

## PARAMETRIC STUDY OF THE RESPONSE OF A FRP STRENGTHENED ONE-WAY SLAB UNDER BLAST LOADING

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**Keywords:** Blast loading; Finite element modelling (FEM); Reinforced Concrete (RC); Fibre Reinforced Polymers (FRP); Externally Bonded Reinforcement (EBR)

The use of externally bonded Fibre Reinforced Polymer (FRP) composites on Reinforced Concrete (RC) structures is now a widely accepted technique when it comes to the enhancement of blast protection capabilities. The structural dynamic behaviour can be assessed using a Single-Degree-of-Freedom (SDOF) approach and it is highly dependent on the resistance curve of the structure, especially when it refers to the behaviour of the structure after the FRP disruption. This paper presents a numerical parametric study to examine the influence of different strengthening-related parameters on the resistance curve of a one-way reinforced concrete slab. Thickness of FRP, number of strips, contact area, distance between strips and their length are evaluated. The study is conducted by means of a finite element (FE) model of a one-way RC slab under blast loading developed using the LS-DYNA software. Available experimental data of the studied structure is used to validate the FE model. The results of the parametric study are analyzed and discussed in this paper.