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## Fracture behavior and fracture toughness of composite sandwich structure with Al foam core

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### ABSTRACT

The mode I interface fracture toughness ( $G_{IC}$ ) of sandwich structures with Al foam core and carbon fiber composite facesheets is determined by modified cracked sandwich beam (MCSB) experiment. There is a pre-crack on the upper face/core interface. The strain energy release rate (SERR) is calculated from the load and displacement curves by using the area method. The specimens failed only in the core. The interfacial fracture toughness of the foam core materials is significantly higher than the Mode-I fracture toughness of the core alone.

**KEYWORDS:** cracked sandwich beam (CSB), Al foam, strain energy release rate, fracture toughness