

Effects of CFRP Confinement on PCC and Glass Fiber Reinforced Concrete

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Abstract : This paper presents the investigation regarding use of glass fibers in structural concrete members and determining the behavior of normal PCC, GFRC and retrofitted GFRC under different tests performed in the laboratory. Effect of retrofitting on the GFRC & PCC was investigated by using three patterns of CFRP wrapping. Properties like compressive, split tensile and flexural strength of normal GFRC and retrofitted GFRC were investigated and compared with their PCC counterparts. It was found that GFRC has more compressive strength as compared to PCC. At lower confinement pressures PCC behaves better than GFRC. Confinement efficiency was lower in GFRC as compared to PCC in terms of Split tensile strength. In case of GFRC all the patterns of wrapped CFRP strips showed more strength than their PCC counterparts.

Keywords : carbon fiber reinforced polymers, confinement, glass fibers, retrofitting

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