

A RELATION OF ELECTORRHEOLOGICAL BEHAVIOUR OF POLYMER SOLUTIONS TO QUALITY OF ELECTROSPUN FIBRES

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There was found a correlation between viscosity enhancement of various concentrations of polyvinylbutyral (PVB) solutions in electric field and quality of corresponding electrospun fibres (possible appearance of unwanted droplets, beads) made of this material. Quality of the process of electrospinning in which, under a strong electrostatic field, there are generated fibres deposited on a template as non-woven sheet, subjects - among other things - to the concentrations of various PVB solutions. The following four solvents were consecutively applied for preparation 6, 10, and 14 wt % PVB solutions: methanol, ethanol, isopropanol, and butanol. For comparison of electrorheological behaviour of the materials studied and their applicability in the process of electrospinning there were used an Anton Paar rotational rheometer MCR 501 equipped with the electrorheological cell C-PTD200/E (bob and cup arrangement, diameter of 17 mm), and a scanning electron microscope Vega TS 5130.

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