

# 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 Comment

**Title:** Analytical Study and Amelioration of Plastic Pavement Material Quality

### General Comments:

### Specific Comments:

### Abstract:

1. "The effect of the flexural strength test demonstrated that the flexural strength increases with an increase in plastic quantity in any pavement". Does plastic quantity have any optimum value?
2. Amend '1.953 g/cm3' as '1.953 g/cm<sup>3</sup>'.

### Introduction:

1. Use N/mm<sup>2</sup> instead of N/mm2.
2. Either use N/mm<sup>2</sup> or MPa for the unit of strength. It should be consistent throughout the manuscript.

### Materials and Method:

1. Use g/cm<sup>3</sup> instead of g/cm3.
2. What about the sieving result of the sand in terms of grading curve and fineness modulus?
3. Specific gravity, bulk density, water absorption, etc., of the sand should be provided.
4. Here the specimens are prepared by weighing the waste plastic materials and sand [2][3][4][5][6]. Why so many citations for this procedure? Only one citation of the standard procedure may work.
5. The crushed plastics were melted in a chamber at a temperature of about 168 °C. The melted plastics were stirred for 10 minutes, and the right proportion of sand was added to the melted plastic in the chamber. The final combination was stirred for 25 minutes before being poured into the molds. Are such plastics allowed to melt, which gives very hazardous gases harmful to human health?
6. Amend both equations on page 5.
7. "V is the calculated volume of the sample from  $V = l \times w \times t$  (length, width, and thickness),  $D_b$  is the bulk density,  $D_t$  is the absolute density". Please amend the content.

8. "The standard for the evaluation was done using EN19601-NFP15:45-DIN1164 PREN/ISO679". Make the citation.
9. "The maximum ultimate stress ( ) and the modulus of elasticity (E).....". What is there inside the parentheses?
10. Amend equations on page 7 in symmetric order.

## Results and Discussion

1. Amend all result graphs and tables to be suitable in an engineering journal. Expression of data is in the wrong format.  
Either use the standard graph or table format properly.
2. Fig. 6: What are the units of the horizontal and vertical axes of the graph? What do data like 14.7 and others mean?  
What does the compressive strength variation mean?
3. Note that the texts in tables and figures should be consistent with the main text.
4. Figs. 6-11: What are the test results of the control mixture, i.e., the mixture without plastic?

## Conclusions

Conclusion should be rewritten to include a general conclusion, implementation scope, and environmental impact.

Recommendation: Major revision if this journal accepts such a manuscript involving the melting of plastic waste, which harshly affects the environment and human health.