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Application of Barium Sulfate in Lower Bead Filler of All-steel Radial Tire

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Abstract: The application of barium sulfate in the lower bead filler of all-steel radial tire was studied. The results showed that, compared with the production formula compound, F_L of the test formula compound decreased, F_{max} increased and the crosslinking density of the test formula compound increased, the change of t_{10} and t_{90} of the test formula compound was little, and the reversion of vulcanization was slightly faster. Compared with the production formula vulcanizate, the density of the test formula vulcanizate increased significantly, the Shore A hardness increased slightly, the modulus was equivalent, the tensile strength decreased slightly, the loss factor at 60 °C was reduced slightly, and the thermal conductive property was improved. The use of barium sulfate as a partial substitute for carbon black in the lower bead filler of all-steel radial tire had little effect on the properties of the compound and the production cost was reduced.

Key words: all-steel radial tire; lower bead filler; barium sulfate; curing characteristics; physical property; cost

圣奥化学防老剂新工艺获奖

日前,安徽省科学技术奖励大会在合肥召开。圣奥化学科技有限公司的“对苯二胺类防老剂一步法连续合成与过程强化关键技术”获得安徽省科学技术奖二等奖。

针对国内外橡胶防老剂行业的关键技术难题,该项目自主研发了具有双功能协同催化作用的催化剂,开发了一步法连续新工艺,提高了反应转化率和选择性,缩短了反应时间,实现了对苯胺类防老剂系列产品的高效、稳定生产。该项目的产品品质获得国内外知名橡胶、轮胎生产企业的肯定,形成良好的环境、经济和社会效益,为推动我国精细化工行业高效、绿色、安全可持续性发展作出了重要贡献。

该技术还曾荣获2018年度国家技术发明奖二等奖,于2020年6月通过中国石油和化学工业联合会组织的科技成果鉴定,并被列入《石化化工行业

鼓励推广应用目录(第一批)》。

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橡胶组合物、其制备方法及其全系补气保用轮胎

由青岛双星轮胎工业有限公司申请的专利(公布号 CN 114989504A,公布日期 2022-09-02)“橡胶组合物、其制备方法及其全系补气保用轮胎”,公开了一种胶料配方、制备方法及其全系补气保用轮胎。胶料配方包括100份橡胶和1~4份亲烯体交联剂,橡胶组分包括天然橡胶、锡改性丁苯橡胶和锡改性高反式聚丁二烯橡胶,亲烯体交联剂为含有马来酰亚胺亲烯体官能团的反应型抗硫化返原剂。本发明应用于全系补气保用轮胎,解决了现有胎圈增强层胶料存在增强程度和耐热性不足、失压下行驶易发生帘线脱落、粘合力不足的问题。

(本刊编辑部 马 晓)