

## Numerical Study for Compressive Strength of Basalt Composite Sandwich Infill Panel

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**Abstract :** In this study, we investigated the buckling performance of basalt fiber reinforced polymer (BFRP) sandwich infill panels. Fiber Reinforced Polymer (FRP) is a major evolution for energy dissipation when used as infill material of frame structure, a basic Polymer Matrix Composite (PMC) infill wall system consists of two FRP laminates surrounding an infill of foam core. Furthermore, this type of component is for retrofitting and strengthening frame structure to withstand the seismic disaster. In-plane compression was considered in the numerical analysis with ABAQUS platform to determine the buckling failure load of BFRP infill panel system. The present result shows that the sandwich BFRP infill panel system has higher resistance to buckling failure than those of glass fiber reinforced polymer (GFRP) infill panel system, i.e. 16% increase in buckling resistance capacity.

**Keywords :** Basalt Fiber Reinforced Polymer (BFRP), buckling performance, FEM analysis, sandwich infill panel

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