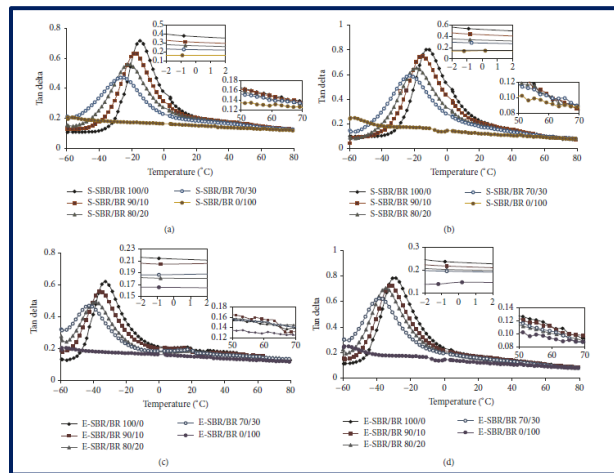


Study on Properties of Carbon Black-Filled and Silica-Filled SBR/BR Tire Tread Compounds

In general, tire performance is justified by three main properties: (i) rolling resistance; (ii) wet grip efficiency, and (iii) abrasion resistance. Attempts to reducing the rolling resistance of tires have gained much attention during the last two decades due to the increased demand for green transportation as tires are responsible for approximately 20–30% of vehicle’s fuel consumption. This work investigates the properties of tire tread compound based on styrene-butadiene rubber (SBR) and butadiene rubber (BR) blends as affected by different types of SBR, i.e., (E-SBR and S-SBR) compounds. The results demonstrate the superior performance of tire tread compounds using S-SBR, especially when precipitated silica is used as reinforcing filler.

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The Figure revealing loss factor results as predictors for wet grip and rolling resistance (as parts of tire performance) as prepared with different blend ratio and SBR types

Reference:

P. Sae-oui, K. Suchiva, **C. Sirisinha**, W. Intiya, P. Yodjun, U. Thepsuwan, Effects of Blend Ratio and SBR Type on Properties of Carbon Black-Filled and Silica-Filled SBR/BR Tire Tread Compounds, *Advances in Materials Science and Engineering*, 2017, <https://doi.org/10.1155/2017/2476101>.

