were filled by calcium carbonate, silica, and carbon black N330, respectively. It was found that with the increase of addition level of CNTs, the value of  $M_{\rm H}$ – $M_{\rm L}$  of all three NBR compounds increased, and the  $t_{90}$  of the NBR compounds filled with calcium carbonate or silica was shortened, while the  $t_{90}$  of N330 filled NBR compounds was extended. The hardness, modulus at 100% elongation and tear strength of the NBR vulcanizates increased gradually with more CNTs, the tensile strength of the vulcanizates with calcium carbonate increased, and the tensile strength of the vulcanizates with silica or N330 decreased slightly. The surface resistivity ( $\rho_s$ ) and volume resistivity ( $\rho_v$ ) didn't change much for the NBR with calcium carbonate or silica when the content of CNTs increased. However, the  $\rho_s$  and  $\rho_v$  of N330 filled NBR decreased, showing good electrical conductivity. All compounds had increased thermal conductivity when the content of CNTs increased, and N330 filled NBR showed the highest thermal conductivity.

**Keywords:** modified carbon nanotube; NR; calcium carbonate; silica; carbon black N330; electrical resistivity; thermal conductivity



## 固特异新型节油预硫化胎面投放市场

日前,固特异轮胎橡胶公司一款商品名为 G682 RSD Fuel Max的新型节油预硫化胎面(如 图1所示)投放市场。这款预硫化胎面是为驱动 轴轮胎而设计的,采用固特异燃油节省最大化 技术(GFMT)和配方优化技术,其滚动阻力 低,耐磨性能以及抗崩花掉块性能高,使用寿 命长,其坚固耐用的花纹可确保翻新轮胎具有 足够的牵引力。

已经上市的该款预硫化胎面宽度为225

mm, 宽度为215 mm和235 mm的预硫化胎面预计于2015年7月投放市场。



图1 G682 RSD Fuel Max新型节油预硫化胎面

郭隽奎

## 普利司通发布新款翻新轮胎

日前,普利司通(美洲)公司推出新款 Bandag B760 FuelTech翻新轮胎。该轮胎是专门 为卡车和串联传动轴牵引车等设计的。目前在 美国和加拿大上市的该款轮胎胎体规格齐全、 胎面规格有4种(210~240 mm)。

该轮胎胎面具有深刀槽花纹、花纹沟加强

胶和多个抓地花纹边,花纹沟宽度适宜;胎面的使用寿命、牵引性能和燃油效率平衡,轮胎通过美国环保署Smart Way认证,符合美国加州空气资源委员会的低滚动阻力轮胎相关条例要求。

朱永康