

EVALUATION OF KAPOK FIBER FOR POTENTIAL USE IN FILTRATION APPLICATIONS

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Kapok fiber is a kind of hydrophobic and oleophilic natural fiber with large hollow structure. These unique characteristics are quite different from common cellulose fiber and may lead to potential use in air filtration because many conditions are facing with oil contaminant. In this paper, characteristics of kapok were studied, and filtration media were prepared with kapok fiber and traditional hydrophilic cellulose fiber at different blend ratios via the wet-laid method. Paper structure and loading characteristics against A2 fine dust and DEHS mixture were evaluated. It was found that kapok fiber had a significant positive effect on loading when DEHS ratio was higher. Comparing with blank, it increased rapidly from 192.06g/m² to 356.94g/m² when kapok fiber reaches 30%. These results indicate that kapok fiber can be a quality fiber source for filtration media because it can extend the service life in some high oil containing conditions.