

ABSTRACT

This study aims to explore the utilization of textile waste as a sustainable alternative material through an upcycling method using the gathering & combining technique. Pre-consumer textile waste from the garment industry is often perceived as valueless and discarded, creating significant environmental challenges. This research includes material exploration, mechanical property testing through flexural tests, and the development of sustainability-based products. The results indicate that the alternative material produced possesses sufficient strength for various product applications, such as desk organizers. This approach not only helps reduce textile waste but also creates value-added products that support economic, environmental, and social sustainability principles. These findings contribute to more responsible textile waste management and sustainable design innovation.

Keywords: *flexural test, upcycling, sustainable material, textile waste*