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Effect of Modified Silica and Silicone Powder on Properties of SBR Compound

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Abstract: The effect of modified silica and silicone powder on the properties of SBR compound was investigated. The results showed that, at the same total amount of fillers, as the addition level of silicone powder increased, the M_L and M_H of the compound decreased, the physical properties of the vulcanizates decreased, and the resilience and wear resistance were improved. Compared with the SBR vulcanizate filled with unmodified fillers, the modulus, tensile strength and elongation at break of the SBR vulcanizate filled with fillers modified by silane coupling agent KH-550 or M-CNSL increased, the tear strength changed little, and the resilience and wear resistance were improved. It was found that the modification effect of M-CNSL was better. SEM test results indicated that, with modification, the dispersion of silica and silicone powder in the SBR vulcanizate was improved.

Key words: SBR; silica; silicone powder; modification; wear resistance; dispersion

沈阳打造一流橡胶产业基地

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据了解,近年来,沈阳化工园区已累计投资约300亿元建设橡胶制品项目,达产后年销售收入可达460亿元;年产载重轮胎1000万条、轿车轮胎3000万条,并生产特种轮胎、胶管、胶带、汽车橡胶制品等产品。届时,沈阳化工园将成为全球技术领先、国内产业集聚度最高的橡胶产业基地。

轮胎产业集聚是园区发展的亮点之一。2014年,米其林沈阳轮胎有限公司预计生产载重轮胎75万条、轿车轮胎260万条,实现销售收入26亿元。该公司高性能子午线轮胎搬迁扩产项目和1000万条轿车轮胎及配套项目建成后,米其林在沈阳将形成年产2000万条轿车轮胎、180万条载重轮胎的产能,达产后年销售收入150亿元。普利司通(沈阳)轮胎有限公司2014年预计生产轮

胎100万条,销售收入12亿元。该公司正在推进的搬迁扩产项目总投资65亿元,年产250万条全钢载重子午线轮胎、1000万条轿车子午线轮胎,年销售收入可达115亿元。沈阳和平子午线轮胎制造有限公司一期项目已达产,2014年计划生产轮胎160万条,二期项目2014年下半年启动。和平轮胎公司还收购了拥有先进工程机械轮胎和轮胎翻新技术的加拿大国马(GOMA)公司,2014年将为企业增加销售收入40亿元。

目前沈阳化工园内有企业87家,包括法国米其林、日本普利司通、韩国锦湖、中国中化集团、中国化工集团等世界500强企业。2014年前三季度,沈阳化工园实现工业总产值较2013年同期增长49%,预计全年产值达100亿元。随着一批新项目陆续竣工投产,园区经济效益也将同步较快增长。

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