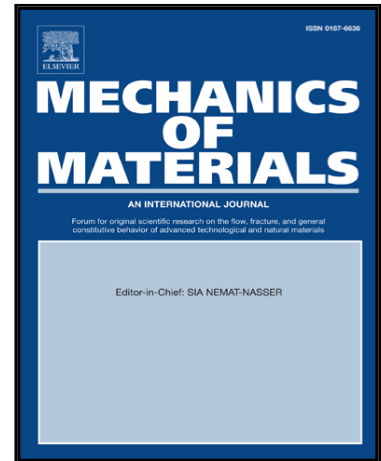


## Accepted Manuscript

Radiation induced degradation of silica reinforced silicone foam:  
experiments and modeling

Hui Fang , Jianguo Li , Hongbin Chen , Bo Liu , Wei Huang ,  
Yilun Liu , Tie Jun Wang

PII: S0167-6636(16)30088-6  
DOI: [10.1016/j.mechmat.2016.11.006](https://doi.org/10.1016/j.mechmat.2016.11.006)  
Reference: MECMAT 2670



To appear in: *Mechanics of Materials*

Received date: 12 June 2016  
Revised date: 19 November 2016  
Accepted date: 23 November 2016

Please cite this article as: Hui Fang , Jianguo Li , Hongbin Chen , Bo Liu , Wei Huang , Yilun Liu , Tie Jun Wang , Radiation induced degradation of silica reinforced silicone foam: experiments and modeling, *Mechanics of Materials* (2016), doi: [10.1016/j.mechmat.2016.11.006](https://doi.org/10.1016/j.mechmat.2016.11.006)

This is a PDF file of an unedited manuscript that has been accepted for publication. As a service to our customers we are providing this early version of the manuscript. The manuscript will undergo copyediting, typesetting, and review of the resulting proof before it is published in its final form. Please note that during the production process errors may be discovered which could affect the content, and all legal disclaimers that apply to the journal pertain.

**Highlights**

- A series of uniaxial tension tests are performed for the gamma irradiated SRSF with  $\gamma$ -radiation dose from 0 to 600 kGy.
- The tensile modulus of SRSF increases with the increase of radiation dose, while the fracture strength and fracture strain generally decrease.
- The alternation of mechanical properties mainly comes from the evolution of polymer network.
- A constitutive relation of irradiated SRSF is proposed by incorporating the radiation induced polymer network evolution.

ACCEPTED MANUSCRIPT

Download English Version:

<https://daneshyari.com/en/article/5018545>

Download Persian Version:

<https://daneshyari.com/article/5018545>

[Daneshyari.com](https://daneshyari.com)