
The test procedure for the gas permeability of samples with carbon fiber nano-modified matrix

© N.A. Stepanishev, V.A. Tarasov, R.V. Boyarskaya

Bauman Moscow State Technical University, Moscow, 105005, Russia

In article the experimental assessment of possibility of decrease in gas permeability of a composite material on the basis of matrix modifying by carbon nanotubes that is important for effective work of high-pressure tanks is given. The technique of carrying out tests of gas permeability of a composite and manufacturing techniques of examinees of samples is described. The technique of processing of results of experiments is given. It is shown that matrix modifying by carbon nanotubes reduces gas permeability of a composite more than by 30%.

Keywords: *nanodispersions, nanocomposite, carbon nanotubes (CNTs), polyester resins, gas permeability.*

Stepanishev N.A. (b. 1951) graduated from Moscow Institute of Steel and Alloys in 1974. Assoc. Professor of the Technologies of Rocket and Space Mechanical Engineering Department of Bauman Moscow State Technical University. Author of 12 publications in the field of polymer nanocomposites development. e-mail: steklaus@bk.ru

Tarasov V.A. (b. 1946) graduated from Bauman Moscow Higher Technical School in 1969. Dr. Sci. (Eng.), Professor, Head of the Technologies of Rocket and Space Mechanical Engineering Department of Bauman Moscow State Technical University. Author of more than 200 publications in the field of technologies of mechanical engineering, check and diagnostics. e-mail: tarasov_va@mail.ru

Boyarskaya R.V. graduated from Bauman Moscow Higher Technical School in 1970. Ph.D., Assoc. Professor of the Technology of Mechanical Engineering Department of Bauman Moscow State Technical University. Author of more than 55 publications in the field of technology of mechanical engineering, check and diagnostics. e-mail: cm12@sm.bmstu.ru
