

相当, 优于促进剂M和DZ胶料; 促进剂DZ胶料的磨耗量最大, 促进剂TBSI胶料最小, 其他促进剂胶料相当, 介于两者之间。

热空气老化后, 促进剂NS和TBSI及促进剂NS/防焦剂CTP胶料的300%定伸应力相当, 促进剂CZ胶料次之, 促进剂DZ和M胶料较小; 促进剂M, CZ, NS, TBSI及促进剂NS/防焦剂CTP胶料的拉伸强度相当, 促进剂DZ胶料较小; 促进剂M和CZ及促进剂NS/防焦剂CTP胶料的拉伸强度保持率和拉断伸长率保持率较高, 其他几种次磺酰胺类促进剂胶料的拉伸强度保持率和拉断伸长率保持率相当。

3 结语

总的看来, 次磺酰胺类促进剂胶料的加工安全性能、抗硫化返原性能、拉伸性能和耐磨性能均优于噻唑类促进剂胶料。促进剂TBSI作为次磺酰胺类促进剂的优秀品种, 克服了其他次磺酰胺类促进剂加工安全性能好和硫化速度快不可兼顾的缺点, 特别适合用于大型全钢载重子午线轮胎胎面胶和巨型工程机械轮胎胎面胶等厚制品中。但次磺酰胺类促进剂中促进剂DZ有产生亚硝胺致癌物的风险, 其胶料强度性能和耐磨性能也较差, 应谨慎使用。

Effect of Different Accelerators on the Properties of NR

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Abstract: The effect of different accelerators on the properties of NR was investigated. The studied accelerators included thiazole accelerator M and sulfonamide accelerator CZ, NS, TBSI, and DZ. The experimental testing results showed that, with sulfenamide accelerators, the processing safety, anti-reversion properties, tensile properties and wear resistance of the compounds were better than that with thiazole accelerator. The compound with TBSI showed good processing properties, high crosslink density and fast curing speed. The compound with DZ showed poor physical properties and wear resistance while DZ presented the risk of producing carcinogenic nitrosamines.

Keywords: NR; thiazole accelerator; sulfenamide accelerator; curing characteristics; physical properties

信息·资讯

理查德森公司研发3种轮胎用炭黑新产品

美国理查德森公司研发的3种节能软质炭黑新产品投放市场, 商品名分别为ES600, ES601和ES700, 分别对应ASTM命名系统的N660, N650和N774低滞后炭黑品种。这3种节能炭黑在

造粒过程中表面用多硫化物改性, 可提高炭黑与橡胶之间的相互作用, 赋予胶料更低的滞后损失和更高的弹性, 有利于降低轮胎滚动阻力。

郭隼奎