

响,分别采用试验配方和参比配方胶料制备16条轮胎,装配在两部车上,在同轴上装两个配方的轮胎,保证试验条件一致,每部车约2万km换位一次,磨耗性能采用单耗评价,单耗即磨损单位花纹深度时轮胎的行驶里程($\text{km} \cdot \text{mm}^{-1}$),单耗越高则耐磨性能越好。经过一年多的实际里程试验,参比轮胎的单耗为 $11\,089 \text{ km} \cdot \text{mm}^{-1}$,试验轮胎的单耗为 $10\,882 \text{ km} \cdot \text{mm}^{-1}$ 。以参比轮胎为对比样,换算成磨耗指数,则参比轮胎和试验轮胎的实际里程试验磨耗指数分别为100%和98%,二者基本相近。

3 结论

CSDPF是碳-硅双相填料,其表面活性高,与聚合物间作用强,填料间作用弱,不容易形成填料网络。在载重轮胎胎面胶中加入CSDPF,硫化胶的物理性能相近或略好,高温下动态滞后损失减小,生热低,弹性高,滚动阻力降低,成品轮胎的耐

久性能提高,耐磨性能相近。

参考文献:

- [1] 赵敏.降低轮胎滚动阻力的途径[J].轮胎工业,2006,26(10):586-592.
- [2] 马改陵,徐鸿,崔文勇,等.子午线轮胎滚动阻力的研究进展[J].橡胶工业,2005,52(8):501-511.
- [3] Wang M J. Effect of Polymer-Filler and Filler-Filler Interactions on Dynamic Properties of Filled Vulcanizates[J]. Rubber Chemistry and Technology, 1998, 71 (3) :521.
- [4] Wang M J, Zhang P, Khaled Mahmud. Carbon-Silica Dual Phase Filler, a New Generation Reinforcing Agent for Rubber. Part IX. Application to Truck Tire Tread Compound[J]. Rubber Chemistry and Technology, 2001, 74 (2) :129.
- [5] Wang M J, Mahmud K, Murphy L, et al. Carbon/Silica Dual Phase Filler, a New Generation Reinforcing Agent for Rubber. Part I. Characterization of Carbon/Silica Dual Phase Filler[J]. Kautsch Gummi Kunstst., 1998, 51 (3) :348.

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Application of Carbon/Silica Dual Phase Filler in Tread Compound of Truck Tire

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Abstract: The application of carbon/silica dual phase filler (CSDPF) in the tread compound of truck tire was investigated. The results showed that, by adding CSDPF in the tread compound, the Mooney viscosity and M_H of the compound increased, the hardness and modulus of the vulcanizate increased, the loss factor at $60\text{ }^\circ\text{C}$ decreased, the compression temperature rise decreased, the rebound value increased, and the wear resistance was improved. The rolling resistance of finished tire decreased, the endurance performance was improved, and the wear resistance was similar.

Key words: dual phase filler; truck tire; tread compound; wear resistance; rolling resistance

轮胎重量在线自动检测装置

中图分类号:TQ336.1;TQ330.4⁺92 文献标志码:D

由无锡弘宜智能科技有限公司申请的专利(公开号 CN 105043517A,公开日期 2015-11-11)“轮胎重量在线自动检测装置”,涉及的轮胎质量在线自动检测装置是在采用带式输送机运送轮胎的同时对轮胎进行在线称量的装置。它包括平台、控制器和电动机。平台上有与其形状适配

的秤台,平台与秤台间有传感器,与控制器相连。秤台的相对两边均有上凸边,两上凸边的同一端间均有传动辊,两传动辊间连有输送带,其中一个传动辊一端通过V形带轮和V形带与电动机输出轴相连。该轮胎质量在线自动检测装置需要的操作人员少,生产效率高,适用于轮胎生产企业生产线。

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