INORGANIC KNITTING COMPOSITE MATERIALS ON A BASIS WASTE OF MANUFACTURED MINERAL FERTILIZERS AND TECHNOLOGY OF THEIR RECEPTION

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The composite materials having unique physical-chemical properties are applied now in various branches of a national economy.

In manufacture of inorganic composite materials a special role belongs to the application of thin dispersion mineral fillers to improve their chemical, physical and chemical and operational properties and also reduction of the cost price.

Utilization of mineral raw materials and wastes of various manufactures has big economic importance in this aspect.

In this connection in the present report results of physical-chemical methods of processing of a production waste of phosphoric fertilizers - phosphogypsum and creation of highly effective technologies of reception composite plaster knitting are illuminated. Phosphogypsum is multitonaj production waste of an operational phosphoric acid (OPA) and it consists basically of dehydrate sulphate calcium (CaSO\(_4\) 2H\(_2\)O) of not much amount oxide silicon (SiO\(_2\)) and harmful impurity - rests of a sulfuric and phosphoric acid, connection of fluorine, the amount of which in recalculaion on elementary fluorine makes 0,2-0,4%.

In the report the technological process and mechanism of neutralization of harmful impurity phosphogypsum and feature structure of formation a phosphogypsum knitting composition is resulted at thermal processing in thermal units. It is established the neutralization sour phosphogypsum by waste of a lime factory promotes stable transfer sour fluorine and phosphorite combinations in low soluble connections. The degree of neutralization have shown only transfer of P\(_2\)O\(_5\) into calcium phosphate and hydrosilicoapatyte and also formation of fluorine calcium during heat treatment (PH ≥7,0) the decomposition of connections of fluorine and allocation it in an atmosphere is completely excluded.

On the basis of the carried out researches an entirely new principle is developed for neutralization phosphogypsum and technology of a phosphogypsum knitting compositions α- and β- for updating of building assignment.