Review of: "Shear performance of polypropylene fiber reinforced high-strength self-compacting concrete beams"

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Potential competing interests: No potential competing interests to declare.

This research paper is dedicated to determining the influence of four dosages of polypropylene fibers on the mechanical characteristics and cracking behavior of high-strength self-consolidating concrete. It was revealed that the incorporation of polypropylene fibers significantly improved ductility, shear resistance, and toughness of reinforced concrete beams. The purpose of this scholarly work is genuine, and the findings have practical applications in construction. It is recommended for publication. However, there are still major issues that must be modified carefully before the final acceptance of the research paper, as follows:

Comment 1: The section “Introduction” still lacks novelty and originality. Further information and references should be provided about the features and properties of the targeted concrete (high-strength self-consolidating concrete) and polypropylene fibers. The introduction should be an in-depth critique of previous scholarship to show the awareness of the author of the subject, not only a simple summary of background reading.

Comment 2: The main body of the paper is not well-defined, and it is incoherent. There is no section named “Results and Discussion” for the purpose of discussing and supporting findings. Findings and results need to be supported by compelling reasons and backed up by sensible explanations. Only laying out results in the form of tables and figures is not sufficient.

Comment 3: There is a glaring error about the dimensions of the reinforced beams. It was stated in the Abstract that the dimensions of the beams are 1800 mm, 150 mm, and 200 mm, while it was reported on Page 4 that the dimensions of the beams are 1600 mm, 120 mm, and 200 mm. Which one is correct?????

Comment 4: In Figure 2, the details of rebar and stirrup are not in conformity with what has been argued within the main text.

Comment 5: In Figure 3, the details of the beams are incorrect.

Comment 6: What is the type of cement used in the section “Materials”?

Comment 7: Further information about the constituent materials needs to be provided, such as particle distribution of materials, microstructure, chemical compositions, and mechanical features. At least, it is suggested that chemical compounds of the incorporated materials be provided.

Comment 8: In Table 7, the amount of employed silica fume “570” should be modified.

Comment 9: The water-to-binder ratio should be discussed.

Comment 10: The standards used for testing each sample and the required specifications should be specified.

Comment 11: The mechanical properties of the developed concrete bear a striking resemblance to high-performance concrete. Isn’t it?

Comment 12: The number of mixtures must be provided on Figures 9 and 10.