THERMOGRAPHY BASED ASSESSMENT OF THERMAL PRE-DEGRADATION OF CARBON/EPOXY COMPOSITES

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Summary. This work aims at developing an experimental procedure based on infrared thermography as nondestructive technique to assess thermal pre-degradation effects on speeding up of damage of fibrous stratified with polymeric matrix materials and the reduction of their life time. To perform such a study, test specimens from carbon fibers and epoxy matrix were prepared according to ASTM D3039-76 norm. Two third of these specimens were subject to a pre-degrading process at two different temperatures. Mechanical tests on these specimens were followed by infrared thermography in order to gather information about mechanical characteristics and to analyze the fracture process.