The Composition of Releasing Passion of Dusty in the Process of Pat

Abbazov Ilkhom, Xodjiev Muksin, Alimov Orof, Karimova Ruxsora

ABSTRACT--- In this article are brought delay of rubbish and level of the rates of dusty concentration, which will come out of pat of the filtration plants. So there was elaborated morphological specifics and the form of the passion, chemical composition of passion, compaction, comparative surface, adhesion and pouring of it.

There is given motivation of need of scientific and basic researches on the basis of bringing clear a speck of rates.

Keywords - pneumatic transport, cotton, pats product, its raw state, departure filament, atmosphere, organic minerals;

INTRODUCTION

Today in pat of cleansing industry not only receiving the pat product in its raw state, keeping and preparation it on the process of drying and clear and improve the technological process of the pat product in its raw state, as well as there is necessary problems on improvements of technological process of non-dusty of it and cleaning the atmospheric sphere.

There is not difficult keeping dust, than keeping toxic gas. But there is provided efficiency of delay passion then characteristic of passion approaches on design of the vacuum cleaner instrument. The primary processing shows that there divides three types particle passion in the processing of cotton product in its raw state. They consist of the following faction:

1. The mineral particles of passion in the size of 0,1-0,2 mm;
2. The grinders piece of cotton plant, which consists of from (the boll of the pat, pedicel, stalk, sheet), in size of from 0,1 till 0,315 mms;
3. The short filament of the miscellaneous of length - from most big length till 10 amounts, greater particles till 0,4 mms;

There are broadly used from vacuum cleaner instrument in the processing in agricultures in the purpose of the defogging heavy elements. [1].

In the work of [2] there are used from vacuum cleaner instrument not only clear of passion, but it is possible to use it for checking too.

In the initial process of amount of the dusty particles exists when processing of cotton products in its raw state may be in 80%. It depends on the level of the contamination product in its raw state, sort of the pat and methods of gathering the cotton products in its raw state.

The percent mineral and organic material in the composition of cotton passion depends on the technological processes. At the beginning of the initially process - in pneumatic transport system seeds of pat, dust can be in organic mass from 10% till 20% and in mineral mass of them from 80-90% [3].

Revision productivity using of any vacuum cleaner instrument depends on the specifics of passion, not review their types. It is possible to say that, it depends on morphological characteristic of passion, on the form, chemical composition, density, comparative surface, adhesion, spilt and poring and moisture it.

The morphological specifics and form of the dusty particles

The main physic-chemical nature of passion enters its disperse (the level of smallest), morphology piece, chemical composition, surface, adhesion, spilt and pouring dryness and moisture it.

It is well known that, these particularities enable to allow the motivated conclusions about dangers sanitary-hygiene and hanging condition of passion midair. But this enables to know the characteristic of it, it is correct to choose the method and instrument to keep the passion, reduce the appearance of passion, technological decisions, which are used.

For revision of physic-chemical specifics of vacuum cleaner instrument in industry clearing the pat are organized experiments at the option of passion, which received from vacuum cleaner instrument in cotton industry and bunker.

The size and composition dusty particles studied in microscopic way method on the whole of observance, which was characterized by the work of [4]. The study of passion was conducted in microscope apparatus MIN-18 in size from 90 till 600 once.

There is given various stages of technological processes of industrial passion in the photo-1. The dust consists of organic and mineral carriers, their segments move from several mmk. till several mm. In technological process relationship between them are changed without the end. Dust stands out to the atmosphere many composition mineral factions in the initial technological process. Dust under initial processing cotton product in its raw state, cotton wool and filament consists of organic materials.

These organic materials consist of segment filament, segments cortex, sheet and other part of stalk and pat. At the end of technological process-for instance, linearization, pressing, sorting and clear cotton product in its raw state, it

Revised Manuscript Received on 14 February, 2019.

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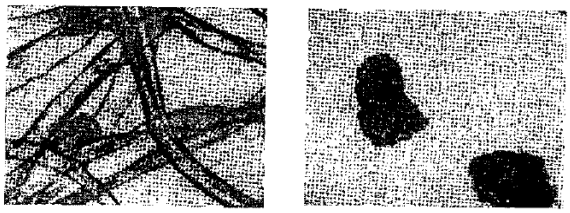
exists that passion consists of mixture sheet and segments stalk [5].



а) б)

a) Organic dusty; b) mineral dusty;

Photo-1. Microscopic appearance of dusty particles

The Microscopic studies enable to exact of morphological characteristics of dusty particles. The organic segments of passion are shown in the photo (1-a). They consist of different sizes of filament. Their thickness may be in the size of from 15+45 mkm. till 45-55 mm. They may be corkscrew, that's why they fly on air and hung midair. They meet in the size from 100 till 1000 mkm in plant shops.

The condition of the adhesion brings the collision of dusty segments. This gives to disarrange of active collision dusty segments. The separate ability of the adhesion dusty segments may be used in the process of delay passion.

The mineral carrier consists of very small atmospheric dusty particles. The mineral segments can be from several mkm sizes till 1000 mkm. Their forms can be different: in the form of the plate, circle, bayonet and others.

Chemical composition of dusty: There is known that, mineral mixture [work-5] concern with a great place in the composition of cotton dusty. Their amount can be in size 80% in initial processing cotton product in its raw state. Contamination product in its raw state depends on the quality cotton product in its raw state and gatherings it. As well as, existence of mineral and organic material in the composition of dusty depends on the stage of the technological process.

Usually, dust stands out from machines peelings cotton product in their raw state and from systems pneumatic transport consists of the organic segments from 10% till 20%, mineral segments from 80% before 100%. At the end of the technological process (for instance -a separation cotton wool and pressing organic material) consists of 80-90%.

The spectral analysis of under the study of dusty shows that, there are chemical elements in the composition in great size: Exist in all experiment calcium, sodium, magnesium, copper, titanium, manganese, aluminum, iron, chlorine, phosphorus and others. The chemical composition is shown in table 1.

RESULTS & DISCUSSIONS

Chemical composition of dusty in cleaning industrial enterprises

K	*Na*	*Mg*	*Ca*	*Fe*	*Mn*	*Al*	*Ni*	*Ti*	*Cu*
1,57	0,5	1,0	1,35	0,8	0,05	0,7	0,003	0,4	0,007

There are installed types of the modification crystals flint oxides IV passion by x-ray analysis. The quartz - 4,24; 3,34, 2,4; 2, 43; 2,27, 2.2,12; 1,91; 1,81; иллита (9,81; 4,92; 4,67; 3,52; 3,10; 2,53; 1,53; But), кальцита (3,85; 3,18; 2,85; 2,11; 2,09; 2,07; But), каолинита (7,12; 4,26; 4,02; 3,49; Photo-2.

In the work [7] is created vacuum cleaner instrument, which selects silicon an oxides II from composition of the air by the help of the ventilator. This instrument enables to clean from air crystals silicon oxides II in composition of passion.

Mineral carrier of dusty filament amount exists of oxides silicon (from 4,5 till 28,7%). [Work 8].

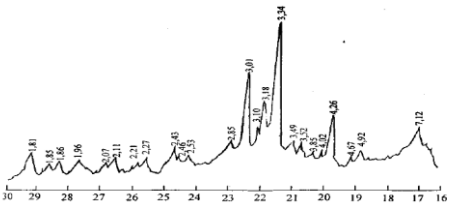


Photo-2. X-ray of the experiments of dusty which taken from pneumatic transport the system in Gurlan filtration plant

The density of dusty surface. There is possible to observe several types of infusing density and density of the particles. The density of the segment of dusty enables to check its diameter, infusing density a volume to surfaces of the bunker [4].

The density of dusty 20 **ºC** is measured in the surrounding of ambience by the method of pneumatic transportation. This method is motivated to check the volume of liquids, which changing dusty.

There is provided in 2 the photo the amount of density of the mineral carrier of dusty exactly 1,930 g/ sm^3. (1930 kg/m^3.), amount density of organic carrier of dusty exactly 0,715 g/sm^3 (715 kg// m^3.

The density of infusing dusty is elaborated, which is shown on [8]. This method means to check the measuring volume of dusty. The measuring tube uses for measurement volume of dusty in the size of 50-100 /sm^3. with the tube of with diameter of 30 mm. Estimation fission scales from 0.5 till 1 /sm^3.

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Table-2
Amount of the segment of dusty of cotton product

№	Mass of dusty gr.	The mass of piknometer, keeping with water gr.	The mass of piknometer full of with dusty and water gr.	Temperature of water °C	Density of dusty, gr./sm^3
Mineral organizer					
1.	3,0000	95,6000	97,0900	20	1,9850
2.	3,0000	95,6000	97,0000	20	1,8779
3.	3,0000	95,6000	96,8000	20	1,6786
4.	3,0000	95,6000	97,2000	20	2,0000
5.	3,0000	95,6000	97,1100	20	2,0150
					$S_{cp}^{T} = 1{,}9300$
Organic ornanizer					
1.	3,0000	95,6000	99,8900	20	0,7000
2.	3,0000	95,6000	99,6000	20	0,7500
3.	3,0000	95,6000	99,8120	20	0,7112
4.	3,0000	95,6000	99,7310	20	0,7222
5.	3,0000	95,6000	99,8100	20	$S_{cp}^{T} = 0{,}7150$
					$S_{cp}^{T} = 0{,}7125$

In photo-3 is shown not even change of filling density of dusty layer on calculation of its height.

The analysis in photo-3 shows that, value filling density increases when raises the height a layer passion.

With this possible to say that, dust filament under influence of its weight is packed down. This phenomenon reduces efficiency of clear and negatively influences the vacuum cleaner instrument upon functioning.

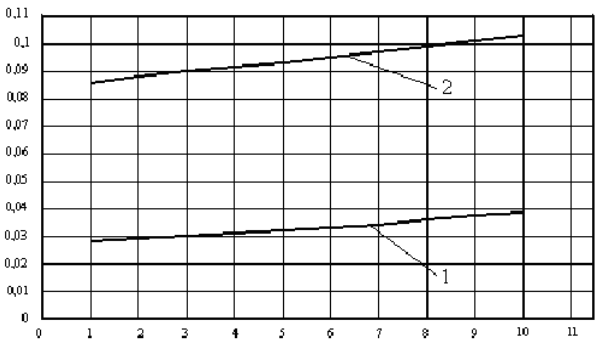

Photo-3. Change filling of density (hc) referring on heights (Phc) layer dusty cotton product in its raw state.

The comparative surface of dusty (S) is an attitude of the mass and size of dusty surface of all dusty segments. There is possible to compare the level of disperse of dusty of one type with value S. The comparative surface of dusty filament is elaborated by the methods, which are offered from scientist V.V. Tovarov. The instrument PSH-2 [4] used in this.

Before experiment filament dusty of dry in the temperature 100 **ºC** degree and is cooled in room temperature. Measuring work is conducted on weight WA-31.

The value of comparative surface is elaborated on the base of the following formula:

$$S = \frac{C\dfrac{M}{\tau}}{Q}$$

Here: C- constant of the instrument;

Q- Measured mass

M- Temperature of the air, value corresponding of height layer and cross-section gouge.

As a result of final analysis is taken the average arithmetic results of the practical study, which are conducted 2 parallel types.

The calculations show that, value comparative surface were provided in the following rate: from 5200 till 7450 sm^2 / gr. for inorganic dusty segments pneumatic transportation of the pat, from 820 before 1400 sm^2 / gr. for organic dusty segments, from 2350 before 3800 sm^2/gr. refer to passion which stands out from pneumatic transportation.

The results are calculation of this - seized studies information and hydrodynamic process clearing the dusty air filament.

Adhesion and spilt of dusty. Under unsatisfactory functioning the vacuum cleaner instrument of the dry type appearance of layers flows exists in humid condition and dusty holes.

The aptitude appearance of different dusty particles in composition of dusty segments, coming out of cotton plant and adhesion them on wall is explained by influences of auto hessians and adhesions. Auto hessians is a mutual influence dusty segments, adhesions are an influence of dusty with surface. Auto hessians are identified the adhesion on attitude on dusty material will leave with help electric and molecular power. This depends on factor of the nature of the segment and surrounding ambience.

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There aggregate segment was elaborated in size from 200 mkm. till several mms of dusty, which stand out from pneumonic pneumatic transportation systems seeds of cotton, cotton wools and filament. Existence of the segment renders that, the dusty filament has an aptitude on agglomerations.

There is base for making the unit that, adhesion for ensuring with grave dusty segments. There is elaborated toughness of the dusty layers, which specially valued for quantitative estimation of adhesion segments filament.

During the laboratory condition broadly used wide-spread method for measurement of toughness dusty layers wrought cylinder and NIIOGAZ instrument.

The segments of filament have particularities of the high pull. Toughness dusty filament is elaborated by the method of the disk, which is covered by vaseline. The disk approaches and removes on layers of dusty [7].

Toughness dusty layer R (gr/sm) is elaborated with the following formula:

$$P = \frac{P_p - P_б}{S}$$

Here P- venting voltage

P - a voltage of the balance

S - a surface of the cross-section, sm.

The gram-mm is the coefficient of passing to Pascal is equal to 98,1.

The value toughness dusty filament when calculated with formula the (2) is equal to 608 Pa.

The last results are brought, average arithmetic 6 parallel results.

In the work [10], [11] by the calculation of hydrodynamics is studied moving the flow in composition gas vacuum cleaner instrument. There is supervised 3 circumstances, which is brought moving the clean air of the temperature surrounding ambience, moving the clean air in miscellaneous temperature and motion gas in miscellaneous temperature.

There is known that, supervised dust filament enters to strong sticky groups and its specifics enables in the process of the delay of dusty.

The loosing of dusty

Delayed industrial dust falls into the group of powdery. They are characterized with the possibilities of movables to each other.

The loosing of dusty is characterized with specific factor and wide-spread natural declivity. The natural declivity is a cozy corner amongst transverse surface and organizes the cone powdery material, which is infused on it. Basically, there is natural cozy corner of the declivity and cozy corner dump. The first value pertains on declivity circumstance, which is realized on loosing powder on surfaces. The cozy corner dump is known, as a steady-state cozy corner of the natural declivity.

The loosing natural declivity of passion filament is elaborated with methods, which is characterized by in work [4]. This method consists of the size under small piece of coal, which is found in lateral the surfaces of the material.

Upper verge empty dishes and height of the declivity on values of the steady-state cozy corner of the natural declivity pays from this formula:

$$\alpha_{cm} = arctg(h/a)$$

As the last result, is taken the average arithmetical value of 6 parallel results. There is organized $\alpha_{cm}^{ўр} = 21$. With this is seen that dust filament not much moved. This specific brings the difficulties in designing instrument vacuum cleaner.

CONCLUSION

Nowadays it is necessary to pay attention to the process of peelings study composition of dusty and to select apart. Particularly, analysis of technologies clearing the dusty air shows that, it is necessary to find the possibility a reduction to dusty concentrations, which will leave on air. As well as, to pay attention to delay departure, this is released from pneumatic transportation.

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