

Polymer lifetime studies in hostile environments.

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Abstract

White pigmented PVC pipe sections were exposed to natural weather at 7 different locations in Saudi Arabia. The exposed samples were characterized by FTIR spectroscopy, GPC, and SEM. Performance characteristics were detd. by testing changes in the mech. properties. Functional groups introduced during the processing of PVC and irregularities in the polymer chain can be responsible for the initiation and propagation of photooxidative degrdn. reactions catalyzed by high surface temp. and increased humidity.