

# EFFECT OF CHANGES OF WORK STRESS ELECTRIC DRIVE CRUSHER

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*The influence of voltage fluctuation on the angular velocity of crushers. The possibility of direct start electric motor crushers and stability conditions of electric motors working in a production environment.*

***Electric, voltage fluctuation, crusher, stability, working conditions.***

At present one of the most important segments of national households are producing high-quality bricks. Some regions of Ukraine intensive recovery be brought because there is a demand for quality construction for o-li. At the present time are a number range of bricks, which vyhotovlyuyut Ukrainian and foreign manufacturing companies.

Hyper brick should be made according to GOST 7-94 B.V2.7.-pressing method, using environmentally friendly material, limestone limestone. Hyper brick tends to the appearance of cracks on the front surface due to relaxation of internal stresses created at the time of pressing. The use of modern technological equipment for the production of Hyper brick, and especially electric drive crushers, can improve the quality of building materials, reliability and durability of building structures.

The reliability of electric drives depends on the quality of the power supply voltage, it must be ensured stability of electric motors working in direct start the engine crusher.

The aim - to determine the effect of voltage fluctuation in angular speed asynchronous electric grinders and stability of their work.

Materials and methods research. The analysis of the angular velocity of asynchronous electric grinders and stability of at changing the voltage was performed using the theory of reliability of electricity supply, electric theory, the theory of systems.

In analytical studies voltage change in the range of 0.75 ... 1,25 Unom. Options mains, power transformers and electric motors have taken according to the real production facility.

Results. In the process of manufacturing operations for the production of products of different sectors of the economy voltage deviation and frequencies of normalized values causes a disturbance of the normal course of technological processes, production of defective products, increase power losses in the power system. Deviations from the nominal voltage values leads to varying angular velocity engine, which in turn cause changing technological characteristics of working machines.

In dismissing voltage motor runs at a working area of mechanical properties, limited slip 0 and critical SKK. It is possible to assume that the mechanical characteristics of the engine on this site linear /

The work was defined power the electric motor crushers brands SM493B and taken to the operation of the motor series AYR225M4UPU3; PH = 55 kW; NH = 1470 min<sup>-1</sup>.

The mechanical characteristics of the motor and the working machine. The possibility of direct start at rated voltage and voltage reduction to 25%.

Electric power plant brick production at OJSC "Polohovskyy chemical plant" coagulant "is performed from the transformer substation 10 / 0,4 kV power 250 kWA.

Tolerance voltage at the terminals of the motor AYR225M4UPU3 is in accordance with the regulations the document has tolerance for electromagnetic devices control and protection exceeds the value at the start of the motor.

So in terms of production now directly launch a powerful motor. This also provides static stability motors running at start-ED series AYR250S2UPUZ.

### **Conclusions**

Deviations voltage reductions in rotor speed motor drive crusher. Factor that influences the change of the engine at various speeds equal to  $x = 1.7$ . As a result, analytical studies found at rated voltage provided by the electric motor direct start

crusher. In dismissing the voltage by 10% static stability motors working in these working conditions is not guaranteed.