

Field Guide: For The Acceptance Of Hot Mix And Bridge Deck Waterproofing

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The system was reported to have been in use since the mid-1980s. Previously, a system of asphalt overlay on a sheet of mastic or glass fleece had been used, but it did not provide the necessary protection against the ingress of water containing deicing salts.

A 2009 scanning study reported that the use of waterproofing membranes on concrete decks for corrosion protection with epoxy underneath to seal cracking in the young concrete is standard practice throughout Europe (7). The use of waterproofing membranes on integral and continuous bridges is mandatory in the United Kingdom. Its engineers were reported to be highly confident of the enhanced performance that waterproofing membranes can provide and do not believe that other deck protection strategies can preclude the use of membranes. The standard deck design in the United Kingdom consists of 8- to 10-in. thick decks with a waterproofing membrane overlaid with asphalt. European practice, however, is not to use bare concrete decks or decks reinforced with epoxy-coated, stainless steel clad, or solid stainless steel bars.

The 1995, 2004, and 2009 scanning studies recommended that further consideration be given to implementing the use of European waterproofing membrane systems in the United States (7, 13, 16).

CONSTRUCTION AND INSPECTION

According to the specifications reviewed for this synthesis, bridge deck waterproofing generally consists of the following steps:

1. Deck surface preparation,
2. Application of a primer to the concrete,
3. Installation of the waterproofing membrane,
4. Installation of protection board if used,
5. Repair of unacceptable areas resulting from membrane thickness inadequacies, and
6. Installation of asphaltic concrete riding surface.

Figures 11 and 12 show various steps in the installation process.

Results from the survey for this synthesis showed that 19 of 31 agencies (31%) have specifications for the surface preparation of new concrete bridge decks prior to application of the waterproofing membrane system, and 26 of 32 (81%) have them for existing bridge decks. These numbers reflect that more agencies use waterproofing membranes for existing bridge decks than for new bridge decks. In general, the specifications require that the concrete surface be free of protrusions or rough edges, all contamination be removed, and the surface be cleaned of all loose material without the use of water.

Most specifications do not go into the means and methods to achieve the desired concrete surface. However, the New Hampshire specifications for surface preparation for use with heat-welded and liquid-spray barrier membranes provide more details. The specifications require that the deck be shot-blasted



FIGURE 10 Bridge deck multiple-level protection system (16).

Field guide for the acceptance of hot mix and bridge deck waterproofing [microform] /. prepared by Bituminous Section, Materials Engineering and Research. Field Guide: For the Acceptance of Hot Mix and Bridge Deck Waterproofing. Front Cover. Ministry of Transportation, - Concrete coatings - pages. Guide to implementing the acceptance procedures for hot mix and bridge deck waterproofing, incorporating changes from previous years that apply to new. Granular A Gradation Computation Acceptance & Payment Adjustment Sheet Field Guide For The Acceptance Of Hot Mix and Bridge Deck Waterproofing. Field Guide for the Acceptance of Hot Mix and Bridge Deck Waterproofing. This Field Guide has been prepared by the Bituminous Section of. d. the application of the protection board used with the hot applied asphalt membrane; by the Contract Administrator as outlined in the MTO Field Guide,. For the Acceptance of Hot Mix and Bridge Deck Waterproofing. Field guide for the acceptance of hot mix and bridge deck waterproofing prepared by Bituminous Section, Materials Engineering and Research Office, Ministry of. Name: MTO Field Guide, for the Acceptance of Hot Mix and Bridge Deck Waterproofing. Code: Waterproofing of Bridge Decks. Description: Type: Specification. Hot Mix - Smoothness Acceptance And Price Adjustment Sheet. Archived Field Guide For The Acceptance Of Hot Mix and Bridge Deck Waterproofing. "Impulse Radar Evaluation of Asphalt-Covered Bridge Decks," IEEE Field Guide for the Acceptance of Hot Mix and Bridge Deck Waterproofing, Ontario. field experience, this course is approved to meet part of the criteria of the Field Guide for the Acceptance of Hot Mix and Bridge Deck Waterproofing. Documentation. Contract Specifications. Bridge Deck Waterproofing. Thickness. Field Guide For The. Acceptance Of Hot Mix And. Bridge Deck Waterproofing. HMA Bridge Deck Overlays with Waterproof Membranes .. The overlay can be constructed with hot mix asphalt (HMA) or Portland cement concrete. In waterproofing membranes used on new and existing bridge decks since . however, field experience had been highly variable, lead- the use of dynamic rollers to compact the hot mix asphalt .. The practice provides a guide. Roofing and MTO Field Guide, For the Acceptance of Hot Mix and Bridge Deck Waterproofing. material specification for hot applied rubberized asphalt - The. modified hot mix asphalt placed without waterproofing membrane. . on the bridge concrete deck, without a waterproofing layer. .. confirmed after field verification as it is too early to confirm that no repairs will be .. According to the Guideline for Rosphalt 50 System, the mix design is done by Royston. For bridge decks with black reinforcing steel, regular type half-cell survey shall requirements, including all field works and reviews, relevant tests, Field Guide for the Acceptance of Hot Mix and Bridge Deck Waterproofing.

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