

从表3可以看出,各配方硫化胶老化前后的物理性能没有太大变化,只是以分散剂FC-303替代分散剂A50P后硫化胶的撕裂强度略有下降,说明分散剂FC-303替代分散剂A50P用于胎面胶中,胶料仍能保持较好的物理性能,这与小配合试验结果相符。

2.4 成品试验

采用1[#]试验配方胎面胶生产12.00R20 20PR全钢载重子午线轮胎,并进行耐久性试验,试验结果如表4所示。

从表4可以看出,试验轮胎的耐久性能优于

生产轮胎,且均达到企业标准要求(≥ 71 h)。

3 结论

在全钢载重子午线轮胎胎面胶中以分散剂FC-303替代A50P,可显著降低混炼胶的门尼粘度,提高炭黑分散等级,还可进行工艺优化,降低胶料生产成本;在保持硫化胶物理性能的前提下,提高胎面胶的耐磨性能和降低压缩生热,从而延长轮胎的使用寿命。

参考文献:

[1] 艾军伟,刘芳,曾宗强,等.气膜包覆法制备Si69改性淀粉/天然橡胶复合材料的性能[J].合成橡胶工业,2011,34(6):291-295.
[2] 李花婷,颜晋钧,陈宏,等.轮胎滚动阻力测试方法研究[J].轮胎工业,2007,27(3):180-183.
[3] Bond R, Morton C F, Karl L H. A Tailor-made Polymer for Tire Applications[J]. Polymer, 1984, 25(1):132.

收稿日期:2014-01-16

表4 成品轮胎的耐久性试验结果		
项 目	试验轮胎	生产轮胎
行驶速度/(km·h ⁻¹)	50	50
累计行驶时间/h	81.02	77.65
累计行驶里程/km	4 058.3	3 889.8
试验结束时轮胎状况	带束层脱层	带束层脱层

Application of Rubber Dispersing Agent FC-303 in Tread Compound of Truck and Bus Radial Tire

LI Jian, SU Pu-wen, LI Qin-zhu, LUO Ji-liang

(Guangzhou South China Rubber & Tire Co., Ltd, Guangzhou 511400, China)

Abstract: The application of rubber dispersing agent FC-303 in the tread compound of truck and bus radial tire was investigated and compared to common dispersing agent A50P. The Mooney viscosity of the compound with FC-303 was significantly lower than that with A50P, and the dispersion of carbon black was better. The physical properties and aging property of the vulcanizates with FC-303 was similar to that with A50P, the compression heat build-up was lower, and the wear resistance was better. The endurance performance of the finished tire by using FC-303 to replace A50P in the tread compound met the requirements of enterprise standards. The optimal addition level of dispersing agent FC-303 was 2 phr.

Key words: dispersing agent; truck and bus radial tire; tread compound

一种适用于矿用巨型轮胎再制造的中间胶配方

中图分类号:TQ336.1;U463.341⁺.5 文献标志码:D
由青岛天盾橡胶有限公司申请的专利(公开号 CN 103484037A, 公开日期 2014-01-01)
“一种适用于矿用巨型轮胎再制造的中间胶配

方”,涉及的适用于矿用巨型轮胎再制造的中间胶配方主要包括天然橡胶、炭黑、活性剂、防老剂、粘合剂(改性石油树脂)、硫化剂和促进剂。该中间胶粘合强度极高,拉伸强度等物理性能和耐老化性能显著提高,满足矿用巨型再制造轮胎使用要求。
(本刊编辑部 马 晓)