

(3)与采用 LMA 单体为改性剂的吸油膨胀橡胶相比,采用吸油树脂为改性剂的吸油膨胀橡胶物理性能较优。随着吸油树脂用量的增大,吸油膨胀橡胶的物理性能逐渐下降。

参考文献:

- [1] 黄歧善,黄志明,方仕江,等.高吸油性树脂的合成和应用[J].塑料工业,1996(4):55-58.
- [2] 陈薇,张英,冯军,等.高吸油树脂的合成及性能研究[J].广西工业学院学报,2003,14(1):59-63.
- [3] Rutger Evers, Dustin Young, Greg Vargus, et al. Design Methodology for Swellable Elastomer Packers in Fracturing Operations[A]. SPE Annual Technical Conference and Exhibition. USA;2008. 116256.
- [4] 陈晓婷,唐旭东,张明珠,等.丙烯酸酯类吸油树脂的合成与性能研究[J].离子交换与吸附,2005,21(6):536-541.
- [5] 路建美,朱秀林,鲁新宇,等.丙烯酸酯与甲基丙烯酸酯的共聚及性能研究[J].高分子材料科学与工程,1995,11(4):48-51.
- [6] 王勇,赵彦芝,万涛.丙烯酸系二元共聚高吸油性树脂的合成及性能研究[J].功能材料,2004,35(5):638-640.
- [7] 封严,肖长发.甲基丙烯酸酯高吸油性树脂的合成及性能[J].天津工业大学学报,2004,23(2):4-6.
- [8] 朱偶夫,李世英,包季欣.合成橡胶工艺学[M].北京:化学工业出版社,1990:109-114.
- [9] 刘秀奇,张国. Fe_2O_3 /EPDM 新型吸油材料的制备及其吸油性[J].复合材料学报,2007,24(6):31-35.
- [10] 蔺海兰,廖建和,廖双泉.新型天然橡胶吸油材料的制备及性能[J].合成橡胶工业,2007,30(3):205-210.

收稿日期:2012-10-14

Preparation and Properties of Oil Swellable Rubber

WANG Ning¹, BAI Yan-guang¹, LI Yan-feng¹, ZHANG Cheng-long¹, ZHANG Yan², LI Zai-feng¹

(1. Qingdao University of Science and Technology, Qingdao 266042, China; 2. China University of Petroleum, Qingdao 266580, China)

Abstract: Using lauryl methacrylate (LMA) and butyl methacrylate (BMA) as monomers, the high oil-absorbing resins (poly LMA-co-BMA) were synthesized by suspension polymerization method. The oil swellable rubbers were prepared with EPDM and LMA monomer or poly LMA-co-BMA, and their properties were investigated. The results showed that, compared with that filled with oil-absorbing resins, the oil absorbing property of oil swellable rubber filled with LMA monomer was better. The optimum addition level of LMA monomer was 30 phr and the oil absorbing property was excellent. Compared with that filled with LMA monomer, the physical properties of oil swellable rubber filled with oil-absorbing resins were better. When the mass ratio of LMA and BMA was 1 : 2, and the addition level of oil-absorbing resins was 20 phr, the physical properties of oil swellable rubber were better.

Key words: oil-absorbing resin; oil swellable rubber; EPDM; oil absorption ratio

室温硫化阻燃单组分脱醇型硅橡胶 密封剂及制备方法

中图分类号: TQ333.93; TQ336.4+2 文献标志码: D

由北京天山新材料技术股份有限公司申请的专利(公开号 CN 101942201A, 公开日期 2011-01-12)“室温硫化阻燃单组分脱醇型硅橡胶密封剂及制备方法”, 提供了一种室温硫化阻燃单组分脱醇型硅橡胶密封剂的制备方法: 将 α, ω -二乙烯基聚二甲基硅氧烷(40~60份)、端基为氢基的聚二甲基硅氧烷(5~15份)和乙烯基三甲氧基

硅烷(1~5份)在氮气保护下混合均匀, 然后加入铂催化剂(1~5份)在氮气保护下反应 4 h 完成封端, 在真空度大于 8.34 kPa 的条件下脱气泡 10~30 min; 依次加入氢氧化铝(15~30份)、羟基和水分清除剂(1~3份)以及气相法白炭黑(1~10份), 在真空度大于 8.34 kPa 条件下混合均匀, 再加入交联剂(5~10份)、钛酸酯催化剂(2~8份)和硅烷偶联剂(1~5份), 在真空度大于 8.34 kPa 条件下反应 30~60 min 制得产品。

(本刊编辑部 赵敏)