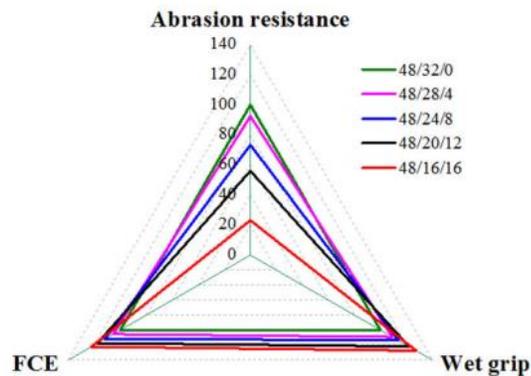


Influence of Halloysite Nanotube on Properties of Tire Tread Compounds

The development of new technology for high-performance passenger car tire production has progressed rapidly during the last few decades. With the great concern of environmental protection, tire development has focused on improving fuel consumption efficiency. From this point of view, the use of silica in conjunction with silane coupling agent has gained much attention from tire technologists because it offers lower hysteresis loss (or rolling resistance) desirable for tire tread applications. This work investigates the effect of partial replacement of carbon black (CB) with halloysite nanotube (HNT) on various properties of tire tread compounds. In addition to the mechanical properties, the wet grip and fuel consumption efficiency (FCE) widely used to indicate tire performance are also investigated. The results exhibit significant enhancement in wet grip and FCE with partial substitution of CB with HNT.

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Reference:

U. Thepsuwan, P. Sae-oui, C. Sirisinha, P. Thaptong, Influence of Halloysite Nanotube on Properties of Tire Tread, Compounds Filled with Silica and Carbon Black Hybrid Filler, Journal of Applied Polymer Science, 2019, DOI: 10.1002/app.46987.

