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Effect of Devulcanization Temperature on the Properties of Reclaimed Rubber/NR Blends

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Abstract：In this study，the recycled tire rubber powder was devulcanized using a desulfurization tank at different temperatures and the reclaimed rubber was blended with NR. The effect of devulcanization temperature on the properties of reclaimed rubber/NR blends was investigated. The experimental results showed that，when NR was blended with reclaimed rubber，the minimum torque（F_L）of the compound during curing decreased，the vulcanization degree（F_{max}-F_L）firstly increased and then decreased with the increase of the reclaimed rubber amount，the scorch time and cure time were shortened，and the hardness and modulus at 100% elongation of the vulcanizates increased. It was found that when the devulcanization temperature increased，the cure rate of the blended compound changed little，the Mooney viscosity decreased slightly，the tensile strength and elongation at break of the vulcanizates firstly decreased and then increased. When the devulcanization temperature was 230 ℃，the tensile strength was high and elongation at break was large. The develcanization temperature had little effect on the hardness and modulus of the vulcanized blends.

Key words：devulcanization temperature；reclaimed rubber；NR；blend；tire rubber powder

独山子石化轮胎用丁苯橡胶工业化项目启动

中图分类号：TQ333.1　　文献标志码：D

由中国石油独山子石化公司承担的中国石油科技部重大工业化试验项目“轮胎用溶聚丁苯橡胶（SSBR）成套技术开发及新产品工业试验”项目正式启动。项目由独山子石化公司牵头，中国石油石油化工研究院、华东化工销售公司、华北化工销售公司和中国寰球工程公司合作开发。

该项目依托独山子石化公司年产18万t丁苯橡胶（SBR）装置，计划建设1套产能10 kg·h^{-1}的SSBR连续聚合中试装置，以提升新产品开发能力；完成系列SSBR新牌号的研究开发，并形成具有自主知识产权、具有国际先进水平的年产10万t的SSBR工艺包及成套技术。

钱伯章

台湾环拓科技公司回收炭黑节能减排成效显著

中图分类号：X783.3；TQ127.1^{+}1　　文献标志码：D

我国台湾省每年废旧轮胎产生量约为900万条，废轮胎处理不容忽视。台湾环拓科技公司利用废轮胎再生回收炭黑。2015年，该公司积极加入台湾省经济部的“绿色小巨人辅导计划”，引入ISO 14001环境管理体系，强化环境管理能力，降低废弃物产量和能源消耗量，提高能源利用率，有效降低企业营运成本。该公司成为台湾首家获得ISO 14001环境管理体系认证的废弃物处理企业。另外，该公司为世界炭黑产业唯一通过碳足迹认证的公司。公司每千克回收炭黑的二氧化碳排放量仅为0.518 kg，与传统炭黑生产每千克炭黑的二氧化碳排放量3.8～4.0 kg相比，降低了约90%。

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