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ПОВЫШЕНИЕ ЭФФЕКТИВНОСТИ ДЕЗИНТЕГРАТОРНЫХ ПЕРЕДЕЛОВ
В ПРОИЗВОДСТВЕ СТРОИТЕЛЬНЫХ МАТЕРИАЛОВ

Ю. К. ДОБРОВОЛЬСКИЙ

Научный руководитель Л. А. СИВАЧЕНКО, д-р техн. наук, проф.

Консультант Е. Н. МЕЛЬНИКОВА

БЕЛОРУССКО-РОССИЙСКИЙ УНИВЕРСИТЕТ

To improve the efficiency of disintegrators in building materials production technologies requires an appropriate analysis of the basic industries. As an example, we analyze the current level of technologies development and material comminution processes.

The industrial production in Belarus is characterized by high cost of processing of various materials: building materials, fertilizers, food products, solid fuels, chemicals, additives, all kinds of waste, etc.

The main processing operations are comminution, classification, mixing, transporting, compaction, granulation, drying, roasting, autoclave treatment, vacuumizing.

We focus our attention on the machines used in the process of comminution. We can call them disintegrators, and on this basis give a comprehensive assessment of their technical efficiency and technical level. High energy costs that accompany the process of fine comminution, are not only due to large amounts of materials being processed, but also because of the fact that the machines used for comminution, especially for grinding, have very low efficiency, and their performance factor is a few percent at best.

The analysis of the disintegrating technologies can be carried out according to the following parameters: the volume of production, costs, the level of technologies, the level of equipment, development prospects, the cost of re-equipment, research and design capabilities, engineering base. In regard to the level of mechanical engineering, our own scientific and technical potential should be taken into account.

At present, the most efficient machines for fine comminution of granular materials are mills that use high-speed impact loading. For example, medium-speed mills are used more frequently, their energy consumption per unit of material is twice as low as that of drum mills. Nowadays, the main trend of improving the efficiency in building materials production of is the replacement of traditional equipment by new, energy-intensive one.

Researchers are currently working at developing new, more efficient machines for materials comminution. In the near future the disintegrators will be used more widely due to construction of new cement and lime-sand brick plants, development of iron ores, tripoli, gypsum mines, and as a result of increased production at the existing plants.