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Highways Department Technical Circular No. 11/2001

Running Surfaces of Bridge Decks

This circular supersedes HyDTC No. 3/95 which is hereby cancelled.

2. To achieve better riding quality and to allow greater flexibility in maintaining the running surfaces of highway bridge decks, the bridge deck surface should be designed to be finished with bituminous materials. A concrete running surface should only be considered for sections where a short structure is located within a length of rigid carriageway.

3. In designing the running surface, the designer should take into account various design requirements and the combined effect of the following factors.

(a) Type and Property of Bituminous Materials

The designer is responsible for determining the types of bituminous material and individual layer thicknesses to be used in the running surface taking into account the requirements of relevant specifications, design standards and guidance notes. For bituminous materials in compliance with the General Specification for Civil Engineering Works, the nominal layer thicknesses given in Appendix 9-A of the Guidance Notes for the General Specification for Civil Engineering Works (1992) may only be used as a reference. The thicknesses of individual layers may need to be adjusted to limit the stresses induced in the bituminous materials and, where present, the waterproofing membrane and its interfaces with the running surface and the bridge deck.

(b) Type and Property of Corrosion Protection System

The designer is responsible for selecting the corrosion protection system most appropriate to the bridge deck.

The designer should take into account technology contemporary at the time the design is prepared, the types and properties of corrosion protection systems available, and the drainage characteristics of the running surface and bridge deck.

(c) Maintenance of the Bituminous Running Surface

From a maintenance point of view, the bituminous running surface should comprise at least two structural layers, i.e., a wearing course and a base course. The base course is required to protect the bridge deck and, where present, the waterproofing membrane from future cold milling operations. Where a friction course is used in the running surface, it should not be considered as a structural layer.

(Original signed)

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