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(54) Title: REINFORCED NETWORKED POLYMER/CLAY ALLOY COMPOSITE

(57) Abstract: A reinforced networked polymer/clay alloy composite is produced by contacting a monomer/clay mixture with a reinforcing agent. The monomer/clay mixture comprises a monomer, a cross-linking agent and clay particles. An initiator means is used to initiate polymerization of the monomer/clay mixture, while the cross-linking agent concurrently acts to network oligomeric and polymeric species formed during polymerization to produce a networked polymer/clay alloy in the presence of the reinforcing agent. The networked polymer/clay alloy is intimately integrated with the reinforcing agent such that, on exposure to water, the networked polymer/clay alloy swells with substantially no clay separating from the composite.

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