
Formaldehyde binding substance LBS-4 viscosity reduction based on its ultrasonic modifying by carbon nanotubes

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One of the ways to reduce the duration of impregnating the reentry vehicles thermal insulation blankets is the viscosity reduction of the binding substance by means of dispersing the carbon nanotubes in it under the ultrasonic treatment. The article considers the results of investigating the behaviour of nanosuspension with the carbon nanotubes concentration at a level of 0,02 % from the bakelite lacquer LBS-4 mass when varying the duration of the ultrasonic treatment and the relaxation time. According to the experimental findings we have developed a mathematical model of model of the behavior of binding substance. It is shown experimentally and analytically that ultrasonic nanomodification of the formaldehyde binding substance LBS-4 by carbon nanotubes does not exert a considerable impact on the viscosity of the substance.

Keywords: nanomodification, bakelite lacquer LBS-4, formaldehyde binding substance, viscosity, ultrasonic treatment, concentration, carbon nanotubes

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