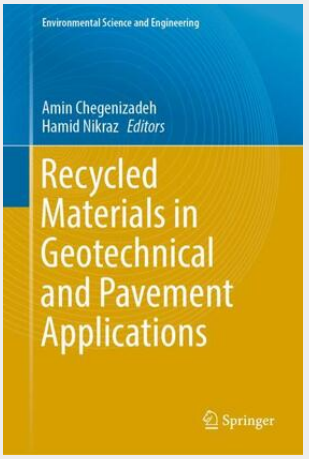
Nikraz / Chegenizadeh

Recycled Materials in Geotechnical and Pavement Applications



This book considers the application of recycled materials both in pavement and geotechnical engineering. Currently, Australia has faced the fundamental concern of recycling waste plastic. On 1 January 2018, China enforced a prohibition on the importation of waste plastic. China's ban is followed by other countries like India, Indonesia, and Malaysia. The ban caused many corporations to abandon waste collection agreements, and the stockpiling of waste, as there is nowhere to safely deposit this waste. This issue seems, to a great extent, to have placed Australia's recycling industry in a crisis. As a result, local councils will have to find strategic ways of recycling accumulated waste that will become a more significant issue in the coming years. In Australia, apart from economic growth, the road pavement has weakened rapidly as the current pavement unable to withstand this urgent traffic load demand. The adding of polymers to the mixtures improves the stiffness, rutting resistance,and fatigue cracking [1]. However, the application of virgin polymer is costly. Thus, using waste polymer such as waste plastic polymer is an inexpensive substitute. The potential for recycled plastic to improve the performance properties of asphalt mixtures has been demonstrated in many countries the UK, Canada, The Netherlands, and India [2]. Similarly, another application of recycled materials can be in geotechnical infrastructure. This book considers the application of recycled materials both in pavement and geotechnical engineering. References [1] Airey, G.D., Singleton, T.M., & Collop, A.C.(2002). Properties of polymer modified bitumen after rubber- bitumen interaction. Journal of Materials in Civil Engineering.14(4), 344- 354. [2] K. O'Farrell. Australian Plastics Recycling Survey-National Report. Australian Government, Department of Environment and Energy, Australia. Project reference,2018 A21502.

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