

4 结论

(1) NR/SBR/白云母复合材料的优化硫化体系为: 促进剂D 1, 促进剂CZ 0.6, 促进剂DM 0.6, 硫黄 2.5; 适宜的硫化条件为 $145^{\circ}\text{C} \times 8 \text{ min}$ 。

(2) 当改性白云母用量为20, 40和60份时, 复合材料的物理性能和耐磨性能均能满足工业车辆轮胎胎面胶和垫带胶、农业轮胎胎面胶和垫带胶、载重型和非载重型力车轮胎胎面胶和鞋跟胶料国家或行业标准的要求。

(3) 改性白云母用量为20份时, 复合材料物理性能和耐磨性能可以满足大部分橡胶制品的要求。

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Properties of NR/SBR /Muscovite Composites

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Abstract: In this study, the effects of curing system, curing conditions and the amount of muscovite on the properties of NR/SBR/Muscovite composites were investigated. The optimized curing system was as follows: accelerator D 1, accelerator CZ 0.6, accelerator DM 0.6, and sulfur 2.5. The optimum curing condition was $145^{\circ}\text{C} \times 8 \text{ min}$. When the amount of modified muscovite was 20, 40 or 60 phr, the physical properties and wear resistance of the composite met the requirements of national standards or industry standards on various rubber products: tread and flat of industrial tire and agricultural tire, tread of load and non-load cycle tire, and shoe heel compound. When the amount of modified muscovite was 20 phr, the physical properties and wear resistance of the composite met the specifications of most rubber products.

Key words: muscovite; NR; SBR; curing system; curing temperature; curing time

利用废轮胎胶粉作3D打印材料

中图分类号: X783.3 文献标志码: D

美国一家名为Emerging Objects的3D打印公司已开发出一种利用废轮胎胶粉作3D打印材料的方法, 并计划用其制造3D打印家具、建筑物外部构件如隔音板。

美国每年约产生2.59亿条废轮胎。通过低

温法将废轮胎制成超细橡胶粉, 可制造Rubber Pouff。Rubber Pouff是多用途3D打印家具构件, 可单独作为凳子或其他用品, 也可用胶粘剂粘合制成结构复杂的产品。Rubber Pouff的纹理十分醒目, 专门设计的多孔表面具有优异的视觉和触觉质感。知名绿色材料Lehigh科技公司将为Emerging Objects的Rubber Pouff项目提供超细橡胶粉。

(朱永康)