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Time optimization of mixing octogene and cellulose nitrate lacquer during the formation of composite materials

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Abstract

The results have been presented of the study of the mixing process of octagene with 25% cellulose nitrate lacquer, obtained on the basis of acetate by two technologies: in the twin-rotor mixer and in volume device with mixer. The uniform distribution of the filler (the quality of mixing) was evaluated according to two criteria: on achieving a constant torque and on the minimum value of the arithmetic mean error of filler concentration measurement in the volume of lacquer. By comparing the torque on the example of mixing HMX and carbon we established the influence of the nature of the filler on the nature of mixing. The possible reasons for the fundamental difference between the nature of HMX mixing (extreme dependence) and carbon (symbatic dependence) at a constant concentration of polymer lacquer.