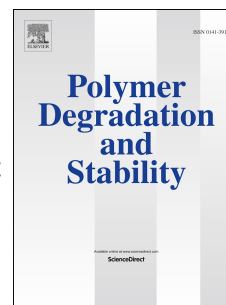


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**Effect of crystallinity on CF/PPS performance under weather exposure:
moisture, salt fog and UV radiation**

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ABSTRACT

The crystalline content of a composite can affect its performance under environmental conditions. The objective of this study is to evaluate the influence of the crystallinity degree of CF/PPS composites to hygrothermal, salt fog and ultraviolet/condensation conditioning. DSC and DMA results, and Young's modulus and ILSS values were used to evaluate the changes in the thermal and mechanical properties of CF/PPS composites after conditioning. The crystallinity degree showed to affect the water uptake and the severity of degradation. Differences up to 40% were found among the mechanical properties values depending on the crystallinity. In the hygrothermal and salt fog conditioning the least crystalline laminates were mostly degraded. In contrast, in the ultraviolet/condensation conditioning the composites with the highest crystalline contents were more affected.

Keywords: Carbon fibers; Polymers; Environmental degradation; Crystallinity.

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