

Contents

Part I Introduction & Preparation

Role of Different Nanoparticles in Elastomeric Nanocomposites	3
Jin Kuk Kim, Kaushik Pal and V. Sridhar	
In Situ Synthesis of Rubber Nanocomposites	57
Massimo Messori	

Part II Characterization & Properties

Relaxation Phenomena in Elastomeric Nanocomposites.	89
G. C. Psarras and K. G. Gatos	
Modeling and Simulation of Polymeric Nanocomposite Processing . . .	119
Teik-Cheng Lim	
Deformation-Induced Structure Changes in Elastomeric Nanocomposites.	135
Shigeyuki Toki and Benjamin S. Hsiao	
Thermally Stable and Flame Retardant Elastomeric Nanocomposites.	155
O. Cerin, G. Fontaine, S. Duquesne and S. Bourbigot	
Recycling of Elastomeric Nanocomposites	179
L. Reijnders	

Part III Application

Elastomeric Nanocomposites for Tyre Applications.	201
Kaushik Pal, Samir K. Pal, Chapal K. Das and Jin Kuk Kim	
Elastomer Clay Nanocomposites for Packaging.	233
V. Mittal	
Elastomeric Nanocomposites for Biomedical Applications.	257
Nicole Fong, Anne Simmons and Laura Poole-Warren	
Actuators and Energy Harvesters based on Electrostrictive Elastomeric Nanocomposites	281
Kaori Yuse, Pierre-Jean Cottinet and Daniel Guyomar	
Elastomeric Nanocomposites for Aerospace Applications	307
James Njuguna, Krzysztof Pielichowski and Agnieszka Leszczyńska	
Friction and Wear of Rubber Nanocomposites Containing Layered Silicates and Carbon Nanotubes.	343
D. Felhös and J. Karger-Kocsis	
Index	381

Recent Advances in Elastomeric Nanocomposites

Mittal, V.; Kim, J.K.; Pal, K. (Eds.)

2011, VIII, 388 p., Hardcover

ISBN: 978-3-642-15786-8