

乙醇气体少,偶联剂Si69用量小,强度性能、耐磨性能、耐屈挠性能和抗刺扎性能提高,生热大幅降低。

(5)将改性剂XM原位接枝到白炭黑表面,胶料的加工安全性能和抗硫化返原性能提高,拉伸强度、拉断伸长率、撕裂强度和正硫化时定伸应力提高,耐热老化性能较好。

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Organic Modification of Silica

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Abstract: The influence of silica modification on the properties of silica filled compound was investigated and the in-situ grafting modification using modifier XM was presented. The experimental testing results showed that, after organic modification of silica by pre-mixing process or pretreatment process, the properties of silica filled compound were improved. Compared with the pre-mixing process, when the silica was modified by pretreatment process, the mixing process of silica and rubber compound became simpler, producing quantity of ethanol gas was less, the needed amount of coupling agent Si69 was smaller, the strength properties, abrasion resistance, flex resistance and puncture resistance of the vulcanizates were better, and the dynamic heat build-up was lower. When the silica was modified by modifier XM, the processing property (scorch safety) and anti-reversion property of the compound were improved, the tensile strength, elongation at break and tear strength of the vulcanizates increased, and the heat aging resistance was better. Modification with modifier XM provided a solution to solve the problems of ethanol gas generation and reduced processing safety when the silane coupling agent was used.

Key words: silica; modification; silane coupling agent; pre-mixing; pretreatment; mechanochemistry reaction

三大产胶国限制天然橡胶出口

中图分类号: TQ336.1; F75 文献标志码: D

从2016年3月1日起,天然橡胶产量约占世界天然橡胶产量70%的印度尼西亚、马来西亚和泰国限制天然橡胶的出口量,此举旨在提振天然橡胶价格。当天我国天然橡胶价格上涨400元·t⁻¹,同时顺丁橡胶价格也上调。

天然橡胶价格一般比丁苯橡胶和顺丁橡胶价格高出1 500元·t⁻¹,当天然橡胶价格低于丁苯橡胶和顺丁橡胶价格时,天然胶价格上涨就成为大概率事件。

目前我国天然橡胶价格接近丁苯橡胶和顺丁橡胶价格。自2015年11月份以来,我国天然橡胶价格一直在10 000元·t⁻¹以下,近期报价为9 600元·t⁻¹左右,丁苯橡胶和顺丁橡胶的近期报价为8 000~9 000元·t⁻¹。

截至2016年1月15日,我国全钢子午线轮胎企业开工率为55.84%,半钢子午线轮胎企业开工率为63.74%。2015年12月我国汽车产销量同比分别增长15.93%和15.39%。

这些利好因素或将刺激天然橡胶价格逐步上升。

(本刊编辑部)

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