

Metadata Schema

Title	Characterization of Crushed Bases in Wyoming
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Publication Date(s)	August 2017
Description/Abstract	To improve the pavement design and construction in Wyoming, the Wyoming Department of Transportation (WYDOT) is adopting the Mechanistic-Empirical Pavement Design Guide (MEPDG). A full implementation of MEPDG requires the characterization of local crushed base materials. In this research, laboratory experiments on resilient modulus were performed to characterize the local crushed base materials in Wyoming. A comprehensive resilient modulus test program was completed by following the WYDOT modified AASHTO T 307, which incorporates WYDOT design and testing practices. The cyclic triaxial testing chamber for confining load application, two axial load sensors, and two spring-loaded linear variable transducers (LVDTs) to measure the recoverable axial strain of an aggregate specimen were used in determining the laboratory resilient modulus. Effects of moisture content, percent fine, stress, gradation, and fractured face on base resilient modulus were assessed, and estimation models were developed using statistical methods. The coefficients of constitutive models developed by NCHRP (2004) and Hicks and Monismith (1971) were calibrated for the locally available crushed base materials. Finally, a design table and chart for the estimation of base resilient modulus was developed to facilitate the full implementation of the MEPDG in Wyoming.
Subject and Keywords	Pavement, Mechanistic-Empirical Pavement Design Guide, Resilient Modulus, Base Material, R-value, Wyoming
Identifier and/or source	WY-1706F
Collection and Related Documents	All test results are provided and available in the final report. The data was preserved and archived in the WYDOT final report and the Principle Investigator's hard drive.
Edition	V.1

Related Documents	Characterization of Crushed Bases in Wyoming. Mountain Plains Consortium: https://www.mountain-plains.org/research/details.php?id=397
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Choice of Repository	Data is stored by the Principle Investigator. Kam Ng Department of Civil & Architectural Engineering University of Wyoming 1000 E. University Avenue, Dept. 3295 Laramie, Wyoming 82071 Kng1@uwyo.edu 307-766-4388

NOTE: Each separate report, dataset, collection, existing collection, and software developed must have its own table. All fields in this Schema must be completed at the time of the final report.

NOTE: This Metadata Schema is created as a derivative from the Common Core required fields which can be found at <https://project-open-data.cio.gov/schema/>.

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