

炭黑/炭黑补强SSBR纳米复合材料导电网络的形成,提高复合材料的导电性能。

(3) 偶联剂Si747可大幅改善白炭黑在橡胶基体中的分散性,降低阻隔效应,使复合材料在低CNTs体积分数下达到抗静电水平。

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Conductivity of Carbon Nanotubes/Silica/Carbon Black Reinforced SSBR Nanocomposites

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Abstract: The conductivity of carbon nanotubes/silica/carbon black reinforced SSBR nanocomposites was investigated. The results showed that, when the addition level of silica was less than 50 phr, the barrier effect of silica was dominant, the CNTs/silica reinforced SSBR nanocomposites showed poor conductivity. When the addition level of silica was 70 phr, the volume exclusion effect of silica was dominant, the nanocomposites showed good conductivity. The synergistic effect between carbon black and carbon nanotubes could improve the conductivity of carbon nanotubes/silica/carbon black reinforced SSBR nanocomposites. The conductivity of coupling agent Si747 modified nanocomposites was better than that of the nanocomposites without coupling agent Si747.

Key words: SSBR; carbon nanotube; silica; carbon black; silane coupling agent; conductivity

一种用于制备超薄密封橡胶层的高抗压 抗冲击防裂硅橡胶胶浆及其制备方法

中图分类号: TQ336.4⁺2; TQ333.93 文献标志码: D

由芜湖荣基密封系统有限公司申请的专利(公开号 CN 104761901A, 公开日期 2015-07-08)“一种用于制备超薄密封橡胶层的高抗压抗冲击防裂硅橡胶胶浆及其制备方法”, 涉及的硅橡胶胶浆配方为: 硅橡胶 20~25, 空心玻璃微珠 8~10, 纳米氧化铈 0.01~0.02, 甲苯 20~30, 环己烷 12~14, 消泡剂 0.1~0.2, 粘

接剂2260 0.1~0.2, 乙酸乙酯 1~2, 色母料 3~4, 抗氧化剂 0.1~0.2, 乙烯基三甲氧基硅烷 0.2~0.3, 硫化剂双25 0.5~1。该硅橡胶胶浆改善了传统硅橡胶的性能, 混合浆料密稠细腻无泡, 便于丝网印刷, 硫化后的橡胶层厚度可低至0.05 mm, 胶层平整致密, 尺寸稳定, 兼具良好的强度和韧性, 抗冲击性能好, 不易老化开裂失效, 对油料和液体等流体具有优良的密封作用。

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