

**Mechanistic Evaluation of Hedmanite and Lime Modified  
Asphalt Concrete Mixtures**

M. G. Baig and H. I. Al-Abdul Wahhab

*Journal of Materials in Civil Engineering, ASCE*

Vol. 10, no. 3, pp. 153-160, 1998

**Abstract:** This investigation was undertaken to evaluate the effectiveness of using hedmanite (Rookwool natural fibers) as filler in improving the performance of asphalt concrete pavements, and to compare them with lime (as filler) modified mixes and the conventional asphalt mix containing crushed stone filler. In this study, optimum asphalt content was obtained by Marshall method and was used in all the modified mixes. The engineering properties including resilient modulus, stability loss, split tensile strength, fatigue and permanent deformation were determined. Results indicated that certain percentages of both hedmanite and lime are effective in improving the resilient modulus, while the Marshall stability loss and tensile strength loss were higher in hedmanite mixes compared to lime mixes. Lime modified mixes show better resistance to fatigue and rutting than the hedmanite modified mixes. Results indicated that better quality asphalt concrete mixes can be prepared using lime as filler compared to hedmanite for the local aggregates.