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EMERGENCY DESTRUCTION OF A PANEL RESIDENCE BUILDING, TYPE SERIES 1-115

The co-authors consider the design solution developed for a panel residence building, type series 1-115, and provide a description of the emergency destruction of structural elements of a 9-storey panel residence building of this type (built in 1979), following a gas explosion. The overall length of the building is 86.4 m; its width is 12 m. The structural system in this building represents a longitudinal wall. Its external longitudinal walls are wade of ceramsite concrete, while its interior walls are made of concrete. Its reinforced concrete hollow slabs rest on the longitudinal load-bearing walls. The transverse walls of staircases are made of concrete blocks. The strip foundation supports the load-bearing walls of the building. The epicenter of the explosion was located in the kitchen on the eighth floor of the building. The kitchen was immediately adjacent to the staircase of the building. Partial destruction of the building followed the gas explosion. Exterior walls of its eighth and ninth floors and the attic were destroyed. Panel buildings designed in pursuance of the longitudinal structural system are more vulnerable to explosive loads compared to buildings designed to the cross-wall structural system, where bearing slabs rest on three interior walls. Thus, all slabs rest on each of the three internal walls of the building on both sides. In the buildings designed to the longitudinal wall structural system, slabs rest on the two walls, one of which is external. The article is based on the report following the inspection of the technical condition of the building, undertaken subsequent to its emergency destruction.

Key words: structural solution, emergency destruction, emergency impact, inspection of the technical condition of the building.

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