

胎的充气外缘尺寸、强度和耐久性性能均符合国家标准要求,高速性能达到了设计要求,产品性能优异,投放北美市场后受到用户好评。该轮胎的成功开发不仅拓展了我公司拖车专用公路型全钢子午线轮胎的规格型号,更提升了产品的市场竞争力。

参考文献:

- [1] 孙佳佳,孙宝余,于子涵. ST235/80R16公路型挂车特种专用轮胎的设计[J]. 轮胎工业,2020,40(1):12-14.
- [2] 马丽华,王君,韩磊,等. ST205/75R15 8PR拖车专用轮胎的设计[J]. 轮胎工业,2022,42(6):335-338.
- [3] 梁守智,钟延堃,张丹秋. 橡胶工业手册(修订版) 第四分册 轮胎[M]. 北京:化学工业出版社,1989.
- [4] 闫相桥. 轮胎有限元分析技术及其在轮胎结构优选中的应用[J]. 固体力学学报,2001,22(2):150-164.
- [5] 冯琳阁,辛振祥. 不对称带束层11.00R20全钢载重子午线轮胎有限元分析[J]. 青岛科技大学学报(自然科学版),2012,33(2):177-182.
- [6] 黄兆阁,李长宇,孟祥坤,等. 235/45R18轮胎带束层帘线的有限元优化设计[J]. 橡胶工业,2020,67(3):209-213.
- [7] 王宝凯. 205/55R16子午线轮胎的结构设计、带束层优化与性能研究[D]. 青岛:青岛科技大学,2020.
- [8] 史彩霞,孟熙宏,苏明,等. 复杂花纹轿车子午线轮胎带束层结构对轮胎高速温度场的影响研究[J]. 橡胶工业,2022,69(8):578-585.
- [9] 杨清芝. 现代橡胶工艺学[M]. 北京:中国石化出版社,2004.
- [10] 蔡文杰,张文标,柯子东,等. 新结构热板立柱式硫化机的设计[J]. 橡胶科技,2021,19(5):251-253.

收稿日期:2024-08-17

Design of ST235/85R16 Trailer Special Road Type All-steel Radial Tire

SUN Shumei¹, PANG Li², HUANG Yigang¹, LIU Lianbo¹, MA Weihua¹

(1. Qingdao Doublestar Tire Industry Co., Ltd., Qingdao 266400, China; 2. Qingdao University of Science and Technology, Qingdao 266042, China)

Abstract: The design of the ST235/85R16 trailer special road type all-steel radial tire was introduced. In the structural design, the following parameters were taken: overall diameter 798 mm, cross-sectional width 230 mm, width of running surface 182 mm, arc height of running surface 8 mm, bead diameter at rim seat 404 mm, bead width at rim seat 184 mm, and maximum width position of cross-section (H_1/H_2) 0.989 9. The tread adopted four longitudinal pattern grooves, pattern depth 9 mm, block/total ratio 78%, and number of pattern pitches 71. In the construction design, the following processes were taken: adopting a single rubber integral extrusion type for tread, $3 \times 0.24 + 9 \times 0.225$ CCST steel cord for carcass, $2 + 7 \times 0.30$ ST steel cord for belt, and using one-stage building machine to build tires and hot plate vulcanizing machine to cure tires. The test results of finished tire showed that, the inflated peripheral dimension, strength and durability met the requirements of national standards, and the high-speed performance met the design requirements.

Key words: trailer; all-steel radial tire; structural design; construction design; finished tire performance

一种轮胎用可发泡的橡胶组合物及其制备方法和应用

由山东玲珑轮胎股份有限公司申请的专利(公布号 CN 117887181A, 公布日期 2024-04-16)“一种轮胎用可发泡的橡胶组合物及其制备方法和应用”,涉及的橡胶组合物配方(用量/份)为:卤化丁基橡胶 50~100,顺式-1,4-聚异戊二烯橡胶 0~50,炭黑 5~50,微球发泡剂 5~30,生物基油 5~20,碳氢树脂混合物

1~10,酚醛增粘树脂 1~5,防老剂 0~2,硫化体系 3~7。本发明采用的微球发泡剂在85~230℃的温度范围内加热后膨胀发泡而形成细小均匀的泡孔结构,添加至橡胶组合物中形成稳定的发泡效果,使橡胶组合物达到微发泡状态,从而形成具有微孔结构的海绵状的橡胶组合物。通过该海绵状橡胶组合物阻隔且吸收轮胎行驶过程中的噪声,达到降低轮胎噪声的效果。

(信息来源于国家知识产权局)