachusetts.



Cable-Stayed Bridge

As the bridge reached the end of its serviceable life, Massachusetts Highway Department (MHD) designed and built as its replacement a new cable-stayed bridge that crossed not only the Nashua River but also the commuter rail to Boston. The new \$15million Arthur J. DiTommaso Bridge, with its 52 cable stays and 42m high concrete towers, adds a dramatic new dimension to the town. The structure has a center span of 107m, a west backspan over the railroad of 45m and an east backspan over a steep embankment of 43m. The deck is cast-in-place concrete over a steel structure.

To provide the new bridge deck with the highest possible level of maintenance-free protection, the **Eliminator®** membrane system was selected for its reputation for long-term protection.

Waterproofing for the Long Term

The new concrete deck was first shotblasted to provide a clean, laitance-free surface for the system's PAR1 primer. Before the **Eliminator®** membrane was installed, bond tests were conducted to ensure there was a strong bond between the **Eliminator®** and the deck. The results were a bond averaging 1.14N/mm², with failure in the concrete.



The **Eliminator®** system comprises a primer followed by two discrete spray-applied color-coded coats of membrane, each of which can be overcoated within 40 minutes of application, and the complete system is fully trafficable within an hour. As well as being free of vulnerable joints, the system adheres strongly to the substrate over all areas including irregularities in concrete surfaces. This ensures not only that water cannot track between the membrane and the substrate even under the pumping action of vehicular traffic, but also that the membrane will not be moved by high shear loads so preventing surfacing problems in the future.

The system is completed by application of Stirling Lloyd's proprietary Bond Coat SA1030 to provide a tenacious bond between the membrane and the asphalt.

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