Review of: "Analytical Study and Amelioration of Plastic Pavement Material Quality"

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Potential competing interests: No potential competing interests to declare.

The manuscript titled "Analytical Study and Amelioration of Plastic Pavement Material Quality" proposes a novel approach to address global plastic waste pollution by recycling plastics into usable pavement materials. This manuscript promises sustainable urban infrastructure development, particularly in areas facing solid waste management challenges. The study evaluates plastic pavement qualities, focusing on combining polyethylene terephthalate (PET) and polypropylene (PP) as binding materials, contributing novelty to the research domain and offering insights into optimizing pavement formulations.

The methodology is clearly outlined, detailing the formulation and testing of plastic pavement samples with varying PET and PP compositions. While the inclusion of physical and mechanical tests provides a comprehensive assessment, enhancing reproducibility by specifying testing protocols and standards would strengthen the accuracy of the study.

Results from physical and mechanical tests offer valuable insights into pavement performance, informing its suitability for urban applications. However, further discussion on the implications of observed trends, such as the relationship between plastic composition and pavement strength, would enrich the analysis.

The conclusion highlights practical implications, guiding potential applications based on optimal plastic compositions. Recommendations for future research, such as exploring alternative plastic combinations and investigating long-term durability, would advance knowledge and inform policy in addressing solid waste challenges.