Abstract:

In the thought of Peter Rice when the architectural design challenges the laws of nature the structure becomes architecture. A research, developed at the Department of Architecture and Urban Planning of Catania, proposes a reinforced masonry that is built with blocks of natural stone instead of artificial blocks. [8] This occurs because the local stone (basalt) has similar characteristics to artificial blocks used generally to build masonry. This research has interested different aspects related to the building procedure (construction, structural, thermal and environmental aspects). [3-4] Obtained results show good performances of reinforced masonry built with basalt. Law in seismic zone sets some limitations to the building of reinforced masonry for thickness, thinness and restraint conditions. Within this problematic a new phase of this research has been started with the objective to appraise characteristics of pre-stressed masonry built with basalt. This paper shows the contribution that pre-stressed masonry built with basalt offers in architectural design.

Key words: Natural Stone, Reinforced Masonry, Pre-stressed Masonry, Building System, Contemporary Architecture.