

REFERENCES

- American Society of Testing and Materials (ASTM). "2004 Annual Book of ASTM Standards, V. 04.04." Rubber, Natural and Synthetic-General test methods.
- Anderson, D. A., Christensen, D.W., Bahia, H.U., Dongre, R., Sharma, M.G., Antle, C.E., Button, J. (1994). "Binder Characterization and Evaluation; Volume 3: Physical Characterization." *Strategic Highway Research Program Report No. SHRP-A-369*, National Research Council, Washington, D.C.
- Asphalt Institute (2003). "Performance Graded Asphalt Binder Specification and Testing." Superpave Series No. 1 (SP-1), 3rd Edition, Lexington, KY.
- Asphalt Institute (2007). "Asphalt Binder Testing: Technician's Manual for Specification Testing of Asphalt Binders." Manual Series No. 25 (MS-25).
- Bahia, H. U., Hanson, D. I., Zeng, M., Zhai, H., Khatri, M.A., and Anderson, R.A. (2001). "Characterization of Modified Asphalt Binders in Superpave Mix Design." *NCHRP Report 459*, Transportation Research Board, Washington, D.C.
- Bahia H. U. and Anderson D. A. (1995). "The SHRP Binder Rheology Parameters; Why are They Required and How Do They Compare to Conventional Properties." Transportation Research Board, Reprint 950793, National Research Council, Washington DC, U.S.A.
- Christensen, D.W. and D.A. Anderson (1992). "Interpretation of Dynamic Mechanical Test Data for Paving Grade Asphalt Cement." *Journal of the Association of Asphalt Paving Technologists*, Vol. 61.
- Christensen D. W. (1992). "Mathematical Modeling of the Linear Viscoelastic Behavior of Asphalt Cements." Ph. D. dissertation, The Pennsylvania State University.
- Dickenson E. J., Win H. P. (1974). "The Dynamic Shear Modulus of Paving Asphalts as a Function of Frequency." *Transactions of the Society of Rheology*, Vol. 19-8; 4, pp. 591-606.

Dobson G. R. (1969). "The Dynamic Mechanical Properties of Bitumen." *Proceeding of Association of Asphalt Paving Technologists*, Vol. 38, pp. 123- 139.

Dobson G. R. (1972). "On the Development of Rational Specifications for the Rheological Properties of Bitumen." *Journal of the Institute of Petroleum*, Vol. 58, pp. 14-24.

Federal Highway Administration (FHWA) (1994). "LTTP Seasonal Monitoring Program: Instrumentation Installation and Data Collection Guidelines." Report No. FHWA-RD-94-110. McLean, VA.

FHWA (1994). LTTPBIND V2.1, Software for Selection of PG Binders, Available at:
<http://www.fhwa.dot.gov/Pavement/ltppltpbind.cfm>

FHWA, Pavement Performance Division (1995). "The Long-Term Pavement Performance Program Roadmap, A strategic plan." McLean, VA.

FHWA (1998). "LTPP data analysis: Improved Low Pavement Temperature Prediction." *TECHBRIEF FHWA_RD-97-104*, McLean, VA.

Findley, W. N., Lai, J. S., and Onaran, K., (1976). "Creep and Relaxation of Nonlinear Viscoelastic Materials." North-Holland Publishing Company, Amsterdam, Holland.

Jongepier R. and Kuilman B. (1969). "Characteristics of the Rheology of Bitumens." *Proceeding of Association of Asphalt Paving Technologists*, Vol. 38, pp. 98-121.

Marasteanu, M. O., and D. A. Anderson (1996). "Time-Temperature Dependency of Asphalt Binders – An Improved Model." *Journal of Association of Asphalt Paving Technologists*, vol. 65, pp. 408-435.

Marasteanu, M. O., and D. A. Anderson (1999). "Improved Model for Bitumen Rheological Characterization." *Eurobitumen workshop on performance related properties for Bituminous Binders*, Paper No. 133, Luxembourg.

McGennis R.B., Shuler, S., and Bahia, H.U. (1994). "Background of Superpave Asphalt Binder Test Methods." FHWA Report No FHWA-SA-94-069, Washington, DC.

National Highway Authority (NHA) (1998). "General Specifications." prepared by SAMPAK International (Pvt.) Ltd., Lahore, Pakistan.

NHA (2005). "Annual Maintenance Plan 2005-06. "Operation Wing, Road Asset Management Division (RAMD), Islamabad, Pakistan.

Pakistan Meteorological Department (2005). "Climatic Normals of Pakistan (1971-2000)." Climatic Data Processing Centre, Karachi, Pakistan.

Petersen, J.C., Robertson, R.E., Branthaver, J.F., Harnsberger, P.M., Duvall, J.J., Kim, S.S., Anderson, D. A., Christensen, D.W., Bahia, H.U., Dongre, R., Antle, C.E., Sharma, M.G. (1994). "Binder Characterization and Evaluation; Volume 4: Test methods." Strategic Highway Research Program (SHRP) Report No. SHRP-A-370, National Research Council, Washington, D.C. s

Pink H. S., Men: R. E., and Bosniack D. S. (1980). "Asphalt Rheology: Experimental Determination of Dynamic Moduli at Low Temperatures." *Proceeding of Association of Asphalt Paving Technologists*, Vol. 49, pp. 64-94.

Roberts F. I., Kandhal P. S., Brown E. R., Lee Dah-Yinn, and Kennedy T. W. (1996). "Hot Mix Asphalt Materials, Mixture Design, and Construction." National Center for Asphalt Technology, NAPA Education Foundation Lanham, Maryland, U.S.A.

Solaimanian, M. and P. Bolzan (1993). "Analysis of the Integrated Model of Climatic Effects on Pavements: Sensitivity analysis and pavement temperature prediction." SHRP-A-637, Washington, D.C.

Sulemani, H. R. (1998). "Viscoelastic Characterization of Blended Binders for Asphalt Pavement Recycling." PhD thesis, Department of Civil Engineering, University of Saskatoon, Canada.

Soleymani, H. R., H. U. Bahia, and A. T. Bergan (1999). "Time-Temperature Dependency of Blended and Rejuvenated Asphalt Binders." *Journal of the Association of Asphalt Paving Technologists*, Vol. 68, pp. 129-152.

Van der Poel C. (1954). "A General System Describing the Visco-Elastic Properties of Bitumens and its Relation to Routine Test Data." *Journal of Applied Chemistry*, Vol. 4, pp. 221.

Warren, R.S., R.B. McGennis, and H.U. Bahia (1994). "Superpave Asphalt Binder Test Methods- An Illustrated Overview." FHWA Report No. FHWA-SA-94-068.

William L. M., Landel R. F., and Ferry J. D. (1955). "The Temperature Dependence of Relaxation Mechanisms in Amorphous Polymers and other Glass-Forming Liquids." *Journal of the American Chemical Society*, Vol. 77, pp. 3701-3706.