



Bridge Deck Waterproofing

Product in Action



A Murray Mackay Bridge . Nova Scotia . Canada



Client: HALIFAX-DARTMOUTH BRIDGE COMMISSION
Authorised Contractor: DURON ATLANTIC LIMITED

Performance and Proven Track Record

In a major refurbishment during the summer of 2001, the orthotropic steel deck of the Mackay Bridge was given new, long-term protection with the installation of the **Eliminator** sprayed bridge deck waterproofing membrane.

In 2000, the structure's owners, the Halifax- Dartmouth Bridge Commission, employed O'Halloran Campbell Consultants to carry out a complete survey of the deck. The study had shown that the 30-year-old bridge was exhibiting significant corrosion caused by the ingress of water and de-icing salts through the epoxy-asphalt surfacing.



Extensive laboratory and on-site testing was commissioned with a wide range of products including elastomeric membranes, skid/slip resistant surfacings and bituminous sheets.

Aggregate Scatter for Greater Adhesion

Tests included freeze-thaw cycling, fatigue and bond strength tests. Following the evaluation of the results, the Bridge Commission selected Stirling Lloyd's **Eliminator** membrane for protection of the critical suspended spans, an area of 39,000m². In addition to its performance in the tests, **Eliminator** also possessed an excellent proven track record on steel orthotropic decks in both cold and hot climates. The bridge was vacuum-blasted to SP10 standard and then primed with the MR6 acrylic reactive primer, which incorporates zinc phosphate pigment to provide additional corrosion protection. Two distinct colour-coded coats of **Eliminator** were then sprayed, the first at 80 mils and the second at 50 mils. Each of the coats can be over coated within 40 minutes of application and can be trafficked within an hour.

The Engineer specified an aggregate scatter into the freshly applied second coat to provide a shear key for the asphalt on the gradients. The seamless membrane system was completed with the application of Stirling Lloyd's proprietary polymermodified bitumen tack coat, SA 1030, to provide a strong bond between the **Eliminator** and the surfacing. The Bridge Commission intends that the **Eliminator** system will allow the milling of the asphalt alone and its recapping when necessary, rather than removing the entire system down to the steel deck, saving both the steel deck and traffic disruption.

Ref. PIA_Elim014(4E).pdf
Available from stirlinglloyd.com



STIRLING LLOYD UK & WORLD WIDE
Stirling Lloyd Polychem Ltd.
Union Bank . King Street . Knutsford
Cheshire . WA16 6EF . UK
Tel: +44 (0) 1565 633111
Fax: +44 (0) 1565 633555
Email: marketing@stirlinglloyd.com

STIRLING LLOYD NORTH AMERICA
Stirling Lloyd Products Inc.
152 Rockwell Road . Building A
Newington . CT 06111 . USA
Tel: +1 860-666-5008
Fax: +1 860-666-5106
Email: northamerica@stirlinglloyd.com



www.stirlinglloyd.com