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(54) Title: ELASTOMER COMPOSITIONS AND METHODS THEREOF

(57) **Abstract:** The present disclosure relates to gas impermeable, self-healing, and self-sealing elastomeric compositions and methods thereof. In at least one embodiment, an elastomer composition comprises a first elastomer and a second elastomer, wherein the first elastomer is a copolymer comprising p-methylstyrene, p-halomethylstyrene, and isobutylene derived repeat units and comprises about 30 phr to about 100 phr of the elastomeric composition. In at least one embodiment, an elastomeric network includes a first elastomer, a second elastomer, and a nucleophilic compound, wherein the nucleophilic compound is a crosslinking agent and comprises about 1.4 phr to about 2.7 phr of the elastomeric composition. In some embodiments, a method comprises mixing a first elastomer and a second elastomer to form an elastomer composition, blending the elastomer composition with a nucleophilic compound to form an elastomeric network, and integrating the elastomeric network into an outer rubber sidewall layer of a tire.

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