

其中 RL16 和 WB16 对硫化胶压缩永久变形的影响程度略大于 AC617,这是由于加入 RL16 或 WB16 使硫化胶的交联密度有所减小,导致压缩永久变形有所增大。

经热空气老化后,4 种硫化胶的邵尔 A 型硬度、100%定伸应力和 300%定伸应力增大,而拉伸强度和拉伸伸长率减小,这可能是由于试样在老化过程中继续发生了硫化,导致交联密度增大。其中添加 RL16 和 WB16 的硫化胶老化后 100%定伸应力和 300%定伸应力及拉伸伸长率的变化率稍高于 AC617 硫化胶。

3 结论

(1)流动分散剂 RL16, WB16 和 AC617 能够提高 IIR 胶料的流动性和改善填料分散性, RL16 和 WB16 的改善效果优于 AC617。

(2)对于树脂硫化的 IIR 胶料, RL16 和 WB16 具有明显的延迟焦烧作用,胶料的 t_{90} 也有所延长,硫化胶的定伸应力减小,拉伸伸长率增大,而 AC617 对硫化胶的物理性能影响较小。

(3)RL16 和 WB16 使硫化胶的耐热空气老化性能和耐压缩永久变形性能有所降低,影响程度略高于 AC617。

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Application of Three Flow Dispersing Agents in IIR Compound

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Abstract: The influences of flow dispersing agent RL16, WB16 and AC617 on the properties of IIR compound were investigated. The results showed that, the compound flowability and filler dispersity were improved by adding the three flow dispersing agents, and RL16 and WB16 were better than AC617. With RL16 or WB16, the scorch time and t_{90} of compound extended, the tensile stress at 100% and 300% elongation decreased, and the elongation at break increased, while AC617 had little effect on the physical properties of vulcanizate. In addition, the thermal aging property and resistance to compression set were slightly decreased with RL16 or WB16, but AC617 had little impact.

Key words: flow dispersing agent; IIR; processability

6 kV 级潜油泵用电力电缆乙丙橡胶绝缘材料及其制备方法

中图分类号: TQ336.4⁺2; TQ333.4 文献标志码: D

由无锡天安特种电缆有限公司申请的专利(公开号 CN 101759935A, 公开日期 2010-06-30)“6 kV 级潜油泵用电力电缆乙丙橡胶绝缘材料及其制备方法”, 涉及的 6 kV 级潜油泵用电力电缆三元乙丙橡胶(EPDM)绝缘材料配方为: EPDM 100, 弹性体 5~15, 超细滑石粉 40~

70, 改性煅烧陶土 30~60, 四(3,5-二叔丁基-4-羟苯基)丙酸 1.5~5, 三(2,4-二叔丁基苯基)亚磷酸酯 1~2.5, 二盐基硬脂酸铅 3~8, 氧化锌 6~18, 硬脂酸 2~6, 聚乙烯蜡 3~8, 石蜡 3~8.5, 石蜡油 18~30, 环氧大豆油 9~20, 偶联剂 1~4, 红丹粉 9~19, 硫化剂 1.5~5, 助硫化剂 1~5。该产品具有耐高温(120℃)、电缆运行寿命更长的特点。

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