

Recovery of Post-Consumer PET Bottles in a Composite Material Preparation

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Abstract : Manufacturing a composite material from post-consumer bottles is an interesting outlet since Madagascar is still facing the challenges of managing plastic waste on the one hand and appropriate waste treatment facilities are not yet developed on the other hand. New waste management options are needed to divert End-Of-Life (EOL) soft plastic wastes from landfills and incineration. Waste polyethylene terephthalate (PET) bottles might be considered as a valuable resource and recovered into polymer concrete. The methodology is easy to implement and appropriate to the local context in Madagascar. This approach will contribute to the production of ecological building materials that might be profitable for the environment and the construction sector. This work aims to study the feasibility of using the post-consumer PET bottles as an alternative binding agent instead of the conventional Portland cement and water. Then, the mechanical and physical properties of the materials were evaluated.

Keywords : PET recycling, polymer concrete, ecological building materials, pollution mitigation

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