

THE EFFECT OF TACK COAT MATERIAL, APPLICATION RATE, AND PAVEMENTS SURFACE TYPES ON THE INTERFACE SHEAR STRENGTH

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ABSTRACT

This paper presents the effects of tack coat material type, tack coat application rate, and surface type (i.e., HMA vs. PCC) including milled vs. unmilled surfaces on the interface shear strength based on full-scale test application. Five types of tack coat materials were applied at three application rates on four different types of surfaces at the Louisiana Pavement Research Facility (PRF) site. Samples were cored from the constructed test lanes, and the interface shear strength was measured using the Louisiana Interface Shear Strength Tester (LISST). Results of this study showed that the trackless tack coat produced the highest shear strength at the three application rates, and SS-1 and CRS-1 resulted in the medium and the lowest strength, respectively. Within the considered application rate range, it was difficult to determine the optimum residual application rate. This was attributed to the highly oxidized and coarse HMA surface at the selected site that required greater tack coat rates than expected.

KEY WORDS: Trackless, interface shear strength, emulsified tack coats, residual application