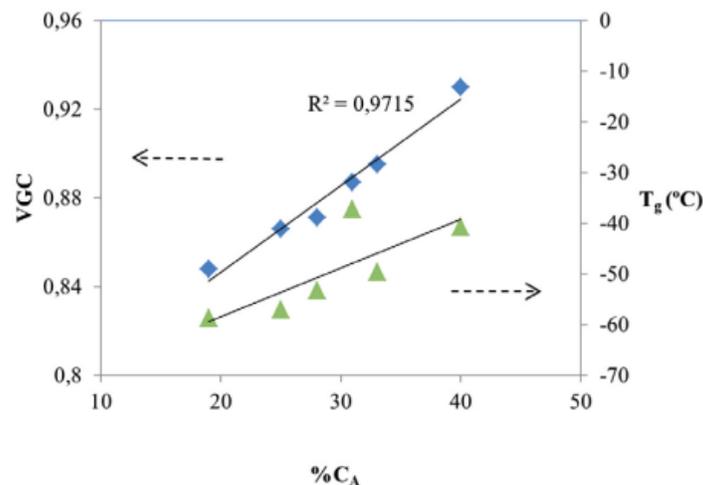


Tyre Sidewall Component from Natural Rubber/Butadiene Rubber (NR/BR) Blends

In the rubber industry, rubber processing oils (RPOs) are commonly used as processing aids and extender oils for improving the processability and filler dispersion level of rubber compounds. Also, in views of rubber vulcanizates, their mechanical properties are affected, for examples, a reduced modulus, an increased elongation at break, and improved low-temperature flexibility with the sacrifice in decreased strength. Typically for the tire industry, aromatic oil (or the so-called treated aromatic extract; DAE) is widely used. However, DAE contains carcinogenic substances, and therefore, in this study, the aromatic content in RPO is controlled before being incorporated into rubber mixes. Its effect on physico-chemical properties of RPO, rheological properties, cure characteristics and mechanical properties of rubber is drawn. The results exhibit the dependence of RPO loading rather than aromatic content (%CA) on the properties of rubber vulcanizates.

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Correlation of viscosity-gravity constant (VGC) and glass transition temperature (T_g) of RPO with various aromatic content ($\%C_A$).

Reference:

I. Masaesa-I, C. Sirisinha, Aromatic Content of Rubber Process Oils Influencing Properties of NR/BR Blends for Tyre Sidewall Component, *Kautschuk & Gummi-Kunststoffe*, 73(3), 49-54, 2019.

