



SOME PHYSICO-CHEMICAL CHARACTERISTICS OF PRODUCED TECHNICAL CARBON

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Introduction: Technical carbon is a highly dispersed amorphous carbon product produced on an industrial scale. The distribution of carbon black is determined by the particle size (13-120 nm). [1]. The comparative surface is a physicochemical indicator that characterizes the dispersion. The pore size is the ratio between the specific surface area of carbon black and the iodine number (since the iodine number determines the total surface area of the pores) [2].

In addition to carbon atoms, carbon black contains sulfur, oxygen and nitrogen atoms [3].

Technical carbon has a highly developed surface and (5-150 m²/g) activity. Surface groups (-COOH, -CHO, -OH, -C(O)-O-, -C(O)-), as well as non-sorbed residues of undecomposed hydrocarbons. Their number directly depends on the method of obtaining and processing carbon particles. To obtain pigments, carbon black particles are often obtained by oxidation with acids [4]. The density of carbon black particles is 1.76-1.9 g/cm³. Carbon black is used as a reinforcing component in the production of rubber and plastics. 70% of all produced carbon black is used in the production of tires, 20% - in the production of rubber products. [5].

The rest of the carbon black is used as a black pigment that slows down the aging of plastics, a component that gives the platform special properties, electrical conductivity, antistatic, UV absorption. [6].



EXPERIMENTAL PART:

Technical carbon raw materials were obtained by processing plant wastes generated during the production of acetylene with surfactants for uniform distribution in a solution medium. The ratio of surfactant to raw material was taken in the ratio of 10 to 1. The raw material was dried at a temperature of 125°C.

RESULT AND ITS DISCUSSION: At the plant of rubber products, a sample of 300 g of the obtained technical carbon raw material was selected, its physicochemical parameters were compared with technical carbon grades H220, H324, H326, H330, H375, H660 according to the requirements of GOST, the results are presented in the form of a table.

Table 1

№	Test Items	Fact(AT)						Fact	Indicator Compatibi lity	Test Methods
		N22 0	N32 4	N32 6	N33 0	N37 5	N660			
1	Iodine Adsorption Value (g/kg)	121± 7	120± 7	82±6	82±6	90±6	36±5	89	Correspon ding	ASTM D1510
2	Heating Loss 125° C ≤ %	3,0	3,0	3,0	3,0	3,0	3,0	0,45	Correspon ding	ASTM D1509
3	ASh ≤ %	0.7	0.7	0.7	0.7	0.7	0.7	0,59	Correspon ding	ASTM D1506

From the above analysis data, it can be seen that the obtained carbon black corresponds to all the facts.

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