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# Reinforcement of Rubber

Visualization of Nanofiller and the Reinforcing Mechanism

Series: Springer Series on Polymer and Composite Materials

- Visualizes the comprehensive reinforcement mechanism by application of 3D-TEM/electron tomography to rubber
- Presents and substantiates the new crystallization mechanism on the self-reinforcement effect of natural rubber
- Clarifies scientifically reinforcement for systematic applications crucial for engineers in designing rubber products

This book presents the most recent description of rubber reinforcement, focusing on the network-like structure formation of nanofiller in the rubber matrix under the presence of bound rubber. The resultant filler network is visualized by electron tomography applied to rubber. In the case of natural rubber, the self-reinforcement effect is uniquely functioning, and new template crystallization is suggested. Here, the crystallites are also believed to arrange themselves in a network-like manner. These results are of great use, particularly for engineers, in designing rubber reinforcement.

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