究[J]. 轮胎工业,2021,41(7):428-430.
[7] 李娜娜,韩圣强,杨和涛,等. 缺气保用轮胎胎圈轮廓设计与就位气压的相关性研究[J]. 轮胎工业,2021,41(12):729-732.
[8] 全国轮胎轮辋标准化技术委员会. 轮胎外缘尺寸测量方法:GB/T 521—2016[S]. 北京:中国标准出版社,2016.
[9] 全国轮胎轮辋标准化技术委员会. 自体支撑型缺气保用轮胎:GB/T 30196—2013[S]. 北京:中国标准出版社,2013.
[10] 全国轮胎轮辋标准化技术委员会. 轿车轮胎性能室内试验方法:GB/T 4502—2016[S]. 北京:中国标准出版社,2016.

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Design on 245/45R18 100Y XL Explosion-proof Safety Radial Tire

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Abstract: The design on 245/45R18 100Y XL explosion-proof safety radial tire was introduced. In the structure design, the following parameters were taken: overall diameter 668 mm, cross-sectional width 256 mm, width of running surface 207 mm, arc height of running surface 9.9 mm, bead diameter at rim seat 457.6 mm, bead width at rim seat 228.6 mm, maximum width position of cross-section (H_1/H_2) 1.0, the tread pattern adopted 4 longitudinal grooves and asymmetrical design, pattern depth 8 mm, number of pattern pitches 31, and block/total ratio 71%. In the construction design, the following processes were taken: the carcass adopted double-layer dipped rayon fabric, the belt adopted 3×0.30ST steel cord, the cap ply adopted dipped 1400dtex/2 nylon 66 fabric; VMI-EXXIUM one-stage building machines were used to build tires, and full automatic hydraulic vulcanizers were used to cure tires. The test results of the finished tire showed that the inflation peripheral dimension, strength performance, high speed performance, durability and bead unseating resistance met the requirements of relevant national standards or enterprise standards. Meanwhile, the zero pressure durability and static load performance of the tire were good, providing excellent explosion-proof performance and riding comfort.

Key words: passenger car radial tire; explosion-proof safety tire; structure design; construction design; durability

橡胶领域再添研发应用平台

日前,国家橡胶与轮胎工程技术研究中心(以下简称国橡中心)成立液体黄金新能源汽车橡胶制品与轮胎应用研发平台。

新能源汽车与传统汽车在动力来源、运行工况等方面存在较大差异。这对新能源汽车专用轮胎的配方、结构设计等提出了新的挑战和更高的要求。国橡中心液体黄金新材料技术可为新能源汽车的这些新要求提供有力支撑。液体黄金技术是世界橡胶轮胎领域的一项重大原始创新。它从根本上解决了轮胎的三大关键性能——滚动阻力、湿地制动性能、耐磨性能无法同时改善的“魔鬼三角”难题。

据介绍,此次成立的研发平台将围绕液体黄金技术迭代优化、橡胶新材料开发、配方设计、有限元仿真分析、新产品开发、标准体系建设及电池系统密封材料等重点领域和方向,加快重大共性技术和关键核心技术研发,解决新能源汽车橡胶制品和轮胎全生命周期的绿色化和持续性发展难题,推动橡胶与轮胎产业整体水平迈向国际一流。

此外,该平台还具有强大的人才保障,汇集了包括国橡中心首席科学家王梦蛟、首席轮胎专家许叔亮、首席制品专家汪爱春、首席轮胎顾问夏训茂以及沈阳橡胶研究设计院有限公司常大勇教授级高级工程师、中科院长春应化所盛保信研究员等国内外专家。

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