

Sufficient bonding between the hot mix asphalt (HMA) layers is essential to ensure the desired structural capacity of a pavement. Undetected delamination can ultimately result in the peeling of thin overlays of asphalt concrete from the surface of the roadway. Further progression of delamination may result in stripping of the lower layers due to the intrusion of moisture. Rapid nondestructive test (NDT) methods determine the existence and extent of delamination or stripping within the asphalt pavements. In this paper, several NDT procedures and/or equipment that have the potential to address the problem were identified, and their effectiveness and potential for success were evaluated. The identified NDT methods, which included the Ground Penetrating Radar, Thermography, sonic/seismic and impulse response, were evaluated on a controlled pavement section that was specifically constructed with various levels of debonding at different depths and with different asphalt mixes. Strengths and limitations of different methods are discussed in this paper.