



Designation: D 4580 – 02₃

Standard Practice for Measuring Delaminations in Concrete Bridge Decks by Sounding¹

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1. Scope

1.1 This practice covers procedures for surveying concrete bridge decks by sounding to determine delaminations in the concrete. It is not intended that the procedures described herein are to be used on bridge decks that have been overlaid with bituminous mixtures. The procedures may be used on bridge decks that have been overlaid with portland cement concrete mixtures; however, areas indicated to be delaminated may have a lack of bond between the overlay and the underlying bridge deck (Note 1).

NOTE 1—The influence of variable field conditions such as traffic noise, vibration, moisture content of the concrete, and the like, are not completely known and additional investigation may be needed. It is generally agreed that the practice should not be used on frozen concrete.

1.2 The following three procedures are covered in this practice:

1.2.1 *Procedure A, Electro-Mechanical Sounding Device*—This procedure uses an electric powered tapping device, sonic receiver, and recorder mounted on a cart. The cart is pushed across the bridge deck and delaminations are recorded on the recorder.

1.2.2 *Procedure B, Chain Drag*—This procedure consists of dragging a chain over the bridge deck surface. The detection of delaminations is accomplished by the operator noting dull or hollow sounds. Tapping the bridge deck surface with a steel rod or hammer may be substituted for the chain drag.

¹ This practice is under the jurisdiction of ASTM Committee D04 on Road and Paving Materials and is the direct responsibility of Subcommittee D04.32 on Bridges and Structures.

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