

表9 成品轮胎的耐久性试验结果

项 目	试验轮胎	生产轮胎
试验速度/(km·h ⁻¹)	120	120
累计行驶时间/h	86.17	74.59
试验结束时轮胎状况	肩空	肩空

3 结论

(1) 多功能橡胶助剂HT918在焦烧期未参与反应,对胶料的加工安全性无明显影响,可提高胶料的交联密度和抗硫化返原性。

(2) 加入多功能橡胶助剂HT918后,硫化胶的定伸应力和拉伸强度增大,拉伸伸长率和撕裂强度减小,耐老化性能、耐屈挠性能和耐磨性能提高,压缩生热降低,轮胎的抗湿滑性能和耐久性能提高,滚动阻力降低。

(3) 多功能橡胶助剂HT918的综合性能等同或优于国外同类产品。

参考文献:

- [1] 李剑波,王文博,杜孟成,等. 新型抗硫化返原剂HTR在全钢工程机械子午线轮胎胎面胶中的应用[J]. 轮胎工业, 2020, 40(4): 227-230.
- [2] 田安平. 天然橡胶硫化返原性能的研究及改善[D]. 青岛: 青岛科技大学, 2017.
- [3] 巩丽,王海涛,董成磊,等. 不同硫化体系天然橡胶胶料的动态性能研究[J]. 橡胶工业, 2017, 64(1): 22-25.
- [4] 闻达,罗秀娟,孙富强,等. 抗硫化返原剂的应用与进展[J]. 特种橡胶制品, 2003, 24(5): 24-27.
- [5] 樊建军. 巨型工程轮胎抗硫化返原研究[D]. 哈尔滨: 哈尔滨工业大学, 2019.
- [6] 李昭,韩冬礼,华健,等. 载重子午线轮胎滚动阻力的热力耦合分析及试验验证[J]. 橡胶工业, 2019, 66(10): 730-738.

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Application of Multi-functional Rubber Additive HT918 in Tread Compound of Truck and Bus Radial Tire

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Abstract: The application of multi-functional rubber additive HT918 in the tread compound of truck and bus radial tire was investigated. The results showed that, by adding HT918 in the tread compound, the t_{10} and t_{90} of the compound were shortened, the crosslinking density increased, and the anti-reversion property was improved. The modulus and tensile strength of the vulcanizate with addition of HT918 increased, the elongation at break and tear strength decreased, while the aging resistance, flexural resistance and wear resistance were improved, and the compression heat build-up decreased. The wet skid resistance and durability of the tire was improved and the rolling resistance decreased. The comprehensive properties of multi-functional rubber additive HT918 were equal to or better than similar foreign products.

Key words: multi-functional rubber additive; truck and bus radial tire; tread compound; anti-reversion property; wear resistance; dynamic mechanical property

一种轮胎压力自动调节装置及调节方法

由中国电子科技集团公司第四十八研究所申请的专利(公布号 CN 111361362A, 公布日期 2020-07-03)“一种轮胎压力自动调节装置及调节方法”,公开了一种轮胎压力自动调节装置,包括胎压监测模块、充放气模块、能量收集模块和控制模块;胎压监测模块用于测量包括轮胎压力和温度的运行数据,并发送给控制模块;充放气模块用

于轮胎压力的释放和补充;控制模块用于接收胎压监测模块传来的运行数据,控制充放气模块对轮胎进行充气或放气,以对轮胎的压力进行动态调节;能量收集模块用于收集汽车振动产生的能量,以供给各模块所需电源。本发明具有结构紧凑、集成度高、安全可靠、适用范围广、可动态调整轮胎压力等优点。

(本刊编辑部 马 晓)