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Study on Flexural Behaviour of RC Beams with Extra Addition of Glass Fibre and CFRP Composites under Flexural Loading

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Abstract :The damaged or old structures are sometime need to be repaired or reinforced to enhance its structural performances and life. CFRP laminates are new carbon-based composite materials that are attach externally to the concrete beams. The use of Carbon fiber reinforced polymer materials for structural repair and strengthening has continuously increased in recent years, due to several advantages associated with these composites, while comparing with conventional materials. These high strength material improves the bending behaviour of beams. The process of mechanical clamping is done on the precracked CFRP wrapped beams and the strength features are also monitored in the same loading setup. This is achieved by providing a steel frame around the cracked beams at tension zones.

Keywords : CFRP, laminates, flexural behavior, failure modes, glass fiber forced concrete (GFRP concrete), Strengthening, composite materials.

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