

ASPHALT LABORATORY TEST FACILITIES Carrier Hall 120D, 123A, 121H

Superpave Binder Test Equipment (MDOT Grant)

- 1. Dynamic Shear Rheometer Test (at high service temperature)
- 2. Bending Beam Rheometer Test (at low service temperature)



BBRAN Software
(Binder creep compliance data analysis)



- 3. Brookfield Viscometer Test (at mixing & paving temperatures)
- 4. Rolling Thin Film Oven Test (Binder aging)
- 5. Pressure Aging Vessel Test (Long-term binder aging simulation)

Dr. Uddin's Teaching and Related Courses:

- CE315 (CE Materials), ENGR597 (Superpave Asphalt Technology), CE417 (Construction Management)
- MS (Ricalde, 2000), MS (Yamini, 2001), PhD (Garza, Spring 2003)

Dr. Uddin's Related Research Projects

- I-55 Polymer-Asphalt Pavement Study (1996-1998) – MDOT (Report FHWA/MS-DOT-RD-99-122); collaboration with Ergon, Inc.
- Micromechanical Modeling and Advanced Computer Simulation Study for Building Longer Lasting Asphalt Highways (1999-2001) – FHWA
- Automated DCP Data Analysis Software for Generating Subgrade Layer Thickness and In Situ Modulus Profile (1999-2000) – MDOT Subgrade Study (Report FHWA/MS-DOT-RD-00-131)

Asphalt Mix Test Equipment

- Superpave Gyrotory Compactor (MDOT Grant) (mix design test)



(mix design test)

- Gyrotory Testing Machine (MDOT Donation)
- Asphalt Dynamic Testing Machine (FHWA Grant)

Environmental Controlled Closed Loop Test System

(Resilient Modulus, Indirect Tensile Strength, Creep Compliance, and Fatigue Tests)



topics in QC and QA

Publications

Uddin, W. and Y. Nanagiri. "Performance of Polymer-Modified Asphalt Overlays in Mississippi Based on Mechanistic Analysis and Field Evaluation." *International Journal of Pavements*, IJP 2002, Vol. 1, No. 1, January 2002, pp. 13-24. Also, in *Applied Rheology* 2004. *many more.*