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# Contributions about Processes Engineering for Strengthening the Brickwork Diaphragm Structure Buildings

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## Summary

In the first part of the PHD thesis was analyzed the type 4658 project and the dwelling buildings who where built in Iasi town in the period 1962 -1968, comparing with P2-85 norm.

Type 4658 project was elaborated in the year 1961 by the Central Study, Scientific research and Design in Construction, Architecture and Systematization Institute (I.S.C.A.S.) and stood as basis for elaborating of almost all dwelling buildings projects realized in Iasi in the period 1962 -1968.

Afterwards an inventory of the decays noticed after the 1977 earthquake at the previously mentioned buildings was done.



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A comparative analysis was also done between the dwelling buildings projects built in Iasi after the 1963 Skopje earthquake and the type 4658 project and the P2-85 norm.

Afterwards a critical analysis of the existing consolidating solutions referring to a brick structure was done, presenting the advantages and disadvantages of the existent solutions.

After the registering of the decays noticed at dwelling buildings who where built in Iasi town in the period 1962 -1968, having as basis type 4658 project, new possibilities of ensuring the mentioned buildings at seismic actions were proposed:

- Rebuilding or consolidation of the self-sustaining wall from B axis, realizing of the rigid washer effect at the floors level and consolidation of the whole structure.

For the first problem was proposed the remaking of the self-sustaining wall simultaneous with the erecting of some small pillars and straps from concrete steel and of a pre-stressed coupling bars system.

For the realizing of the rigid washer effect was proposed the developing of a pre-stressed metallic coupling bars system placed on transversal direction, the realization of some sockets between the pre fabric bands for taking of the relatives slips and realizing of a new concrete steel floor.

For consolidating the whole structure was proposed the coating of all carrying and not carrying walls, the rigid washer effect being realized by over concreting the floors' pre fabric bands and inputting of some pre-stressed metallic coupling bars.

*Keywords*: Earthquake, Concrete steel, Brickwork, Consolidate, Consolidating solutions, Brick structure, Self-sustaining, Rigid washer effect.



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