

Abstract Submitted
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On Fundamentals of Filler Reinforcement: an Investigation Using Polymeric Nanoparticles XIAORONG WANG, Bridgestone Americas, Center for Research & Technology — We investigate the filler reinforcing mechanisms and the interactions using polymer-grafted nanoparticles [1,2] of various brush lengths and densities in polymer matrices of various molecular weights. We find that the modulus enhancement and its nonlinearity vary and depend on the distance of the system approaching the critical state, and that simple laws of corresponding state could describe the phenomena. [1]. Chem. Phys, 2004, 16, 121.; ACS Proceedings: PMSE, March, 2006. [1]. USP6437050; 6689469; 6872785; 6875818; 6956084.

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