Organic Wastes as an Additive in Artificial Asphalt Production

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In the current of modernity, Malaysia is often said to be faced with pothole problem that pose a risk to road users. In addition, the increase in petroleum consumption will cause a shortage of petroleum-based bitumen production. To solve the problem, we produce the 'Organic wastes Artificial Asphalt ', the cold mix asphalt to replace the current petroleum-based asphalt. The hypothesis of this study is that the organic wastes that used can act as fillers or modifiers in the artificial asphalt mixture that is suitable to replace the existing asphalt. The best mix ratio with a balance combination can provide good performance in terms of strength and resistance to deformation and cracking. The strength was evaluated by conducting with the load test, compressive test, absorption test and microscopic test. This product is relevant for patching potholes and has high potential to be commercialized as the results of the compressive strength test has exceeding the JKR (Malaysian Public Works Department) standard specification for the pavement which is 2 MPa. Through this project, petroleum-based consumption can be reduced, which can indirectly preserve the environment towards sustainable development. In conclusion, the mixing of organic waste materials can produce relevant artificial asphalt that is comparable to existing cold mix asphalt in terms of use. Indirectly, this project has a big impact on the community and the country in reducing the greenhouse effect with less methane and carbon dioxide emissions and being an alternative to the scope of pavement to replace petroleum-based in the future.

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