

ALIEN PROPERTY CUSTODIAN

POLYISOBUTYLENE MIXTURE FOR ELECTRIC INSULATING PURPOSES

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This invention relates to a polyisobutylene mixture, particularly for electric insulating purposes.

The artificial substances manufactured from polyisobutylene are characterized by good electrical properties; however, particularly by a great impermeability to water. This artificial substance is, however, so elastic as not to be capable of being treated without admixtures in the usual manner on the calender or in the spraying machine. Endeavors have, therefore, already been made to facilitate the treatment of the polyisobutylene by admixtures. Thus, for instance, wax or montan resins have been proposed as softening means. However, by such admixtures the stability of form of the product, particularly in the case of high temperatures is so materially diminished that these mixtures cannot be employed for many purposes, particularly for electric insulating purposes. On the other hand inorganic filling materials decrease the impermeability of the polyisobutylene to water and the constancy of the electric values to a very considerable extent so that they are also not so suitable as to attain an electrically high-graded stable polyisobutylene mixture impermeable to water, but a polyisobutylene mixture capable of being properly machined.

According to the invention these drawbacks are removed by a polyisobutylene mixture which contains as a filling material cumarone resin or polystyrene or similar aromatic resin-like hydrocarbons having a dropping point above 100°, preferably above 125°. Small amounts of divinyl benzol preferably about 1% are added during the

polymerization to the polystyrene employed as a filling material, whereby the good properties of the mixture may be improved to a further extent.

A particularly fine distribution of the filling materials in the polyisobutylene may be obtained in the manner that the mechanically stirred mixture is heated to relatively high temperatures, for instance, to 120° centigrade or that the mixture is produced at this temperature and is thereafter cooled down again. The cooled mass is then rolled in the usual manner at lower temperatures, preferably below 50° centigrade in the case of cumarone resin mixtures and below 70° in the case of polystyrene mixtures. The mixing proportion between polyisobutylene and the filling material is preferably chosen within the limits between 2:1 and 2:3.

By the mixture according to the invention easily machineable and electrically high-graded products may be obtained whose shape is only impaired to a slight extent at high temperatures and which may be therefore suitably employed in manufacturing the insulation of electric conductors and cables.

The mixture is also particularly suitable for insertion as a layer impermeable to water in cable insulations or cable sheaths having a considerable permeability to water consisting, for instance, of acrylic acid ester, ethyl cellulose, impregnated fibrous material etc. or of a layer of different substances.

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