

## Processing characteristics and physicomechanical properties of natural rubber and liquid natural rubber blends

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### Abstract

Investigations into the processing characteristics and physicomechanical properties of natural rubber (NR) modified with liquid natural rubber (LNR) were carried out. Liquid natural rubber samples (of different molecular weights) were first produced by depolymerization of natural rubber latex (NRL), using nitrobenzene as the depolymerizing agent to lower molecular weight rubbers. The LNRs produced were then mixed with natural rubber in various proportions. The NR/LNR blends showed better processing characteristics by having higher scorch time and lower cure rate, higher molecular mass between crosslinking resulting from the lower volume fraction of the LNR, and good solubility properties; and marginal differences in shear modulus, crosslinking densities, Mooney viscosity, plasticity, and the plasticity retention index compared to properties of an unmodified NR. © 2002 Wiley Periodicals, Inc. *J Appl Polym Sci* 85: 1070–1076, 2002.

### Keywords

natural rubber; natural rubber latex; liquid natural rubber; processability; physicomechanical properties