Peeling Performance Test of Truck and Bus Radial Tire and Its Cord Fabric

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Abstract: In this study, a test method was developed to test the adhesive force between steel cord fabrics of truck and bus radial tire and peeling strength between cord plies of the finished tire,which reduced the large test variation of peeling strength between cord plies using the regular test system.The testing results showed that the adhesive force of different cord fabrics changed a lot, which depended on cord type and calendaring thickness of cord fabric. The adhesive force between cord fabrics all decreased in different aging conditions. The adhesive force after thermal ageing had the largest decline followed by damp and heat aging. The salt water corrosion test results showed that full rubber penetration structure was the best belt structure.It was also found that improvement of the rubber compound could increase the peeling strength between steel cord fabrics. The peeling test result of finished tire showed that,after using,the peeling strength between carcass and 1# belt dramatically declined. After the airtightness of inner liner was improved,the peeling strength between carcass and 1# belt increased significantly.

Key words: truck and bus radial tire; cord fabric; steel cord; peeling strength

信息化助推橡胶助剂强业

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依靠自动化和信息化改造,橡胶助剂行业的人均销售额在两年内提升了25%,已经提前达到橡胶工业强国发展战略中提出的“十三五”人均年销售额100万元的目标。这是2015年11月5日从中国橡胶工业协会橡胶助剂专业委员会传出的信息。

据中橡协助剂专委会理事长、科迈化工有限公司董事长王树华介绍,2013年橡胶助剂行业的人均销售额只有约80万元,信息化集成度也处于较低水平。为提升发展质量,2014年4月,行业提出将自动化、智能化作为橡胶助剂行业强业下一个支撑,以人均销售额、人均利润、吨产品的动力消耗为新的评判标准后,领军企业的自动化、信息化改造工作迅速提速。预计2015年橡胶助剂行业的人均销售额将超过100万元。

据中橡协助剂专委会秘书长高波介绍,现在大型橡胶助剂企业已基本实现了自动化。比如,以南京曙光化工集团有限公司为代表的硅烷偶联剂生产实现了全线自动化,以江苏圣奥化学科技有限公司、南京化学工业有限公司为代表的防老剂6PPD实现了过程与包装自动化,以科迈化工有限公司、山东尚舜化工有限公司为代表的防老剂TMQ生产线从投料到产品包装已实现全程DCS控制,以科迈化工有限公司为代表的促进剂DCBS生产线也已实现了自动化,从根本上解决了干燥包装工序作业环境差、劳动强度大的问题。此外,以江阴市三良化工有限公司为代表的钴盐粘合促进剂等小品种助剂的生产自动化也已实现。

以前橡胶助剂生产自动化程度较低,主要是因为橡胶助剂产品品类繁多,除促进剂和防老剂外,其他品种的产量都较小,而年产量2 000 t以下的小品种进行自动化改造的投入产出比较低;众多助剂品种的生产工艺各异,绝大多数仍为单批操作的间歇生产,连续化生产尚有难度,自动化改造的基础薄弱。此外,橡胶助剂产品多为粉体,干燥和造粒程序的粉尘大,输送困难,对自动化设备精度要求较高。

王树华指出,橡胶助剂行业将进一步在年产5 000 t以上的产品上推广、普及过程自动化和包装自动化,力争尽快将橡胶助剂行业的人均年销售额从现在的100万元提高到150万～200万元。

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