

Strengthening of Brick Masonry with GI wire mesh

Abstract— This paper presents the result of an analytical study, in terms of seismicity, of a single masonry wall before and after the use of a strengthening technique: Wall Jacketing. The study idealizes an inferior material quality and nonengineered plain brick masonry wall for seismic evaluation. The wall was modelled in SAP 2000 and analyzed for the stresses induced and its distribution. As the stresses induced upon seismic loading was beyond its strength, Wall jacketing was introduced as a seismic strengthening measure, and designed. The new analysis showed improved performance. Through the study, it has been concluded that GI wire mesh wall jacketing significantly increases lateral strength and deformability of the seismically deficit low strength masonry structure. It also improves the in-plane strength of the wall, and the structural integrity of the whole structure in terms of in-plane and out-of-plane forces.

Keywords— *Wall jacketing, Retrofitting, Seismic performance, Brick Masonry, GI wire mesh*