

PRODUCTION PROCESS OF RUBBER SEALERS FOR MODERN WINDOW FRAME

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ABSTRACT

The following synthetic rubbers are used in the production of thickeners: butadiene-styrene rubber, chloropyrene rubber, ethylene-polypropylene rubber. The cheapest among these rubbers is butadiene-styrene rubber, but the rubber made from it is not very resistant to high atmosphere and ozone.

Keywords: *polyethylene, stabilizer, composite, stearin acid, irgonox, santanox, gossypol tar.*

АННОТАЦИЯ

В производстве загустителей используются следующие синтетические каучуки: бутадиен-стирольный каучук, хлорпиреновый каучук, этилен-полипропиленовый каучук. Наиболее дешевым среди этих каучуков является бутадиен-стирольный каучук, но изготовленный из него каучук не очень устойчив к высокой атмосфере и озону.

Ключевые слова: *полиэтилен, стабилизатор, композит, стеариновая кислота, иргонокс, сантанокс, госсиполовая смола.*

INTRODUCTION

Currently, the rubber industry plays an important role in the national economy of our Republic. Many large manufacturing industries have a high demand for various rubber technical products. The rubber industry has a unique past. The first enterprise producing rubber technical goods was established in 1972 in our republic [1]. To date, a number of enterprises specializing in this field, including: OOO "Guarantee-rezina", OOO "Rubber technical products", MP "Elastomer-plastik", CHMF "El-mobil", "Katron", "Ozztreminar" AK and other enterprises produce rubber technical products. He took over enterprises whose main raw material is rubber and whose finished products are rubber products. the production process of ALUTEX aluminum and plastic frames used in buildings and structures is highlighted. The advantage of these frames is that they serve for a long time, do not change color, do not require paint, are resistant to heat and cold, do not transmit noise, and are distinguished by other conveniences. One of the things that gives these

frames such qualities is the glass sealants in them. The function of window sealants in the frame is to increase the density of windows, doors, and frames when they are closed, which ensures that the main qualities of the frames are noise, heat and cold insulation. In turn, these window sealants must also be resistant to the effects of the external environment: heat, cold, and compression. The demand for this product is very high nowadays. No matter what building is being built today, aluminum or plastic frames, doors and glass facades are used [3]. There is a great demand for them, and in turn, there is no less demand for rubber sealants. For this reason, rubber compactors are now being produced on a large scale [2].

Modern window and frame manufacturing technology requires the use of glass sealants and other rubber sealants. The function of these compactors is to reduce the effect of air, protect against moisture, protect against noise, and increase the hermeticity of the structure [4]. Therefore, such compactors should be made of water-resistant and highly elastic polymer material. The above requirements are met by three types of composition: 1) rubber mixture based on rubber, 2) thermoplastic elastomer, 3) elastic polyvinyl chloride. In evaluating the disadvantages and advantages of thickeners obtained from the above polymer materials, the characteristics of its composition and composition, as well as the technology of product production, play an important role [5].

DISCUSSION AND RESULTS

Rubber made on the basis of chloropyrene rubber is resistant to ozone, light and heat, has low residual deformation when compressed up to 90% and is considered unstable in storage. Substances with an ionic character (amines, acid, etc.) in the mixture can cause the rubber to deteriorate quickly during operation. The rubber obtained from ethylene-polypropylene rubber is distinguished by its resistance to heat, ozone, atmospheric factors, deformation and low temperature [6]. Of the above rubbers, ethylene-polypropylene rubber best meets the demand for densifiers, but this elastomer is currently the most valuable. Despite the complex structure of the rubber mixture used for technical rubber products, it is realized by a single technology, i.e. bringing, storing, transporting, preparing, weighing and mixing rubber and ingredients, and controlling them at every stage. Only after that, according to the method of preparation of the rubber mixture, it is sent to the production workshop or enterprise as a semi-finished raw material. In this case, technological processes and machines should be highly efficient, easy to control, automated, easy and convenient to provide technical service [7].

One of the most important aspects in product production technology is keeping raw materials in the right conditions and not spoiling their properties. Raw materials

come in different forms and packaging. It is supplied in wooden or metal barrels, paper or cloth bags, boxes, bulk tanks and other forms. Raw materials delivered to the enterprise must meet all technical requirements and be stored under the specified conditions. Warehouses, production shops, and conveyor belts should be located close to each other, i.e. connected loading and unloading equipment should be equipped with cranes and cranes [8].

Each raw material must meet its technical conditions. Before starting production, raw materials are tested in the laboratory of the enterprise. Its condition, suitability, properties are studied in special tools and machines. Raw materials are given for production only if all indicators are in accordance with production regulations. If the raw material has changed its characteristics during the storage period, drying, crushing, etc. are carried out in wet or other cases [9].

The product is produced according to technological conditions. The technological condition includes conditions of product production, raw materials used, technology and requirements for it.

Product properties:

Elasticity property of deformation of rubber compactors

Product resistance to temperature and various non-mechanical factors (light, ozone, heat, etc.). Heat and cold tolerance, Wear resistance, Properties of plasticity and elasticity and hakeses. Special properties of rubber are tenderness temperature, resistance to cold and wear, wear resistance. The mechanical properties of the product are determined under synthetic conditions, i.e. under constant load and loading rate not high compared to deformation, and under dynamic conditions, (stretching, compression) bending or twisting.

Elasticity is the ability of a material to easily deform and return to its original shape. This property of the product is particularly important.

Check for hardness:

Testing the hardness of the product is characterized by its resistance to the immersion of a metal needle or ball into rubber under the influence of a compressed spring or load.

Various hardness measuring devices are used to determine the resistance of the product. The TM-2 (ball method) tool is often used to determine the hardness of rubber.

Eating, checking for eating:

Rubber rubbing against a hard surface is called rubber wear. In the process of corrosion, small particles are separated from the rubbing surfaces of the material. The

main index of wear is the index of friction and resistance to friction. They are determined by vibration or friction above sliding conditions on a friction surface.

Cold resistance:

Cold resistance refers to the ability of rubber to maintain high elasticity properties at low temperatures. The low temperature properties of rubber are characterized by the tensile strength coefficient, brittleness temperature and mechanical glass transition temperature. The coefficient of cold resistance is expressed by the ratio of the elongation of the sample at low temperature to its elongation under load at 23-2 C (by 100%). If the coefficient of frost resistance is higher than 0.1, the rubber is considered frost-resistant at a certain temperature.

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