Materials Testing Laboratory Studies Conducted in New Mexico



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Unconfined Compressive Strength (UCS) and Resistance Value (R-Value)

nconfined Compressive Strength (UCS) tests have been used as a standard for evaluating various different materials used in road construction for over a century. They are quick and inexpensive to conduct, but produce only a limited amount of information. The Resistance Value (R-value) test method was invented approximately 80 years ago by two employees of the agency known at that time as the California Division of Highways. With the availability of modern computers for processing large data sets, more sophisticated test methods are advised that can apply thousands of repetitive loading cycles to stabilized base course materials and base course mixtures in order to more realistically model and predict their performance in the service environment, conditions that demand resiliency to endure decades of dynamic loading by heavy truck traffic. Permanency of base reinforcement, and subgrade stabilization measures, ultimately must be determined by monitoring pavement condition and pavement smoothness over the full number of years they were designed to be of service. When it comes to the suitability of a particular stabilized base course mixture for projects currently in design stage, the following modern laboratory test methods are recommended for determining resiliency and stiffness under repeated dynamic loading: Dynamic Modulus, Resilient Modulus and Repeated Load Triaxial. The results of the UCS and R-value testing conducted in conjunction with the construction of the FHWA Demonstration Project on Interstate 40 (MP 93 -MP 97)are nevertheless relevant and informative for reviewers interested in familiarizing themselves with this newer generation product technology that has shown such exceptional performance in prolonging pavement service life.

Stabilization Products LLC



* T-99 (ASTM D698) **T-180 (ASTM D1557)







Resistance Value (R-value) Test Results

