



PROSPECTS FOR THE APPLICATION OF COMPOSITIONAL MATERIALS IN INCREASING THE ABRASIVE WEAR RESISTANCE OF WORKING ORGANS OF FLAT SURFACE MILLING MACHINES

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It is known that one of the main reasons for the failure of details and combinations of machines and mechanisms is eating. In improving the efficiency of the use of machines and mechanisms, it remains the main task to prevent the rapid failure of the details and compounds contained in them due to ingestion. It will be possible to solve the above task by bringing their resource closer together at the expense of increasing the durability of the details and compounds in the machinery and mechanisms. Therefore, it will be necessary to know the laws of eating and its main cause, the mechanism, causes and measures to prevent their negative consequences. The following factors affect the operability of working details and compounds under friction conditions:

1. Internal factors that depend on the properties of the detail material;
2. External factors that depend on the type of friction of the details (slip and roll) and the mode of operation (relative speed, load level, harorat);
3. Factors that depend on the environment and lubricant.

Details that work in edible conditions are studied in two groups:

1. Details that form a friction pair;
2. Edible details under the influence of the environment.

The types of eavesdropping of details in the first group – abrasive, adgesion, oxidizing, exhausting, fretting and fretting-include corrosion eavesdropping.

For the details of the second group, however, abrasive (rubbed into the soil), hydro and gasoabrasive, erosion, hydro and gasoerosion, cavitation are relevant.

Eating occurs as a result of the interaction of details or the action of the environment, microcracks, heats, oxidations occur in the surface layer. As a result of these processes, its structure, physical and mechanical properties and the chemical composition of materials can change.

Many of the details of agricultural and road construction machinery fail as a result of abrasive eating. The nature of the occurrence of abrasive eating can change dramatically, depending on the physical and mechanical properties of the detail and abrasive material, the degree of load on the contact surface, the rate of deformation of the surface layer, the tempratura of heating the material and the degree of aggressiveness of the environment. Abrasive particles that cause ingestion can consist of minerals (granite, sand, gravel) or materials (compound details material, details edible product, soot, etc).

Abrasive eating of the working organs of machines occurs through their action with the soil. The character of abrasive eating machine details will depend on the strength of resistance acting on the working surfaces, the properties, nature, composition and granularity of the soil. Because the granularity of the soil, its composition, coefficient of friction, viscosity, the presence of foreign elements in the composition change the dynamics of the edible process yuboradi. Ma machine detail eating is a process that depends on complex and diverse phenomena as well as factors. The process of being eaten in each individual case and the cause of loss of the compounds ' ability to function will depend on the conditions of being eaten. As a result of research to this day on increasing the wear resistance of machine details, a number of theories of friction have emerged. They are mainly used to increase the hardness of friction surfaces to increase the abrasive wear resistance of the detail materi. Depending on the physico-mechanical and frictional properties, edible materials are studied in a series of groups. The first place in them is occupied by materials that provide high hardness. The high hardness of the surface is a key condition for many species of edible to provide edible resistance. In abrasive eating, abrasive particles deform sliding surfaces many times, causing microcracks. The degree of development of these processes will depend on the hardness of the detail material and abrasive particles. The hardness of abrasive particles is higher than that of most structural materials. Therefore, carbide alloys (compositional materials), which have a structure consisting of a solid carbide phase and a matrix that holds them firmly, are used as casting and welding materials, in details that work in harsh conditions. Abrasive y in industry.

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