ABSTRACT


This work presents results of stress cracking tests (SC) accomplished in virgin and degraded polyethylene (PE) geomembranes at laboratory. Geomembranes were degraded by exposition to ultraviolet radiation, by thermal aging in oven with circulation of air, and by chemical compatibility with sodium hydroxide and with leachate of alcohol production. The results of these tests demonstrate that the degradation processes of the geomembranes were submitted can be considered catalysts of the phenomenon of SC, because they happened resistance reductions to stress crack resistance of the order from 50 to 60%, with exception for the sample in chemical compatibility with leachate of alcohol production, that had an increase of 17% in the stress crack resistance.

Key-words: Geomembranes, Polyethylene, Stress Cracking, Degradation, Chemical Compatibility, Ultraviolet Radiation, Heat.