

During my internship, I was assigned the task of reworking the packaging design for a product to improve its sustainability. The product was particularly heavy, which made this task more complex as it required packaging with high impact resistance to withstand transport and handling. The company wanted to maintain performance standards while exploring sustainable alternatives to the existing packaging materials.

My objective was to research sustainable material options that our suppliers could provide, ensuring they would be suitable for packaging a heavy product while also meeting environmental and cost-effectiveness targets. The challenge was finding materials that could provide sufficient durability and impact resistance for the product's weight without significantly increasing costs or compromising sustainability.

I began by thoroughly researching a variety of sustainable materials and collaborating with our suppliers to understand what options were available that met both sustainability and strength requirements. I analysed material properties such as recyclability, cost, and load-bearing capacity, focusing on finding solutions that balanced these factors. Throughout the process, I communicated regularly with the procurement and design teams to ensure alignment with the company's goals and to get feedback on material feasibility. Since I did not conduct physical testing, my approach relied on evaluating technical data provided by suppliers and relevant industry standards to determine which materials were most appropriate.

The research provided valuable insights into the types of sustainable materials suitable for packaging heavy products. Although the final decision required balancing cost and performance, I was able to recommend several materials that offered a good compromise between impact resistance and environmental sustainability. However, I realized that had sustainability been a focus earlier in the product's development, we could have explored more material options with greater budget flexibility. This experience broadened my understanding of the complexities of sustainable engineering, particularly when dealing with heavy products, and highlighted the importance of considering environmental factors early in the design process to ensure a holistic, cost-effective, and functional solution.