

Using the sensor, various options for the values of the probability of failures at the considered level of the system are set. Given the known probabilities of the quality levels of the personnel's actions, a measure of the complexity of the situation is determined according to the formula of total probability.

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THE IMPROVEMENT OF WORKING CONDITIONS AT THE INDUSTRIAL WORKSHOPS OF MINING ENTERPRISES

Technological processes of rock processing are accompanied by intensive dust emission which increases allowable values of dust content in the air of working places. Available methods of dust suppression such as aspiration, ventilation, dust binding by moistening processed materials, capsulation of trans-loading units, etc. are unable to localize dust sources completely.

Emitted dust spreads all over industrial premises and settles on various surfaces (construction structures, pipelines, cable trunks, equipment elements, etc.) making layers of various thickness. Under the action of various factors (equipment operation and vibration, repair works, aeration flows, etc.), settled dust can repeatedly turn into aerosols. Due to this, dust content of the air increases that can provoke vocational diseases of processing shop employees.

At the same time, the dust accumulated on various surfaces complicates the maintenance and repair of technological equipment and communications, accelerates the wear of individual units and parts, reduces the time needed for overhaul maintenance, disables control and measuring equipment and weighing equipment. In a number of industries, the settled dust causes explosions or fires. For many enterprises, the dust settled on various surfaces is considered as a valuable resource in solving problems of energy saving and energy efficiency, due to utilization and recycling.

That is why, solution of dust collection problem is urgent for processing shops of mining enterprises, it allowing them to facilitate working conditions, reduce vocational disease rates and cut down equipment wear.

Technologies of rock processing are noted for a variety of sources of intensive dust emission and great areas of its precipitation to be cleaned. Centralized industrial dust collectors can be applied to different surfaces in processing shops of mining enterprises.

Yet, these machines are stationary and applicable to just one premise. The stationary pipeline system when in long service tends to be polluted and requires either cleaning or demounting. Dust precipitation reduces the amount of air exhausted through dust-cleaning nozzles and changes aerodynamic indices and efficiency of the vacuum system as a whole.

The length of pipelines of stationary vacuum systems is conditioned by large areas to be cleaned and a great amount of equipment there. This requires highly efficient traction activators consuming much power.

Thus, a long stationary system of pipelines is the most significant disadvantage of all modifications of centralized industrial dust collectors. It should also be noted that one machine is applicable to one premise only. For large-scale enterprises, there should be several single-types machines, each of them having a stationary system of pipelines. It makes control over pipe blockage more complicated and is associated with higher maintenance costs of such a long system within one enterprise.

Dust accumulation on surfaces of industrial structures and equipment does not occur uniformly. It enables an enterprise to keep its industrial premises clean by using a mobile dust collector that is transported to another object after cleaning the previous one. Basic equipment of a mobile dust collector is in the body of a van outside a premise to be cleaned.

The mobile industrial dust collector is serviced by three people, one of them is a driver and the rest are dust-collecting operators. The driver controls basic equipment, while operators clean a premise. Both operators also deal with high-up surfaces and hard-to-reach places. One of them cleans the surface using a step-ladder, while the other

watches out for him, switches a flexible hose from one pipe union to another, gives required nozzles, etc.

A mobile industrial dust collector is able to move independently to a required object of cleaning within a given enterprise as a traction activator and dust catching devices are inside a mobile van, while detachable pipelines and nozzles are mounted from separate sections during cleaning. It reduces the total length of the vacuum system and helps avoid blockage of pipelines in the long run. There is also an opportunity of cleaning hard-to-reach surfaces. As the van is located outside the cleaned object, the air does not re-circulate in heavily polluted premises.

Mobile dust collectors are applicable to shops with any appliance saturation. The machines are able to collect great amounts of dust and transport it to unloading points without intermediate loading-unloading operations. Dust unloading is performed outside the industrial premise to avoid its secondary dust pollution.

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INCREASING THE EFFICIENCY OF DUSTING THE FIBER FILTER BY ELECTRIFYING THE FIBERS

The dedusting of aspirated air, which is removed from the sources of dust extraction during the processing of rock mass, in the aspiration-traction units of the mining and processing enterprises of the Kryvyi Rih region, as a rule, occurs by means of a two-stage purification system. The first stage of cleaning is preferably used cyclone apparatus, the second - scrubbers (Venturi pipes) or bag filters. A number of organizational and technical reasons (changing the aerodynamic parameters of dust flow, violation of schedules of unloading dust bins, etc.) causes the low efficiency of these systems, which leads to deterioration of sanitary and hygienic conditions of workers of industrial enterprises.