

ABSTRACT

The existence of PET (Polyethylene Terephthalate) plastic bottles as single-use packaging poses a challenge to the environment because they can cause waste problems due to their use and production, which are not balanced with unorganized plastic processing, and their nature is also difficult to decompose. This study aims to provide an innovative solution by utilizing PET plastic bottle waste as filament material for 3D printing technology, which is then applied in the design of a clutch bag for blasustudio. The study was conducted using a mixed-methods approach, including observation, literature review, questionnaire distribution, and direct experimentation with blasustudio. The design process followed the double diamond method, starting from material exploration, market needs analysis, to clutch bag design visualization. The research results show that PET-based filament can produce strong, flexible, and lightweight material. The developed clutch bag prototype not only reflects blasustudio's iconic, clean, and sustainable visual character but also addresses the needs of users concerned about environmental issues. This research demonstrates that innovation based on recycled plastic waste can provide added value both aesthetically and functionally, and has the potential to expand the exploration of recycled materials in the creative industry.

Keywords: *PET plastic waste, filament, 3D print, clutch bag, sustainable design, blasustudio.*