

Design on 295/25R28 Ultra-low Section Passenger Car Radial Tire

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Abstract: The design on 295/25R28 ultra-low section passenger car radial tire was described. In the structure design, the following parameters were taken: overall diameter 850 mm, cross-sectional width 310 mm, width of running surface 260 mm, arc height of running surface 8 mm, bead diameter at rim seat 714.8 mm, bead width at rim seat 280 mm, maximum width position of cross-section (H_1/H_2) 0.989, using bionic pattern with single guide sports design, pattern depth 8.2 mm, block/total ratio 61%, and number of pattern pitches 32. In the construction design, the following processes were taken: using three-formula and four-piece tread, 2 layers of 3×0.30 HT steel cord for belt, 2 layers of 1670 dtex/2 polyester cord for carcass, using one-stage building machine with side crowning molding to build tires, and double-mold hydraulic vulcanizing press to cure tires. The test results of finished tire showed that, the appearance quality, inflated peripheral dimension, strength, bead unseating resistance, durability and high-speed performance of the tire met the requirements of corresponding national or enterprise standards.

Key words: passenger car radial tire; ultra-low section tire; structure design; construction design; tire performance

风神轮胎太原基地钢压设备改造 实现“一机两用”

日前,风神轮胎股份有限公司(简称风神轮胎)太原基地压出工段经改造后的钢压设备生产的首卷胶帘布成功下线,实现了钢压设备的“一机两用”。

胶帘布是专用橡胶与纤维帘布经过压延覆合而成的覆胶帘布,经过裁切成相应规格尺寸的胶布,用于包裹钢丝圈,防止钢丝圈在轮胎受力过程中开裂,影响轮胎使用寿命,该工序是轮胎制造环节中一个非常关键的控制点。

一直以来,风神轮胎太原基地胶帘布由原斜交轮胎压延车间生产供应,斜交轮胎停产后,原有的胶帘布压延生产设备受工艺、设备、环境等方面的制约无法使用。从2018年7月开始,太原基地胶帘布由风神轮胎焦作基地供应,定时定点配送,累计供应185 t胶帘布,不仅花费运输费用14万元,而且很容易导致胶帘布过期,造成浪费,同时由于存放时间长,胶料粘性下降,影响产品质量。

为了攻克这一难题,压出工段设备组尝试对钢压设备进行改造,生产钢丝帘布的同时兼顾生

产胶帘布。利用废旧设备改造成一台加配纤维帘布的导开装置,放置于钢压设备前端,存放锦纶帘线,功能等同于放置钢丝帘线的钉子架。同时,在导开装置上加装一组开关,用于控制风压;在钢压设备中端加装一组水平扩布装置,用于保证帘布排布均匀,不发生粘连;在钢压设备后端,设计了一组隔离帘布与胶帘布的正反导开卷取双工位装置,配以原有的除湿增温环境自动调节、自动锁定工艺要求的操作盘以及保证卷取质量的两组自动纠偏系统。为保证员工的操作安全,将卷取区域工作面用钢板全覆盖,并接装光电保护,另外在移动平台四周加装了安全杆,实现“双保险”。经过反复试验和改进,钢压设备“一机两用”生产联动线正式试车生产,胶帘布各项工艺指标均达到预期目标。

钢压设备“一机两用”的试车成功,实现了胶帘布重回风神轮胎太原基地生产的可能,不仅省去了高昂的运输费用及由于胶帘布过期造成的不必要浪费,更重要的是保证了胶帘布的最佳性能,有利于产品质量的稳定。

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