Geo-China 2016

Material, Design, Construction, Maintenance, and Testing of Pavement

Selected Papers from the Fourth Geo-China International Conference

Geotechnical Special Publication Number 266

Shandong, China 25 – 27 July 2016

Editors:

Don Chen
Jeffrey Lee
Wynand JvdM Steyn

ISBN: 978-1-5108-2976-3

Printed from e-media with permission by:

Curran Associates, Inc. 57 Morehouse Lane Red Hook, NY 12571



Some format issues inherent in the e-media version may also appear in this print version.

Copyright© (2016) by American Society of Civil Engineers All rights reserved.

Printed by Curran Associates, Inc. (2016)

For permission requests, please contact American Society of Civil Engineers at the address below.

American Society of Civil Engineers 1801 Alexander Bell Drive Reston, VA 20191 USA

Phone: (800) 548-2723 Fax: (703) 295-6333

www.asce.org

Additional copies of this publication are available from:

Curran Associates, Inc. 57 Morehouse Lane Red Hook, NY 12571 USA

Phone: 845-758-0400 Fax: 845-758-2633

Email: curran@proceedings.com Web: www.proceedings.com

Contents

Exploratory Study to Use Traffic Speed Deflectometers (TSD) for
Project-Level Pavement Evaluations
Jeffrey Lee, Michael Moffatt, and Jothi M. Ramanujam
Performance Evaluation of Flexible Pavement Using the Finite Element
Method
Anand B. Tapase and M. S. Ranadive
Simulation of the Brazilian Test on Concrete Discs to Verify the
Size Effect Law18
Gauhar Sabih, Laxmi P. Paneru, and Rafiqul A. Tarefder
Freeze-Thaw Resistance of Field and Laboratory Produced Portland
Cement Pervious Concrete
Hao Wu, Zhuo Liu, and Beibei Sun
Impacts of Aggregate Morphological Characteristics on Asphalt Mixture
Performance Based on Experimental Tests34
Xinhong Yang, Yanqiu Bi, Jiupeng Zhang, and Shenglin Liu
Effect of Aggregate Gradation on Volumetric Parameters and the High
Temperature Performance of Asphalt Mixtures42
Weidong Cao, Shutang Liu, Yingyong Li, and Zhichao Xue
Subsidence Prevention Technology of Inspection Chambers on an Urban
Road51
Yong Wang, Yanli Wang, Wenguang Tong, and Jianbin Chen
Predicting the Dynamic Modulus of Asphalt Concrete by Binder DSR
Testing
A. S. M. Asifur Rahman, Umme A. Mannan, and Rafiqul A. Tarefder
Backcalculated Asphalt Stiffness in a Pavement Section in New Mexico67
Md. Rashadul Islam, Mesbah U. Ahmed, and Rafiqul A. Tarefder
Improvment of Micropile Capacities Casting with Pressure and
Considering a Big Interval of Time
A. Soorkty and H. Elarabi

on Rutting Susceptibility by Using the Hamburg Wheel Tracking Device (HWTD)
Matias M. Mendez Larrain and Rafiqul A. Tarefder
Mixture Ratio Design of a Porous Concrete Base in a Tunnel Pavement Based on the Orthogonal Test91
Xinjun Feng, Fuqiang Liang, Hong Jiang, and Jianbo Yuan
An Approach to Estimate the Rutting Performance from the Dynamic Modulus of Asphalt Concrete
Experimental Study and Mechanism Analysis on an Emulsion Wax Curing Agent Used in a Cement-Stabilized Granular Base
Affecting Factors on the Air Content of Concrete
Investigation of the Effects of the Type of Crusher on Coarse Aggregate Shape Properties Using the Three-Dimensional Laser Scanning Technique
Julius Komba, Martin B. Mgangira, and Luckyboy Mohale
Investigation of Weathered Granite for Pavement Material in Coastal Areas of Shandong Province
Surface Energy and Hydrophilicity of Limestone Aggregate
Numerical Assessment of Fibre Inclusion in a Load Transfer Platform for Pile-Supported Embankments over Soft Soil
Expansion and Cracks from a Lime Fly-Ash Stabilized Gravel Base156 Hongsheng Li, Yingbiao Wu, and Zhao Hui
Zambia's Experience on the USE and Performance of Sulfonated Petroleum Products and Other Non-Conventional Soil Stabilizers in Road Construction