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**THE INFLUENCE OF THE MECHANICAL CHARACTERISTICS OF THE MATERIAL THE STRINGS SIT ON THE PROCESS**

**OF SCREENING**

***Abstract:*** The paper presents the results of studies on the influence of mechanical characteristics of the material the strings sit on the technological parameters of screening. The mathematical model of the oscillatory process of the string of sit depending on the length of their free sites, the magnitude of the processing load and the characteristics of the screened material. The dependences of the amplitudes of the relative vibration rubber cable string from the length of their vacant parcels for different values of process load. As a result of researches it is established that the amplitude of the relative vibration rubber string under load with increasing length of their available land decreases and the steel cable increases, reaching a maximum at certain values of process load. It was also found that the presence of the load dramatically reduces the amplitude of the relative vibration rubber strings, especially in the area of dimensionless frequencies of the order of (0,6...1,4)g, while the amplitude of oscillations of the tether strings in this frequency range vary slightly. Presents information on string rubber screening surfaces, wire mesh type, that is strings in the form of steel cables, rubberized rubber sheath having a lateral separation projections. The use of rubber strings as working elements of the screening surface allows to increase the "living section" of the sieve due to the increase of the distance between supports while maintaining high and stable in amplitude of vibrations of the strings. Optimization of mechanical characteristics of the material working elements, a string sieve and conditions of their fixation allows to intensify great image separation of materials into fractions by eliminating sticking of the sifting surface of clay particles and clogging the "difficult" grains of the material and significantly improve technical and economic indicators of the screening process. Such screening surface passed successful industrial tests at a number of quarries producing construction aggregates for the separation of crushed stone and gravel. Shows the economic efficiency of the rubber strings sit compared to the wire sieves in technological schemes of processing of mineral raw materials.

***Key words:*** *elastic string, mechanical characteristics of string material, metal cables, string tension force, relative amplitude of string vibrations, oscillation frequency of the screen box, length of free string parts*

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