**Oil Palm Ash ( OPA) as a potential new reinforcing filler in natural rubber compounds: Properties assessment of raw OPA and treated OPA-reinforced natural rubber compounds**

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**Abstract:**

The preliminary aim for this research work is to seek for potential utilization of non-treated and treated oil palm ash in the natural rubber compounds. The non-treated OPA and treated OPA with hydrochloric acid (HCl) solution were compounded with the natural rubber using conventional laboratory sized two roll mill and compare its properties in terms of the curing characteristics, tensile properties and swelling assessment. The scorch time and cure time of treated OPA-filled natural rubber compounds show longer time than non-treated OPA ones. Whereas, the tensile strength of treated OPA-filled natural rubber compounds was higher than non-treated OPA-filled natural rubber compounds, which was supported by tensile fractured surface. Swelling assessment also indicates the treated OPA-filled natural rubber compounds had lower value of Qf/Qg than non-treated OPA ones.