

## FLEXURAL STRENGTHENING OF REINFORCED CONCRETE BEAMS USING VALID STRENGTHENING TECHNIQUES

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### Abstract

Efficiency of strengthening reinforced concrete beams using plain concrete layer, reinforced concrete layer plates is investigated in this research. Experiments on strengthened beam samples of dimensions 100x150 mm were performed. Samples were divided into three groups. Group "A" was strengthened using 20 mm thick concrete layer only (two types). Group "B" was strengthened using 20 mm thick concrete layer reinforced with mesh (two types). Group "C" was strengthened using steel plates. The initial cracking load, ultimate load and crack pattern of tested beams are illustrated. The experimental results showed that, for group A and B, the ultimate strength, ductility, and failure mode of RC beams with the same thickness strengthening layer applied, are affected by type and type of concrete layer, while for group C, these parameters are affected by the fixation technique type.