Fatigue Life of Thermoset Composite Materials

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This article deals with the lifetime of laminated materials produced by different production technologies (hand lamination technology, vacuum bagging technology and pre-preg technology with curing in oven) during cyclic repeated bending stress. Like tested materials were chosen composite systems with epoxy matrix and carbon reinforcement (Kordcarbon CC200T, epoxy resin with trade name L285) and second composite epoxy system with glass reinforcement (quadraaxial glass fabric, named Saertex Q-E-820, epoxy resin Biresin CR 82 and third pre-preg systems (unidirectional pre-preg, trade name Deltapreg VV430U-DT860W-39% and prepreg system with glass fabric VV320P_DT806R-37%). Fatigue tests were performed by cyclic bending loads during a three-point arrangement on a universal servo-hydraulic testing machine INSTRON 8871. Experimentally was determined number of cycles to fracture of the material at 90% and 80% of the maximum breaking load.

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