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Results Yzlozhenы development system teplosnabzhenyya Using greenhouses with vakuumnыh helyokollektorov and Results of research with s enerhoэffektyvnosty Using teplozaschytnыh ekranov kombynyrovannom with a water and SUNNY obohreve. Opredelen Factor zameschenyya thermal load.

***Greenhouses, Vacuum Geliokollektor, teplosnabzhenye, termycheskoe Resistance, energy efficiency, thermal load Factor zameschennya*.**

Results of development of эsystem of hotbrining of hothouses with using of vacuum geliocollector and results of investigation of its energy efficiency with using of heatcover screens for combined aquatic and sunny heating are considerated. Economic effect of applying results in industry is certain. It ia coefficient of substitution warm loading.

Hothouse, vacuum geliocollector, hotbrining, thermal resistance, energy efficiency, coefficient of substitution warm loading.

UDC 631.1

Stereometric PRINCIPLES OF DETERMINATION OF DESTRUCTION pavement COATED AVTOTRANSPORTNE ROAD

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By analogy with the method of determining defects stereometric analysis method developed parts macrostructures determination of the destruction of the pavement surface. As the destruction of pavement performance properties such defects are considered: volume potholes, chipping and shells. Provided formula volume defects. This allows you to determine the materials needed to restore the pavement.

Stereometric analysis, defects, fracture, chipped, chipping, sinks volume defects.

Problem. The importance of transport links to society unconditional and shall not be questioned. This is due not only to Prompt deliveries of goods, passengers, implementation services in the field of health care,

work units of the Ministry of Emergency Situations, Ministry of Internal Affairs and ordinary situations rest of people.

However, there are objective factors that affect the quality of the above services. In general terms, these are the technical condition of vehicles and pavement coated

motor roads [1, 2]. This is especially due to the technical condition of the pavement surface motor roads. It affects not only the efficiency and quality of services, but also the technical condition of the vehicles, their accident rate, safety of people at their service vehicles.

At the same time, there is destruction of the pavement surface motor roads, due to objective and subjective factors. Objective factors - the influence of climatic conditions, which determine the large-scale destruction of roads. Subjective factors - a violation of manufacturing processes and ways of operation.

Violation of processes making roads svjazana the quality of materials used, their styling thick layers, strengthening, weather conditions work. Violation use of roads observed with increasing load on canvas roads without their appointment by the vehicle. Faulty making roads and their operation leads to the creation of local roads blade fracture (Fig. 1, b).

a) b)

Fig. 1. The destruction of the pavement surface.

However, elimination of unused computational methods for quantitative determination. Used point system evaluation and material support in the repair of roads. Therefore, after the repair of roads there are defects in the form of local hills [2, 3], which also determines the possibility of accidents. This indicates the absence or inadequacy of methods for determining and logistics road repairs.

Problem in the absence of a method of quantitative determination of pavement destruction coated motor roads with further material support and repair.

Analysis of recent research and publications indicates that the repair of pavement coated motor roads used approximate methods for assessing their defects due for their destruction.

Quality Evaluation is used to determine the level of service roads or individual sites; the basis for quality maintenance task planning and material incentives for managers, employees and employees of the Company and its divisions, employees working on the roads; the basis for determining the amount of incentive funds and funds to pay for the quality of the report and the development of appropriate forms of reporting and evaluation of associations and their departments as a whole [1, 3].

The quality of road maintenance (areas) assessed scoring system. Assessment of road networks rely on the results of evaluating the quality of maintenance of roads surveyed (areas) setting on estimates of individual elements of the road. The evaluation exercise elements of the road through the visual inspection of consecutive sections [1, 3, 4].

The purpose of research - Justify and develop a method of quantitative evaluation of defects pavement coated motor roads.

Objectives: identify and justify the indicators to quantify defects pavement coated motor roads; develop a method of quantitative evaluation of defects pavement coated motor roads; determine the dependence of the quantitative assessment of defects pavement coated motor roads.

Methods of research. Factual and photometric study of the existing pavement defects coated motor roads in their operation [5]. Patent Information Search for determination of quantitative assessment of defects pavement coated motor roads [6]. Search method to determine similarities and calculation parameters defect surfaces.

Results. The types of defects pavement coated motor roads. These include potholes, chipping, and sinks (Fig. 1). As analog defects were considered iron structure on polished samples with stereometric their macrostructure studies [7, 8]. By analogy defects macrostructure examined the properties of graphite inclusions in detail with iron [9, 10]. On the basis of stereometric metallography [11] as indicators of pavement defects coated motor roads were selected volume potholes, chipping and shells.

Quantitative analysis point performed using square grid of rope with a size equivalent to the width of the square side road. Each rope made of nodes spaced no more than 50 cm (Fig. 2). This one deals with several hundred square nodal points.

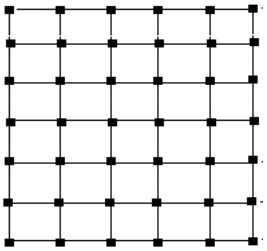

Fig. 2. A square grid of rope with nodal points.

Moving on to the gridtop pavement coated motor roadsAt each new position count the number of nodal points of the grid, trapped in defects. After determining the number and the total number of points allocated to pavement coated motor roads, Calculate the relative area occupied defects, which is determined by the formula:

$$F = \frac{\sum n_1}{\sum m_1} \times 100\%, \quad (1)$$

where F - relative area occupied defects%; n1 - number of nodal points that were on the square one field defects, pcs .; m1 - number of nodal points of the grid square one field, pcs.

PROBABLE absolute error of the defect using a very small spot analysis and adopted when applied to the field pavement coated motor roads 400 - 500 points. This can be done consideration only two to four grid fields. Calculation of key points that were on the structure defects is performed within a few tens of minutes.

The error analysis point analysis determined by the formula:

$$\Delta t = \frac{\sqrt{F(100 - F)}}{z}, \quad (2)$$

where Δt - error%; t - normalized deviation; *F*- area occupied where-defects in measurements%; z - number of points devicdividend on the field pavement coated motor roads, Pcs.

If reliability analysis 0.8 1.282 normalized deviation, norral area defects 10%, z = 500 error analysis is 2.3%. Volume defects "V" is calculated on the basis of their depth "h", Fz - total area of squares, which has been put into the field of pavement surface and the relative area of defects *F*the formula:

$$V = (Fz \times F / 100) \times h. \quad (3)$$

Given a certain amount of defects determined amount of material need to restore pavement coating.

Conclusion. By analogy stereometric metallography fixed point method for quantitative evaluation of defects pavement coated motor roads. As indicators of defects pavement coated motor roads grounded relative area occupied defects, and volume defects. This allows you to

reasonably determine the quantity of materials need to restore pavement coating.

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By analogy with the method of analysis for determining defects stereometrycheskoho makrostrukturы detail is designed method for determining indicators razrushenyya dorozhnoy odezhdы with pavement. AS A razrushenyya indicators dorozhnoy odezhdы with pavement defects rassmatryvayutsya Such properties: obъëm chuckhole, vыkrashyvanye and rakovynы. Dayutsya the formula raschëta obъëma defects. This is pozvoljaet opredelytsya with potrebnostyu materials for recovery dorozhnoy odezhdы.

Stereometrycheskyy analysis, defektы, INJURIOUS, vыboynы, vыkrыshyvanye, rakovynы obъëm defects.

By analogy to method of stereometric analysis of definition of imperfections of macrostructure of details method of definition of indexes of destruction of pavement with coverage is developed. In capacity of indexes of destruction of pavement with coverage such properties of imperfections are observed: volume of potholes, shelling-out and shells.

Formulas of calculation of volume of imperfections are given. It allows to be defined with necessity of stuffs for pavement restoration.

Stereometric analysis, imperfections, fault, potholes, shelling-out, Shells volume of imperfections.

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THE QUESTION FORM BASIS HOLES Sowing DISC

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The optimal design parameters of the shape of the hole in the disc pneumatic sowing device for sowing maize.

Options seed disk aperture form seed unit.

Problem. New technologies growing cultivated crops include odnozernovu sowing with given finite interval between seeds in a row, which eliminates the need for such technological operations as the formation of plant density and thus significantly reduces the cost of production. Odnozernovu (dotted) sowing mainly engage in drills with pneumatic vacuum seeding machines. One drawback of these devices is the lack of seeding uniformity of distribution of seeds in a row. On the uniform distribution has a significant impact form of seed hole disc.

So rational justification shape holes disk pneumatic vacuum seed sowing device is a key issue.

Analysis of recent research. The scientific basis for the creation of vacuum pneumatic sowing machines lies in the writings of GM Buzenkova, B.C. Basin, LV Pogorelogo and others [1, 2]. A significant contribution to solving the problems of precision seed made PV Sysolin, VA Oryshko and other researchers [3, 4]. The analysis process odnozernovoyi pneumatic sowing sowing device type showed that there is still a lot of issues, especially those related to the distribution of seeds in a row to be investigated.

The purpose of research. Determine the influence of shape hole in drive pneumatic vacuum seed sowing device for even distribution of seeds in a row.