

Review of: "Effective use of Waste Materials: A Case Study of Utilization of Fly Ash in Flexible Pavement Structures"

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Potential competing interests: No potential competing interests to declare.

The utilization of industrial byproducts such as fly ash within the construction sector embodies an innovative and sustainable research idea. The authors have conducted an exhaustive literature survey concerning the properties, classifications, and diverse applications of fly ash in concrete formulations. The manuscript is expressively crafted, encapsulating a synthesis of prior research, particularly relating to the substitution of cement with fly ash in concrete pavement constructions. Fly ash compromises the ingredients similar to those of Portland cement, so its replacement with fly ash gives strength comparable to that of cement. Also, the stabilization of the subgrade layer and replacement of aggregate with fly ash is fine.

On the other hand, as the title of the present manuscript focuses on flexible pavement, the partial replacement of asphalt with fly ash arises as an issue. Also, the literature survey on this aspect is negligible. So, one could not conclude soundly without performing a physical test. As already pointed out by the authors, field testing should be done to conclude significantly about the utilization of fly ash in asphalt substitution.

Overall, as a review paper, the manuscript in its present form exhibits commendable coherence and comprehensively canvasses an extensive range of investigations; concerning both rigid and subbase layers of flexible pavement with fly ash.