

**THE PROSPECTS OF GRANULES GETTING WITH THE SPECIFIC
PROPERTIES IN SMALL-SIZED VORTEX DEVICES**

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The most simple in manufacture and using of industrial explosive agent is porous ammonium nitrate (PAN). PAN is also a basic for production of other explosives.

Currently, the leading overseas companies with produce nitrogen fertilizer granules and porous structure granules have mastered granular product release, which has increased quality indicators, and therefore granulated products

produced in Ukraine may lose the market. For high quality products should be used new technological principles that create the structure of granules in the forming process, which can not provide the tower method of production of ammonium nitrate.

The purpose of the work is a feasibility study for the establishment in Ukraine of modern highly efficient and economical production of PAN, which is currently absent. Development of new production will allow for mining and processing plants, quarries and other companies where conduct blasting operations with low-cost industrial explosives (PAN produced by Russia is used in 80% of industrial explosives). This issue becomes even more pressing due to the fact that the international community plans to shift production to lime ammonium nitrate, which is not explosive.

During heat treatment nitrate granules are less strong than before heat treatment. Reducing the mechanical strength of granules is directly dependent on the number of cycles of heat treatment of which they were subjected. In addition, great importance is the presence these or other impurities in nitrate, most likely ammonium nitrate granules lose strength that contain no extraneous impurities.

The propose way of obtaining the structure of porous granules by heat treatment in combination with moistening granules allows, by varying temperature heating and cooling and cyclical wetting granules, receive the product with desired quality characteristics.

As a result, the comparative study of consumer properties of the product received by no-tower method with the Russian analogue is shown that the keeping ability of PAN on solar oil ranges from 9-17% at the strength of granules to 500 g/granule, and the keeping ability of Russian analogue - 6.8% at average strength of granules 300 g/granule. Experiment results are applied to the development of technological parameters of a porous structure of granules. The proposed technology of PAN, which based on studies, provides the keeping ability, strength and grain size of granules according to the regulations.