

Review of: "The Effects of Polypropylene Wastes on the Compressive Strength of Grade 25 Concrete"

Thanh Mai Nguyen Tran¹

¹ Changwon National University

Potential competing interests: No potential competing interests to declare.

Title

The title is clear and descriptive, accurately reflecting the study's focus.

Abstract

The abstract succinctly summarizes the research objective, methodology, key findings, and conclusion. However, consider including specific numerical results (e.g., the compressive strength values at various percentages of PP replacement) to provide a clearer picture of the findings.

Some sentences could be improved for clarity. For example, "This depicts that polypropylene can be used in producing sustainable concrete" could be rephrased to "This suggests that polypropylene can be used to produce sustainable concrete."

Introduction

The introduction provides a comprehensive background on the use of polypropylene and other plastic wastes in concrete. It is well-supported by references.

The motivation for using polypropylene waste is clearly stated, linking environmental concerns to the research objective. Consider discussing more recent studies to ensure the literature review is up-to-date.

Materials and Methods

The methodology is detailed and includes the types of materials used, their preparation, and the testing standards followed.

It's good that specific standards (e.g., ASTM, BS EN) are cited for the various tests conducted. However, ensure all standards cited are the latest versions.

Clarify why only certain percentages (5%, 10%, 15%, 20%) of polypropylene were chosen for the study.

The description of the experimental procedure is clear. Ensure that the rationale for choosing the specific size (100mm x 100mm x 100mm) of concrete samples is provided.

Results and Discussion

The results are presented clearly, with figures and tables effectively summarizing key data. Ensure all figures and tables are numbered and referenced correctly within the text.

The discussion interprets the results well, linking them to previous studies. The reasoning behind the observed trends in compressive strength and other properties is logical.

Include more detailed statistical analysis to support the findings. For instance, provide error bars in the figures to indicate

the variability in the data.

Some results, such as the specific gravity and water absorption tests, are briefly mentioned. Consider elaborating on their implications for the overall performance of the concrete.

Conclusion

The conclusion summarizes the key findings effectively and ties them back to the research objectives.

Discuss the potential practical applications and limitations of using polypropylene in concrete. This would provide a broader context for the findings.

References

The references are appropriate and cover a range of relevant studies. Ensure all references are formatted consistently and according to the journal's guidelines.

Verify that all cited studies are correctly referenced in the text and that the information is up-to-date.

Additional Suggestions

Consider expanding the discussion on the environmental impact of using polypropylene in concrete, as this is a key motivation for the study.

Include any potential future research directions that could build on this study.

Proofread the manuscript for grammatical errors and improve the clarity of some sentences.