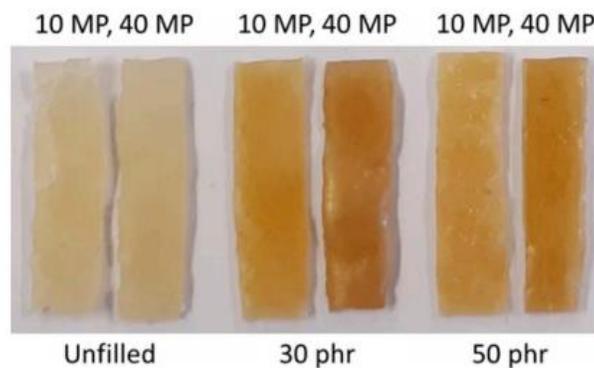


Structure and Rheological Properties of Silica Nanocomposites Based on Natural Rubber

Rubber nanocomposites are composed of hard nanoparticles embedded in a rubber matrix, aiming to improve mechanical properties to match the applications required. However, the rheological properties governing the composite processability must be understood and properly controlled. The main objective of this work is to study the influences of thermal treatment and processing on the rheological behavior of the natural rubber reinforced with nano-silica. The results clearly demonstrate the possibility of reforming the silica transient network under thermal treatment, erasing the milling history effect.

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The appearance of unfilled and silica-filled samples with 10 and 40 milling passes.

Reference:

K. Boonsomwong, AC.Genix, E. Chauveau, JM. Fromental, P. Dieudonné-George, **C. Sirisinha**, J. Oberdisse, Rejuvenating the structure and rheological properties of silica nanocomposites based on natural rubber, *Polymer*, <https://doi.org/10.1016/j.polymer.2020.122168>.

