



## **Application of natural color from mango leaf in natural rubber**

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In this study, the natural dyes from mango leaf were used for coloring of natural rubber. The prepared dye and lake pigments from mango leaf were yellow brown and yellow, respectively. Dye from mango leaf could mix well with natural rubber while lake pigments from mango leaf could not mix well with the natural rubber: the rough surface of the samples were observed. The samples of natural rubber mixed with dye exhibited brown color, while the samples of silicon mixed with lake pigments was yellow brown. When the added amounts of dye or lake pigments were increased, the colors of the samples turned deeper. Moreover, the samples were also characterized by Scanning Electron Microscopy (SEM), Energy Dispersive X-ray Spectrometer (EDX) and CIELAB. The color releasing test was also performed and the results showed that there were some leached dyes from the samples, while in case of the lake pigment samples, the leaching was much slower, therefore, the color endurance of the lake pigment samples were better than the dye samples.

**Keywords:** Natural dyes; Mango leaf; Natural rubber