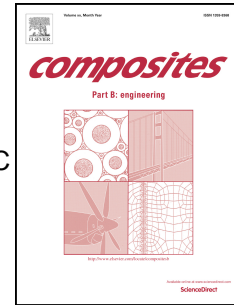


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Influence of FRP wrapping on reinforcement performances at lap splice regions in RC columns

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1 **INFLUENCE OF FRP WRAPPING ON REINFORCEMENT PERFORMANCES AT LAP SPLICE**
2 **REGIONS IN RC COLUMNS**

3
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21 **ABSTRACT**

22 Lap-splice regions are amongst the most critical regions of Reinforced Concrete (RC) members, especially in
23 seismic design. The goal of wrapping with Fibre Reinforced Polymer (FRP) is provide confinement to
24 concrete, however a further important role is either to increase the bond between the reinforcement bars (in
25 pre-cracked conditions) or to provide for bond (in fully cracked cover conditions). The proposed study aims
26 to quantify the beneficial effect of this retrofit technique on the performance of the longitudinal
27 reinforcement with a first attempt to account explicitly for the pointwise variability of confining stresses. For
28 this purpose, both the reinforcement bar working stress and the anchorage length needed to prevent the bar
29 slippage have been analytically assessed. The model has been validated against experimental tests and a

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