EFFECT OF MOLECULAR SIEVE INCORPORATION INTO FLUOROELASTOMER ON THE MECHANICAL PROPERTIES

Reference	Presenter	Authors (Institution)	Abstract
04-087	Heloísa Augusto Zen	Zen, H.A.(tuto de Pesquisas Energéticas e Nucleares); Lugão, A.B. (Instituto de Pesquisas Energéticas e Nucleares);	The nanoparticle incorporation improves mechanical and thermal properties, and also improve gas barrier property in a polymeric matrix. This incorporation can be facilitated by elastomer solubility, which permits a homogeneous distribution of the nancoparticle. In this work molecular sieve with 3A was incorporated into fluoroelastomer matrix at 0.5, 1, 2 and 5% weight. In a Banbury equipment was carried the nanoparticle and fluoroelastomer, in order to obtain nanocomposites. After that was performed the vulcanization process to obtain films with 0.5mm of thickness. The films were characterized by mechanical tests and swelling degree to determine the modification on mechanical properties of the fluoroelastomer matrix. The results showed an increase in the stiffness and in the tension at break values although the swelling values didn’t suffer drastic changes.

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