Influence of environmental humidity and temperature on the creep behavior of sandwich panel

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Highlights

- 3D moisture-displacement finite element (FE) model has been developed to study the flexural creep of the sandwich panel containing Kraft honeycomb core and wood composite skins in different constant and cycle humidity environment and temperature.
- Either cycling frequency or cycling amplitude of humidity environment affected creep deflection of sandwich panel.
- The initial moisture content in skins mainly affected the creep of sandwich panel in cycling humidity as time, but the initial moisture content in core influenced the creep in both constant and cycling humidity.
- Temperature affected the creep of sandwich panel in either constant or cycling humidity.