

3 结论

(1)与未改性高岭土/纳米晶须胶料相比,改性高岭土/纳米晶须胶料的生热较低,但永久变形较大。

(2)改性高岭土在胶料中的分散性能明显比未改性高岭土好;纳米晶须有利于改善填料在胶料中的分散性能,随着纳米晶须用量增大,填料在胶料中的分散性能提高。

(3)纳米晶须用量较小时,橡胶-填料相互作用较强,胶料的滞后损失较大;纳米晶须用量较大时,纳米晶须与橡胶发生微交联,橡胶分子链运动能力降低,胶料的滞后损失减小。

(4)纳米晶须有利于降低胶料的滚动阻力,但

在用量较小时作用并不明显。

参考文献:

- [1] Rattanasom N, Saowapark T, Deeprasertkul C. Reinforcement of Natural Rubber with Silica/Carbon Black Hybrid Filler[J]. Polymer Testing, 2007, 26 (3) :369–377.
- [2] 吴小缓,王文利.我国高岭土市场现状及发展趋势[J].非金属矿, 2005, 28 (4) :1–3.
- [3] 吴铁轮.我国高岭土行业现状剖析与展望[J].非金属矿, 2002, 25 (3) :8–10.
- [4] 丁生祥,冯有利.高岭土表面改性方法与应用[J].江苏建材, 2008 (12) :30–31.
- [5] 叶舒展,周彦豪,陈福林.高岭土表面改性研究进展[J].橡胶工业, 2004, 51 (12) :759–765.

收稿日期:2017-08-16

Effect of Modified Kaolin/Nanocrystalline Whiskers on Dynamic Properties of Tread Compound of TBR Tire

WU Mingsheng¹, YAN Fei², SUN Kexin³

(1. Qingdao University of Science and Technology, Qingdao 266042, China; 2. Maoming Kaolin Science and Technology Co., Ltd, Maoming 525026, China; 3. Qingdao Siwei Chemical Co., Ltd, Qingdao 266033, China)

Abstract: The effect of modified kaolin/nanocrystalline whiskers on the dynamic properties of the tread compound of TBR tire was studied. The results showed that with modified kaolin/nanocrystalline whisker, the heat build-up of the compound was lower and the permanent deformation was higher compared with the compound with unmodified kaolin/nanocrystalline whisker. The dispersion of modified kaolin in the compound was much better than that of unmodified kaolin. With the increase of the addition levels of nanocrystalline whisker, the filler dispersion was improved. When the addition levels of nanocrystalline whisker were high, the hysteresis loss and rolling resistance of the compound were low.

Key words: nanocrystalline whisker; kaolin; modification; TBR tire; tread compound; dynamic property; dispersion; hysteresis loss

柬埔寨天然橡胶出口增长36%

中图分类号:TQ332.1 文献标志码:D

2017年柬埔寨天然橡胶出口量达到19万t,同比增长36%。

柬埔寨农业部橡胶总局表示,柬埔寨天然橡胶出口量每年都在增长,主要出口市场是越南、马来西亚、新加坡和中国。柬埔寨天然橡胶种植园面积已达到7 000 hm²,并且由于天然橡胶行业发

展乐观,天然橡胶种植园面积还在不断增长。目前柬埔寨的橡胶加工厂屈指可数,为了稳定天然橡胶价格,柬埔寨政府希望多建一些橡胶加工厂,并以此来促进就业。

柬埔寨橡胶出口商安玛迪集团表示,由于本地缺乏知名的产品品牌,呼吁政府建立机制以吸引来自越南、中国、泰国和韩国的更多投资者。

(艾 迪)