

# Accepted Manuscript

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PII: S2214-9147(17)30248-9

DOI: [10.1016/j.dt.2018.02.002](https://doi.org/10.1016/j.dt.2018.02.002)

Reference: DT 291

To appear in: *Defence Technology*

Received Date: 19 December 2017

Revised Date: 24 January 2018

Accepted Date: 6 February 2018

Please cite this article as: Vedrtnam A, Experimental and simulation studies on delamination strength of laminated glass composites having Polyvinyl butyral and Ethyl vinyl acetate inter-layers of different critical thicknesses, *Defence Technology* (2018), doi: 10.1016/j.dt.2018.02.002.

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## Experimental and simulation studies on delamination strength of Laminated Glasscompositeshaving Polyvinyl Butyral and Ethyl Vinyl Acetate Inter-layers of Different Critical Thicknesses

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### Abstract

The laminated glasses(LGs)composites are gaining popularity as protective structural material. Delamination strength (DS) of (LGs) with different inter-layers and their different nominal thicknesses were compared. The effect of inter-layer thickness, delamination load, and inter-layer type on DS is clearly observed from this brief study. It is concluded that inter-layer thickness has the significant role in determining the DS of LGs. The statistical analysis confirmed the strong association of DS with inter-layer thickness and the interlayer type. It was found that the LG-PVB composite has the comparatively lower DS than LG-EVA composite and inter-layer thickness has the prominent role in the determination of DS in the LG-EVA composite. There is an increment in DS with an increment in critical inter-layer thickness in both LG-EVA and LG-PVB composites. The increment in the inter-layer thickness from 0.38 mm to 0.76 mm increases DS significantly; whereas, the further increment in the inter-layer thickness to the higher value has a lesser effect. The finite element model was constituted (without considering the effect of temperature) for determining DS of LG composite. The simulation results were in a good match with experimental results. The results of the present work can be utilized by the design engineers while selecting LG for structural applications.

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