

The analysis of stiffness degradation and the identification of damage mechanisms during and after fatigue tests of sandwich panels with PVC foam cores have been performed. The sandwich panels with cross-ply laminates skins made of glass fiber and epoxy resin were manufactured by vacuum moulding and subjected to three-point bending tests. Two PVC cores of similar type but with differing densities were investigated. The effect of core density and thickness on the damage behavior was highlighted. Using the cyclic life criterion, fatigue curves were plotted according to two models and compared with those of the literature. It has been demonstrated that the sandwich SD 2, with the higher core density, withstands a higher load and possesses greater rigidity in static tests, combined with an enhanced fatigue resistance, when compared to sandwich SD 1 which has a lower core density