

Evaluating the Methods of Retrofitting and Renovating of the Masonry Schools

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Abstract : This study investigates the retrofitting of schools in Ahvaz City. Three schools, namely, Enghelab, Sherafat, and Golchehreh, in Ahvaz City are initially examined through Schmidt hammer and ultrasonic tests. Given the tests and controls on the structures of these schools, the methods are presented for their reconstruction. The plan is presented for each school by estimating the cost and generally the feasibility and estimated the duration of project reconstruction. After reconstruction, the mentioned tests are re-performed for rebuilt parts and the results indicate a significant improvement in performance of structure because of reconstruction. According to the results, despite the fact that the use of fiber reinforced polymers (FRP) for structure retrofitting is costly, due to the low executive costs and also other benefits of FRP, it is generally considered as one of the most effective ways of retrofitting. Building the concrete coating on walls is another effective method in retrofitting the buildings. According to this method, a grid of horizontal and vertical bars is installed on the wall and then the concrete is poured on it. The use of concrete coating on the concrete and brick structures leads to the useful results and the experience indicates that the poured concrete filled the joints well and provides the appropriate binding and adhesion.

Keywords : renovation, retrofitting, masonry structures, old school

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