

炼加工性能变好。

(2)碳纳米管能够显著提高 NR 定伸应力,但随着球磨时间的延长,碳纳米管/NR 复合材料定伸应力逐渐降低。当球磨时间在 5 h 以内,复合材料热导率基本不变甚至有微弱提高,之后随着球磨时间的进一步延长,热导率开始下降。

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Preparation of Short Carbon Nanotubes (CNTs) through Ball Milling and Properties of Short CNTs/NR Composites

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Abstract: The carbon nanotubes (CNTs) were chopped through ball milling, and the properties of short CNTs/NR composites were studied. The results showed that CNTs could observably improve the modulus at 100% and 300% elongation of NR, and as the milling time extended, the tube length decreased, and the modulus of short CNTs/NR composites decreased. The thermal conductivity of composites maintained almost unchanged when the milling time was less than 5 h, and then dropped down otherwise.

Key words: short carbon nanotubes; natural rubber; ball milling; modulus; thermal conductivity

一种橡胶门尼粘度的在线自动测量方法

中图分类号:TQ330.4⁺92 文献标志码:D

由天津大学申请的专利(公开号 CN 102303377A, 公开日期 2012-01-04)“一种橡胶门尼粘度的在线自动测量方法”, 提供了一种橡胶门尼粘度的在线自动测量方法, 即将橡胶混炼后由质量监测系统采集到的终炼胶质量指标中的流变参数与门尼粘度在线预测模型自动连接, 并设定流变参数新样本为 x_{new} ; 再将其输入门尼粘度

在线预测模型中, 自动输出门尼粘度值 y_{new} , 然后读取门尼粘度值 y_{new} 后将其传输给质量监测系统, 根据其与门尼粘度预设值的对比进行相应的工艺调整, 自动检测是否有流变参数新样本 y_{new} 输入。如果是, 预测流程继续进行; 如果否, 预测流程结束。该方法在不增加采样负担、最大限度地降低质量检测结果滞后性的同时极大地节约了生产成本。

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