



Behaviour of FRP Retrofitted Glued-Laminated (Glulam) Beams Subjected to Simulated Blast Loads

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Summary:

Preliminary results from an experimental program investigating the behaviour of retrofitted glulam beams subjected to static and dynamic loads are presented in this paper. The effect of glass fibre-reinforced-polymer (GFRP) laminates applied on the tension side was investigated under both static and dynamic loading as a potential retrofit on undamaged specimens. Furthermore, previously damaged beams were restored by applying GFRP confinement to the damaged region. The experimental results showed that the capacity of the retrofitted beams was improved significantly and the restored beams attained a significant level of their original dynamic capacity. Future work involves the development of a material predictive model that can account for the high-strain rate effects as well as investigating more retrofit options.

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