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Properties of Thiobacillus Ferrooxidans Desulfurized Ground Tire Rubber/SBR Blends

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Abstract: Desulfurized ground tire rubber (DGTR) was produced by thiobacillus ferrooxidans desulfurization and blended with SBR, and the properties of DGTR/SBR composites were investigated. The results showed that, in the desulfurization regeneration of ground tire rubber (GTR), combined sulfur on the surface of GTR was oxidized by thiobacillus ferrooxidans, and the sol fraction of DGTR was increased. Compared with GTR/SBR blend, the DGTR/SBR blend possessed lower crosslink density and significantly better physical properties. DMA test results indicated that the molecular chain friction of DGTR/SBR blend was decreased and the glass transition temperature was reduced. It was also found by SEM that, compared with GTR/SBR, the interfacial cohesion between DGTR and SBR was better.

Key words: ground tire rubber; thiobacillus ferrooxidans; microbial desulfurization; SBR; crosslink density; physical property

贵州筹建绿色高性能轮胎工程中心

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贵州轮胎股份有限公司日前开始筹建贵州省绿色高性能轮胎工程技术研究中心, 预计 2013 年 12 月建成。该工程中心将依托贵州省轮胎研发与产业化优势资源, 解决绿色高性能轮胎工程化与产业化关键技术问题, 提升绿色高性能轮胎的工程化与产业化能力。

中心将针对 5 个轮胎绿色高性能方面问题, 以高性能安全、跑气保用、节能减排、绿色环保、节能低阻等为目标, 从材料加工工艺、轮胎结构设计、优化、花纹设计等层面入手, 开展绿色高性能轮

胎关键技术研究, 并将其成果实现工程化应用。

作为科研、开发、生产经营相结合的科技实体, 工程中心建成后将通过市场化运作, 构建贵州省绿色高性能轮胎领域的公共服务平台, 成为推动科技成果产业化、推动技术创新、促进技术进步的示范基地。贵州轮胎股份有限公司董事长马世春任研究中心主任。

绿色高性能轮胎具有滚动阻力小、耗油低、生热低、耐磨、抗刺扎、承载能力大、翻新次数多、寿命长、乘坐舒适等优点, 是轮胎行业技术发展的一大趋势。

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