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Peer Review

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

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This paper has strong technical content, but the writing could definitely be improved. There are several grammar mistakes and awkwardly worded sentences throughout, and some parts of the discussion feel repetitive instead of directly highlighting the key findings. I recommend using Grammarly to fix some grammatical errors. The paper is also split into two parts, fresh concrete properties and beam shear behavior, which makes it feel slightly disconnected at times.

That said, the experimental program is detailed and well thought out. I liked that the author tested multiple polypropylene fiber contents (0%, 0.1%, 0.2%, and 0.3%) along with two different compressive strength levels of 80 MPa and 90 MPa, which gives a strong basis for comparison. The use of 16 beam specimens and the inclusion of fresh property tests like slump flow, L-box, and T50 make the study feel complete.

The findings are also practical and interesting. For example, the study shows that adding polypropylene fibers slightly reduced compressive strength by about 2–3%, but increased splitting tensile strength by 4–14%, while also improving cracking shear stress and overall shear capacity. I also liked the discussion on how beams with more fibers absorbed more energy and showed greater deflection before failure, which points to improved toughness and ductility.

Overall, this is a valuable paper for researchers working with high-strength self-compacting concrete and fiber reinforcement. With better editing and a more connected discussion section, it could be an even stronger contribution to structural concrete research.

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Declarations

Potential competing interests: No potential competing interests to declare.