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Effect of Epoxy/Metal Oxide Curing System on the Properties of CR Compound

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Abstract: The influence of epoxy/metal oxide vulcanization system on the properties of CR compound was studied. The results showed that, epoxy resin provided plasticizing effect and anti-scorch effect to CR compound. Compared with the compound using metal oxide vulcanization system, the Mooney viscosity of the compound with epoxy/metal oxide vulcanization system was lower, the elasticity of the vulcanizates was higher, the tensile strength changed less after aging, and the elongation at break showed more change after aging. With the increase of the epoxy content, the hardness of the vulcanizates using epoxy resin/magnesium oxide/zinc oxide as the curing system increased, the modulus at 300% elongation and tensile strength changed little, and the elasticity was improved. It was found that when the epoxy content was 4~6 phr, the overall performance of the compound was excellent.

Keywords: CR; epoxy; metal oxide; vulcanization system; curing characteristics; physical properties; heat aging properties

信息·资讯

2019年全球橡胶助剂销量将达到170万t

美国市场研究与咨询机构Research and Markets公司预测, 2014-2019年全球橡胶助剂销量将以5.9%的复合年增长率增长, 到2019年达到170万t。全球主要橡胶助剂生产商包括美国Emerald功能材料公司、伊士曼化工公司、德

国朗盛公司、法国阿科玛公司和中国山东阳谷华泰公司等。橡胶助剂需求逐年上升。但值得注意的是, 日益突出的环境问题和严格的政府监管成为制约橡胶助剂市场发展的重要因素。

朱永康