

论文

氯化丁基橡胶聚(甲基)丙烯酸酯共混物阻尼性能研究

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摘要 制备了一系列氯化丁基橡胶 (CIIR) 聚(甲基)丙烯酸酯 (PMAc) 共混复合物。DMA, DSC对这些共混物的研究表明, 无论是共交联体系还是非共交联体系, CIIR-PMAc共混物均能将CIIR有效阻尼功能区移向高温; FTIR分析及抽提实验证明了前一体系CIIR-PMAc共混物中共交联结构的存在; TEM研究发现, 共交联改变了CIIR-PMAc共混物的微观形貌。研究结果表明, 不同组成和结构的PMAc的引入, 导致共混物中CIIR的 T_{11} 转变和 T_g 转变受到不同程度的抑制, 因此引起由共交联体系和非共交联体系制得的CIIR-PMAc共混物显示出不同的阻尼行为。

关键词 [氯化丁基橡胶](#) [共混](#) [\(甲基\)丙烯酸酯共聚物](#) [阻尼性能](#)

分类号

INVESTIGATION ON THE DAMPING BEHAVIOR OF CIIR/PMAc BLENDS

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Abstract A novel blend composition was prepared based on chlorinated butyl rubber (CIIR) and poly (meth) acrylate (PMAc). The results obtained from DMA, DSC measurements show that it is possible to shift the effective damping functional region of CIIR toward higher temperature region whether the blend composition was prepared with a co-crosslinking system or a non-co-crosslinking one. FTIR analysis and extractive experiments demonstrate the existence of a co-crosslinking structure between CIIR and PMAc in the blend and TEM discovers that it is the co-crosslinking between CIIR and PMAc that varies the microeopic morphology of CIIR/PMAc blends. All the facts show that mixing PMAc of different composition and structure with CIIR results in the suppression of the T_g and T_n transition of CIIR, and consequently, CIIR/PMAc blends exhibit different damping behavior according to whether they are in a co-crosslinking system or in a non-co-crosslinking system.

Key words [Chlorinated butyl rubber](#) [Blend](#) [\(Methyl\) acrylate copolymer](#) [Damping properties](#)

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