

Behaviour of patch repair of axially loaded reinforced concrete beams

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Abstract: Experimental investigation is conducted to assess structurally the effectiveness of patch repair in axially loaded columns. Two patch repair materials are selected with high and low modulus of elasticity. The concrete columns were patch repaired under loaded and unloaded conditions. The patch repair is structurally effective for concrete columns repaired in an unloaded state. While for concrete columns repaired in a loaded state, the patch repair is structurally effective only when additional loading is applied. The load distribution between the patch repair, concrete core and steel reinforcement depends on the modulus of elasticity and areas of these components in the composite section at the repaired zone. For patch repair to be structurally effective, it is recommended to relieve the loads before the patch repair is applied either partially or totally if constructionally possible. 2006 © Elsevier Ltd. All rights reserved.