

DYNAMIC SIMULATION OF CLOSED CYCLES OF FINE GRINDING

Taking into account high power consumption of fine grinding, it is necessary to develop optimal conditions of production of the pulverizing mill with the required output of the control class and reduced power consumption. Based on the research conducted and current technology of closed cycles for fine grinding, the regularities of variations in the dependency relating a newly formed surface of a pulverized product with power inputs for this process are established. The main goal of fine grinding is formulated: determination of conditions and time when grinding achieves a critical level.

The dynamic results for modelling mineral closed-cycle fine grinding are presented. Based on simulation of grinding kinetics considering transitions between material fractions in a mill, the superficial parameter relating the capacity on a control class with a specific surface of grinding product is determined. It allowed improvement of the mill capacity at the required product dispersivity.

Keywords: fine grinding, dynamic model, output, specific surface, dispersivity.

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