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

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Potential competing interests: No potential competing interests to declare.

Review on “Analytical Study and Amelioration of Plastic Pavement Material Quality” (Preprint v1) by

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The focus of the study is of due relevance in today’s scenario. While the article has rightly highlighted the need for the present study, a few things need to be addressed. They are as follows:

a. A literature review is presented. However, the most current literature that has been referred to is of 2019. Hence, the authors may include a few of the latest studies in this area of research.
b. While relevant work with reference to the cited articles has been described, the grey areas of the existing research are not highlighted. It is suggested that a separate paragraph summarising the state-of-the-art of the existing research and a few grey areas thereof be included at the end of the “Introduction.” It is required to establish the novelty of the present work.
c. Authors must explain the basis behind selecting a few particular ratios, e.g., PP:Sand or, PET:PP, etc.? Looking at Fig. 6 (e.g.), why not a PP:Sand >5:5 is selected; it could have further increased the compressive strength. Similarly, PET: Sand>30% could be tried to see the trend. This is applicable for all the similar figures.
d. Some physical insights should be included regarding why the compressive strength and flexural strength are fluctuating/varying in Figs 6-9 for different ratios of the constituents.
e. It is true that plastics are a threat to the environment, so recycling the dumped plastics is a good option. However, as the plastics require to be melted at high temperatures for mixing with sand, isn’t it again an environmental concern that such melting would generate unwanted gases? Is there a way out?
f. It is not clear how the mix of sand and PP and/or PET would be laid during the pavement construction. The authors are supposed to throw some light on it using relevant photographs, etc.
g. As the roads are subjected to vehicular traffic, the performance of the roads using the suggested mix needs to be studied under dynamic loads also. It may be mentioned in the “Future scope” of the research.

Best wishes to the authors,

Dr. P. Topdar