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**ANALYSIS OF THE APPLICATION OF EXTERNAL WALLS WITH A
SCREEN AND AN AIR GAP**

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ABSTRACT

The article presents the results of the analysis of the investigated external walls of residential buildings with a screen and an air gap in a dry hot climate. The preferred distance between the wall and the screen was set equal to 30-40 cm. With these thicknesses of ventilated air layers, the air temperatures at the wall surfaces behind the screen did not differ from the outside air temperature. An air gap is formed in the process of forming by metal inserts by hollow formers, which are removed after the concrete has hardened. The production of such panels requires special molding equipment of the factory technological lines for the production of external wall panels.

KEYWORDS: *Outer Wall, Screen, Air Gap, Thermal Regime, Thermal Conductivity, Heat Resistance.*

REFERENCES

1. Bazilenko G.I. Investigation of the effect of a screen with a ventilated air gap on the heat and sun-protection qualities of external wall fences in prefabricated construction. Dis ... candidate of technical sciences Minsk. 1970.
2. Buadze V.Sh., Kipishidze G.V. External walls with a ventilated air gap for construction in hot and hot humid climates. M., Central Scientific and Technical Institute for Civil Engineering and Architecture. 1975.
3. Bogdanov I.A., Kozhan E.A. External walls with a screen. Housing construction.-M.1975, No. 1
4. Egiazaryan A.E. Design and calculation of three-layer concrete wall panels with connecting ribs. Dis ... candidate of technical sciences Moscow, 1984.15 p.
5. Dzhanyan G.S. Investigation of some issues on the design of curtain walls in a harsh continental climate on the example of the city of Yerevan. Diss..kts.-Yerevan, 1972.
6. Mesropyan A.A. and other Facing of wall panels on the relative. M.: Housing construction. 1981, No. 5, pp. 23-24.
7. Mirianashvili T.Z. Tsibadze O.V. External wall panel with ventilated air gap. In the book.: Housing construction in a hot climate. M.: Stroyizdat. 1964 pp. 103-113.
8. Ruziev Kh.R., Strongin N.S. Theoretical studies of the thermal performance of single-layer shielded panels for hot climates. V.Sb. scientific works "Thermal qualities and microclimate of the dwelling" M TsNIIEP dwelling 1991
9. Ruziev X.R. Lightweight concrete panel walls with a screen for hot climates. Monograph. Durdon. 2020 th 130 pp.
10. Khamidov S.A. Heat engineering calculation of a wall with a transformable air gap. Dis ... candidate of technical sciences. M., 1983, 220 p.
11. Kharyanov V.V. Investigation of the operational characteristics and manufacturing technology of the structure of a panel external wall made of lightweight concrete with a screen on the relative. Dis ... Candidate of Engineering Sciences. M., 1976, 128 pages.
12. Kharyanov V.V., Abramov N.Ya. Exterior wall panels with screens. Housing construction, 1975, No. 10, pages 14-16.
13. Khomutov A.F. An engineering method for calculating the external walls of buildings with a periodically ventilated layer. In the book: Research of thermal protection of buildings. M.: NIISF, p.32-39.
14. A. Bernt. Einfluss der Luftumlenkungen an Abluftöffnungen aus die thermische Entlastung leichter entlüfter Aussenwände, Bauzeitung 1978, no. 2, 94-65
15. Borel G.C. Protection of the Paroisopagues by popesaleilchaheira from the center scientiguettechnique du batiment. Notebooks, Oktobre, 1962, no. 8.
16. Chizlelski Erich. The construction of the ventilating outer wall, Prefabricated Construction-Industrialized Buildings, 1974, Volume 9, No. 1, 30-34.

17. Gertis K. The thermal protection of outside walls with ventilated cladding or cladding. Part VII. Ventilating wall constructions. Thermodynamics, moisture technology and flow mechanics, 1972, 88-104.
18. Hebggen H., Heck F. Exterior wall constructions with optimal heat protection. Bertelsman specialist publisher. 1973, 56-61, 82-89.
19. Wagneur M. L Thermal insulation of the Greux walls., Scientific and technical center of the Konstruktion, 1986, 21, pp. 25-31.
20. Liersch K. Warmedämmung der belüfteten Fassade, DDH, Das Dachdecker-Handwerk, 1984, Brand 105, No. 5, c 30-36
21. Kanis H. Schutzschirme der Warmedämmung - die zweiteschale der Wand, Detail, 1975, No. 1, c 137
22. Special issue of the scientific journal "Development of Science and Technology" in 2020. № Architectural bionic analysis of the Bukhara tower Ruziev Kh.R., Toshev J.T
23. "Compositional structure and design solution of architectural ensembles and complexes outside Bukhara" article, Usmonov E.T. assistant