

## عنوان مقاله:

Numerical and Experimental Static Bending Analysis of Composite Sandwich Panels with Grid-Stiffened Cores Before and After Transverse Impact Loading

## محل انتشار:

مجله بین المللی طراحی پیشرفته و تکنولوژی ساخت, دوره 15, شماره 1 (سال: 1401)

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## خلاصه مقاله:

Nowadays grid structures are considered as one of the most useful composites because of their various applications. Since grid structures are vulnerable to impact loads, they should be investigated under such loadings. The present paper studies the low-velocity impact loading of sandwich panels with grid-stiffened cores using both experimental and numerical simulations. In addition to the impact behaviour and the resultant damage of the sandwich panels, the behaviour of these structures under three-point bending was studied before and after the impact loading. The results were provided for impact and bending loadings separately. Then the effect of impact loadings on bending strength was investigated and it was found that the impact loading decreases the bending strength. A consistency between numerical and experimental results was also observed, which confirms the applicability of the Finite Element Method (FEM) in simulating the behaviour of such structures under impact and bending loads, while saving lots of time, efforts and costs.

## کلمات کلیدی:

Composite, Finite Element Method, Grid Structures, Sandwich panels

## لینک ثابت مقاله در پایگاه سیویلیکا:

<https://civilica.com/doc/1435168>

