ABSTRACT

The strengthening of existing reinforced concrete columns using steel- or fiber-reinforced polymer (FRP) jacketing is based on a well-established fact that lateral confinement of concrete can substantially enhance its axial compressive strength. In recent years, external confinement of concrete using FRP composites has emerged as a popular method of column retrofit; many recent studies have been conducted on the compressive strength of FRP-confined concrete. These studies showed that FRP-confined concrete behaves differently from steel-confined concrete. Consequently, various models for predicting the compressive strength have been developed specifically for FRP-confined concrete, in the context of column strengthening.