

表 8 钢丝帘线附胶率测试结果 %

项 目	配方编号			
	LN-1	LN-2	LN-3	LN-4
老化前	95	95	90	60
100℃×72 h 老化后	90	90	80	75
质量分数 0.1 盐水浸泡 72 h 后	95	90	75	70
95%湿度×40℃×72 h 老化后	80	75	60	60

注:同表 7。

用量的增大,胶料的焦烧时间和硫化时间延长,门尼粘度、定伸应力和拉伸强度增大;当白炭黑用量为 10 份时,1<sup>#</sup> 高分散白炭黑填充硫化胶的定伸应力、拉伸强度和撕裂强度均明显高于 2<sup>#</sup> 易分散白炭黑填充硫化胶。

(2)采用带束层粘合配方时,与干法 LN-3 和 LN-4 胶料相比,湿法母胶 LN-1 和 LN-2 胶料的门尼粘度较小,加工性能较好,定伸应力和撕裂强度较大;LN-2 硫化胶老化后钢丝帘线粘合力的保持率较大,粘合性能较好。

(3)白炭黑母胶硫化胶的钢丝帘线抽出附胶率高于相应等量干法添加白炭黑硫化胶,与钢丝帘线粘合力保持率结果保持一致。

(4)湿法母胶胶料具有较好的加工性能和粘合性能,可满足轮胎带束层胶料的要求。

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Application of Silica/NR Masterbatch Prepared by Wet Process in Belt of Truck and Bus Radial Tire

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**Abstract:** The silica/NR masterbatch was prepared by wet process method, the vulcanizates were prepared using standard NR formula and belt compound formula, respectively, and the properties of the vulcanizates were investigated. The results showed that, silica was uniformly dispersed in the masterbatch. When the standard NR formula was used, as the addition level of silica increased, the Mooney viscosity of the compound and tensile strength of the vulcanizates increased. The modulus, tensile strength and tear strength of the vulcanizates filled with 10 phr highly dispersible silica were higher than those of the vulcanizates filled with 10 phr easily dispersible silica, respectively. When the belt compound formula was used, the processability of compound with the masterbatch from wet process was better. After aging, the retention rate of adhesion strength between the vulcanizates and steel cord was higher, and the adhesion property was better for the vulcanizates with the masterbatch from wet process.

**Key words:** silica; NR; wet process masterbatch; truck and bus radial tire; belt; adhesion property

一种翻新子午线航空轮胎的钢丝保护层修补胶及其应用

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由中国化工集团曙光橡胶工业研究设计院有限公司申请的专利(公开号 CN 104262699A, 公开日期 2015-01-07)“一种翻新子午线航空轮胎的钢丝保护层修补胶及其应用”, 涉及的翻新子午线航空轮胎的钢丝保护层修补胶以天然橡胶为主材料, 以丁苯橡胶、粘合剂、硼酰化钴、酚醛树脂、高分散性白炭黑、硅烷偶联剂、高耐磨炭黑、酮胺

类防老剂、不溶性硫黄、次磺酰胺类促进剂为主要辅料, 通过开炼机或密炼机混炼而成。应用时将混炼胶与溶剂汽油按 1 : (3~6) 的配比制成修补胶胶浆, 另将混炼胶在压片机上压成薄片, 裁成一定大小的胶片, 作为修补胶胶片。该胶料具有拉伸强度、撕裂强度和定伸应力较高, 耐热老化性能良好, 动态生热低的优点; 且胶料与钢丝的粘合性能好, 热老化后胶料与钢丝的粘合性能无明显下降。

(本刊编辑部 马 晓)