

Optimization of Human Hair Concentration for a Natural Rubber Based Composite

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Abstract : Human hair is a non-biodegradable waste available in plenty throughout the world but is rarely explored for applications in engineering fields. Tensile strength of human hair ranges from 170 to 220 MPa. This property of human hair can be made use in the field of making bio-composites[1]. The composite is prepared by commixing the human hair and natural rubber in a two roll mill along with additives followed by vulcanization. Here the concentration of the human hair is varied by fine-tuning the fiber length as 20 mm and sundry tests like tensile, abrasion, tear and hardness were conducted. While incrementing the fiber length up to a certain range the mechanical properties shows superior amendments.

Keywords : human hair, natural rubber, composite, vulcanization, fiber loading

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