

Application of Woven Tires Waste as Soft Clay Subgrade Reinforcement for Preventing Highway Structural Failure

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Abstract	<p>This study presents the application of woven waste tires as soft clay subgrade reinforcement for preventing highway structural failure, reducing construction cost and minimizing environmental hazards associated with the increasingly large amount of waste tires in Indonesia. To his end, we performed experiments using five stripe distance variations of woven tires - i.e. 2, 2.5, 3, 3.5 and 4 cm. Five soft clay samples were made and each was reinforced using each of these woven tires. The California Bearing Ratio (CBR) test was conducted on each softclay sample and the CBR value was determined from the stress on the displacement of 0.10 and 0.20 inch. The correlation between CBR value and strip distance was used to infer the optimum woven tires strip distance, indicated by the largest CBR value. The result suggests that the strip distance of 3 cm is optimum with corresponding CBR value of similar to 20%, which is 115% increase compared to softclay without reinforcement.</p>
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