

的物理性能较好。

(3) 玄武岩短纤维用量为 20 份时, 玄武岩短纤维/硅橡胶复合材料的综合物理性能最佳。

(4) 制备玄武岩短纤维/硅橡胶复合材料的最佳硫化条件为 175 °C/10 MPa×25 min。

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第 7 届全国橡胶工业用织物和骨架材料技术研讨会论文

Study on Properties of Basalt Short Fiber/Silicone Rubber Composite

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Abstract: In this study, silicone rubber was reinforced by basalt short fiber, and the properties of basalt short fiber/silicone composite were investigated. Firstly, the basalt short fiber was treated with acetone to remove the surface covering, and the best result was obtained when the treatment time was 50 minutes. Then the short fiber was further treated by silane coupling agent KH-550. When the addition level of KH-550 treated fiber was 20 phr, the comprehensive properties of the composite were the best. The optimum curing condition was 175 °C/10 MPa×25 min.

Key words: basalt short fiber; coupling agent; desizing agent; silicone rubber; composite

一种由钢板橡胶-软钢-铅组成的 三阶段耗能隔震支座

中图分类号: TQ336.4⁺2 文献标志码: D

由中南大学和高速铁路建造技术国家工程实验室申请的专利(公开号 CN 103276829A, 公开日期 2013-09-04)“一种由钢板橡胶-软钢-铅组成的三阶段耗能隔震支座”, 涉及一种新型隔震装置, 即由叠层钢板橡胶主体、软钢支撑、铅耗能器组成的可实现三阶段耗能的隔震支座。其中, 第

1 阶段实现普通隔震功能, 减轻中小地震下结构响应; 第 2 阶段软钢支撑参与耗能, 提升隔震支座二次刚度, 组合耗能能力强, 减轻大震响应; 第 3 阶段铅耗能器参与工作, 应对不可预知的超预期地震危险, 对隔震支座起到保护作用, 避免失稳破坏。该隔震支座构造简洁, 制作方便, 性能良好, 可以有效提升隔震支座在不可预知地震下的耗能能力和可靠性。

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