状态下,随着侧偏角的增大,跑气保用轮胎的接地印痕从矩形变为梯形,普通轮胎的接地印痕从矩形变为三角形。

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Mechanical Properties of Run-flat Tire in Static Load and Steady Cornering Condition

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Abstract: Based on ABAQUS software, the three dimensional FEA models of 225/40R18 run-flat tire and traditional tire were established and the mechanical properties of tires under standard load in static load condition and steady cornering condition were analyzed. The results showed that, in the static load condition, either with normal tire pressure or under inflated pressure, high strain energy density was mainly on self-supporting rubber, belt and cap ends, especially in under-inflation state. In addition, the contact pressure at tire shoulder and radial stiffness of the run-flat tire were higher than traditional tire. When tires were under inflated, the sidewall deformation of run-flat tire was smaller than traditional tire, and the concentration level of contact pressure in tire shoulder was much higher than traditional tire. When tires were under steady cornering condition, either with normal tire pressure or under inflated pressure, the footprint of run-flat tire changed from rectangular shape into trapezoid with the increase of side cornering angle, while the footprint of traditional tire changed from rectangle into triangle.

Key words: run-flat tire; sidewall; self-supporting rubber; static load; cornering; FEA

一种采用异向双螺杆挤出机再生废橡胶的方法

中图分类号:TQ330.4^{+}4;X783.3 **文献标志码**:D

由北京化工大学申请的专利(公开号 CN 102911399A,公开日期 2013-02-06)“一种采用异向双螺杆挤出机再生废橡胶的方法”,提供了一种采用异向双螺杆挤出机再生废橡胶的方法,即将废胶粉与再生剂于搅拌机内在 60～120 ℃下预处理 1～15 min,在 50～100 ℃下静置 12～36 h 后加入异向双螺杆挤出机,控制挤出机加热段温度为 150～220 ℃,反应段温度为 220～320 ℃,冷却段温度为 80～220 ℃,反应 1～10 min 后由挤出机挤出,然后经冷却装置二次冷却至 80 ℃下后精炼出片制得再生胶。其中异向双螺杆挤出机为全啮合异向双螺杆挤出机、部分啮合异向双螺杆挤出机或非啮合异向双螺杆挤出机的一种,废胶粉为轮胎胎面或胎体废胶粉、边角余料、废胶鞋、废乙丙橡胶、废丁基橡胶和废丁腈橡胶中的一种,再生剂包括软化剂(煤焦油、松焦油、妥尔油、环烷油、双戊烯、石蜡油、油酸、松香的一种或几种的混合物)和活化剂(芳烃二硫化物、多烷基苯酚硫化物、苯基硫醇、胺基化合物的一种或几种的混合物),废胶粉与软化剂、活化剂的质量比为100∶(5～20)∶(0.1～3)。

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