ABSTRACT

Master's thesis for master's degree in specialty 161 "Chemical technologies and engineering" on the topic: « **Increase the strength of glass products by their surface modification** » / Igor Sikorsky Kyiv Polytechnic Institute; Supervisor: *Plemyannikov M.M.*; Student: *Zhylina A. I.*, XM–61m group.

Explanatory note: 115 pages, 52 figures, 23 tables, 99 sources, 2 appendixes.
Graphic part: 14 slides.

Object of the research - Float glass with pyrolytic coating of tin and titanium oxides. Sheet glass pane. Glass, subjected to surface modification to strengthen it.

Purpose of the work - To study the methods of modifying the surface of the glass in order to increase the strength of the products.

Subject of study. Mechanical properties: bending strength, microhardness.

Methods of research. Investigation of the surface conductivity of float glass modified with tin oxide. Study of the photocatalytic activity of float glass modified with titanium oxide.

Scientific novelty. The role of various methods for modifying the glass surface

Practical significance. The method of strengthening can be recommended for the production of bulletproof and anti-vandal glasses.

Approbation of results. Strengthening the industrial glass company Pilkington.

Publications.

Strength indices of glass modified by ion exchange. Abstracts of the report. VIII International Scientific and Technical Conference "Chemistry and Modern Technologies". 26-28.04.2017. Dnieper.

Modeling of photocatalytic self-cleaning of glass. Abstracts of the report. VII International Conference of students, graduate students and young scientists in chemistry and chemical technology. 11-13/04/2018. Kiev

Keywords:

FLOAT-GLASS, PYROLYSIS, SURFACE MODIFICATION, GLASS FITTING, MICROHARDNESS, BENDING STRENGTH