

## Application of Environmentally Friendly Anti-slip Rubber Softener TY-18 in the Tire Crown Compound of Passenger Car Tire

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**Abstract:** The application of anti-slip rubber softener TY-18 in the tire crown of the passenger car tire was investigated. Compared with the compounds with environmentally friendly aromatic oil (TDAE) and environmentally friendly naphthenic oil (NAP), the compound with TY-18 possessed lower glass transition temperature, higher  $\tan\delta$  value at 0 °C and lower  $\tan\delta$  value at 60 °C. The vulcanizates with TY-18 had excellent wet skid resistance, low rolling resistance, and excellent wear resistance. The physical properties of the vulcanizates before and after aging were similar to the vulcanizates with TDAE and NAP. The cost and density of TY-18 were low, and the pour point and viscosity were much lower than TDAE. Therefore, by using TY-18, the density of the compound and the cost of tire could be reduced, and the energy consumption for transportation was significantly reduced.

**Keywords:** softener; environmentally friendly aromatic oil; environmentally friendly naphthenic oil; wet skid resistance; rolling resistance; passenger car tire; tire crown compound



信息·资讯

### 卡博特推出轮胎用炭黑新产品

在近期举办的德国科隆轮胎技术博览会上，卡博特公司展示了2款PROPEL系列轮胎用炭黑新产品。这2款炭黑新产品专门用于轮胎胎面胶。Propel E7炭黑能够降低轮胎滚动阻力，提高车辆的燃油经济性，适用于公路用长途卡车轮胎和翻新轮胎胎面胶。Propel D11炭黑能够提高轮胎耐久性能，非常适用于短途卡车轮胎和工程机械轮胎胎面胶，也可用于对耐久性能要求较高的乘用车轮胎和轻型卡车轮胎胎面胶。

卡博特实验室测试结果表明，与公司Cabot Vulcan 7炭黑相比，Propel E7炭黑可使胎面胶的滞后损失（能量损失）降低15%，从而降低轮胎的滚动阻力。Propel D11炭黑旨在提高补强性能，改善轮胎胎面的抗切割、抗撕裂和耐磨性能，延长轮胎使用寿命。与Cabot Vulcan 10H超耐磨炭黑相比，Propel D11炭黑使天然橡胶胶料的耐磨性能提高10%。

朱永康