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Flame Retardant Silicone Rubber Containing Melamine Cyanurate

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Abstract: Using lab-synthesized highly dispersible melamine cyanurate (GFMCA) as a flame retardant, the MVQ retardant materials were prepared, and the morphology and aggregation state of GFMCA, the flame retardant property and physical property of the MVQ compound were investigated. The results showed that, GFMCA possessed loose aggregation structure, showed outstanding dispersity and stability in MVQ, and had no blooming. The flame retardant properties of traditional melamine cyanurate (MCA)/MVQ and GFMCA/MVQ vulcanizates were similar, and when the addition level of flame retardant was 30 phr, both vulcanizates could achieve UL94 V-0 (1.6 mm). The physical property of GFMCA/MVQ vulcanizates was better. The tensile strength and elongation at break of GFMCA/MVQ vulcanizates were higher than MCA/MVQ vulcanizates by 20% and 118%, respectively. Overall, GFMCA/MVQ vulcanizates showed better comprehensive performance.

Key words: MVQ; melamine cyanurate; dispersion; flame retardant property; physical property

一种含氧化石墨烯橡胶复合材料

中图分类号 TQ336.4⁺2 文献标志码 D

由滁州旭中化工有限公司申请的专利(公开号 CN 103408855A, 公开日期 2013-11-27)“一种含氧化石墨烯橡胶复合材料”, 涉及的含氧化石墨烯橡胶复合材料配方为: 氯磺化聚乙烯橡胶(CSM) 100, 乙烯-乙酸乙酯橡胶(EVM) 10~15, 氢化丁腈橡胶(HNBR) 20~25, 氧化石墨烯 0.5~5, 硬质炭黑(平均粒径为 15~25 nm) 30~70, 氧化锌 3~6, 硬脂酸 3~6, 增塑剂 DOS 1~10, 稳定剂 NBC 0.5~4, 氧化铅 0.5~4, 不溶性硫黄 1~6, 促进剂 DPTT 1~4. 该复合材料采用 CSM、EVM 和低丙烯腈含量的 HNBR 并用, 使耐燃料油和耐低温性能得到平衡, 在-55℃下扭曲 2 000 次, 材料表面无裂纹及扭曲现象, 适合高寒低温地区使用。

(本刊编辑部 赵敏)

橡胶履带的生产装置

中图分类号: TQ330.4⁺6; TQ336.2 文献标志码: D

由陈良申请的专利(公开号 CN 104015284A, 公开日期 2014-09-03)“橡胶履带的生产装置”, 涉及的橡胶履带生产装置包括电控箱、高压泵站和压模机。其中, 压模机的机身下部安装 1 台高压油缸, 高压油缸上固定安装 1 个用来放置橡胶履带下部模具的下模安装板。机身上部固定安装一个用来放置橡胶履带上部模具的上模安装板, 上下模安装板的内部均设置电热管。电控箱上设置动力控制器和温度显示器。电控箱的动力控制器通过高压泵站与压模机的高压油缸连接。电控箱的温度显示器分别与设置在上下模安装板上的温度传感器连接。该发明实现了橡胶履带一次压模成型, 上下模安装板可适应不同规格型号的模具, 提高了设备的通过性和利用率。

(本刊编辑部 赵敏)