STUDY OF STABILITY IN DISK KNIFE CUTTING ELASTOMERS

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The main working bodies Conveyor belt is rubber-fabric tape, called elastomers. The most widely distributed rubber-fabric belt consisting of rubber-fabric layered traction frame, external rubber covers that protect the frame from damage and effects on moisture, gases, corrosive environments. Depending on the operating conditions and purpose made tapes for general purpose, cold-resistant, heat-resistant, food and fireproof. To disperse and toxic materials used tubular tape.

Rubber-fabric belt - the most common and consist of a traction frame, protected on all sides to it pryvulkanizovanymy elastic plates. Traction frame made of cloth pads, connected by a thin rubber layers that provide greater flexibility tape.

The fabric consists of warp threads (cotton, synthetic, silk viscose, etc.), Who perceive longitudinal load and weft yarns that provide lateral stiffness tape.

Pulling force in rubber-metal cable tapes perceived cables.

The purpose of research - development design of the device to the grinding machine for sharpening circular blades, set the time and sound quality of their work and determination regimes sharpening.

Materials and methods research. Widely used in machine drives, belt conveyors instead rod and chain drives have become conveyer belt with open trapezoid projections for engagement with the corresponding spline drive shafts for performances, providing transfer rotary motion without slipping and distortions. These benefits include quiet operation and reduce the damage during transportation Root. Industry German exports are rubber conveyor belts, cotton rolls width 0,9-2 meters and 50 meters in different countries, including Ukraine. For simultaneous

cutting rolls into strips of a width of the possibility of regulation was a problem in creating the appropriate equipment with power cutting tools and mechanisms regulating the distance between them.

Results. The design of the device to the grinding machine for sharpening circular knives for cutting knife blocks elastomers with different characteristics.

Work with sharpening knife block is performed as follows. Knife block in the collection of the U-shaped headstock is set to 1 longitudinal caliper grinding machine with a special unit of the machine. To drive pulley connected via a special pass from the drive motor, which is rigidly attached to the drive shaft turns 2 with the hex tapered element. Two grinding cup wheels are fed to the cutting edge of disc blades. Then turn off the machine, from the top of the drive shaft conical polyhedron removed by loosening the mounting bolt. Also assign the catch to the left of the conical hole and turn the knife block 180 °.

In this position, lock knife block is fixed in the second extreme conical hole, which is located on the second end of the left support. The process of sharpening knives 4 on the second drive shaft is carried out similarly to the previous one. After the process of sharpening the cutting knife knife block is removed from the grinding machine, and in his place the next set.

As abrasive wheels used with cup wheels abrasive - electrocorundum normal or white, grit 10 ... 30 microns. Opening hours sharpening, grinding speed V = 12 ... 15 m / s; supply of S = 5 ... 10 m / min, cutting depth at sharpening t = 0,08 ... 0,1 mm / min.

The main problem in designing cutting disc knives and selecting the cutting is their clogging rubber buildup and Smoke and the resulting pollution. Therefore, priority had to solve the problem with two contradictions: maximum performance cutting process with limited speed cutting tools and lack of heating to the melting point of the material cord.

Limited cutting speed determined experimentally. As a result of experimental studies found rational speed cutting disc blades within V = 0,15-0,25 m / s.

Diameter of disc blades selected provided the strength of the drive shaft, the thickness of the conveyor belt, normal working conditions and other design parameters settings. Taking into account the above, it was found that it is appropriate to make the outer diameter of the blades within D = 130 - 150 mm.

Sharpening angle is selected experimentally, is α = 12, 19□, 25□ and 30˚. In experiments in terms of stability and normal operating conditions, it is recommended to choose within α = 16-22.

For permissible wear test disc blades selected value 0.20 mm in diameter, which is recommended and confirmed by our research. Measurements disk wear knives carried by the outer diameter micrometers after a period of work. Precision micrometer - 0.01 mm.

Found that when working 35-42 thousand. Min sharpening knives are very acceptable and during this time they do not need to sharpen.

A method of cutting conveyor belt using airborne cooling, which would reduce the 1.5 ... 1.8 times the cutting speed and improve the stability of knives - 15 ... 22%.