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The influence of RF plasma treatment at low pressure on the permeability of a polyurethane nanocomposite

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Abstract

The statistical model of treatment of a polyurethane nanocomposite by low-energy ionic streams in RF plasma at pressure in the range 13.3-133 Pa is developed. The dependence of the permeability of a filled nanocomposite on the filler mass fraction, both before and after RF plasma treatment, is theoretically investigated. © 2014 Allerton Press, Inc.

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Keywords

Monte Carlo method, nanocomposite, polyurethane permeability, radio-frequency plasma, simulation