

## ABSTRACT

Master's thesis for master's degree in specialty 161 "Chemical technologies and engineering" on the topic: « **Optimization of processes of powder formation during the production of foam glass** » / Igor Sikorsky Kyiv Polytechnic Institute; Supervisor: *Plemyannikov M.M.*; Student: *Smakal D.O.*, XM–61m group.

Explanatory note: 100 pages, 44 figures, 17 tables, 28 sources, 1 appendixes.  
Graphic part: 16 slides.

Object of the research - Foam glass at all stages of its transformation from the initial raw meal to the final product. Purpose of the work - Investigation of the physico-chemical processes that occur in the raw mixture during heat treatment, and the kinetics of its foaming. Study of the influence of various chemical impurities on the foaming process. Providing recommendations on optimization of the chemical composition of the initial charge. Optimization of technological parameters of foam glass product.

### Methods of research

Differential thermal analysis, thermogravimetric analysis, dilatometry, volumetry, porometry; study of water absorption, mechanical properties.

Practical recommendations are given regarding the temperature regime of foam glass production.

Based on the results obtained, two reports were made at scientific conferences, two theses of the reports were published.

**Keywords:** FOAM GLASS, FOAMING, CELLULAR STRUCTURE, MASS TRANSFER, PHYSICAL MODELING