

عنوان مقاله:

Investigating the Effect of Fiber and Core Type on the Bending and Buckling Behavior of Bio-Based/Green Sandwich Structures

محل انتشار:

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خلاصه مقاله:

Green sandwich structures have received widespread attention due to their unique features in terms of mechanical properties and degradability. In these structures, the selection of the core material is very crucial due to the resistance of shear and buckling loads. The skin type is also important because of the protection of the core, as well as bearing the bending and impact loads. In this paper, the bending and buckling behavior of bio-based/green sandwich structures was experimentally studied. The whole sandwich structures were manufactured using bio-based materials including Poly lactic Acid (PLA) as the matrix, basalt, and hemp fibers as reinforcements as well as balsa and agglomerated cork as core materials. In the next stage, different types of sandwich structures with various skins and cores were subjected to bending and axial compressive loading and the effect of the core and skin type on the structural behavior of these structures was evaluated.

کلمات کلیدی:

Bio-based/green sandwich structures; Agglomerate cork; Balsa; Basalt fiber; Hemp fiber

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