

A Supportive Approach Into Life Testing And Characterization Of PVC And XLPE-Insulated Cable Materials

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Summary

ESR thermal analysis investigation of widely used insulation materials, namely PVC and XLPE, were conducted. The results show the thermal stresses and confirm the fact that PVC is rapidly degrades than XLPE. It is also noticed that colorants and cable's manufacturing processes enhance the thermal resistance of the PVC insulation material. A comparative investigation of weight loss experimentation, IEC Standard 216-procedure, and ESR-experimentation verify the powerfulness and importance of the ESR testing of insulation materials used in cable industries. Hence, ESR results were utilized to predict more accurate thermal life time curves of the studied patches. The comparison of the thermal endurance parameters obtained for insulated cable models with those derived in the past for XLPE cable models shows that the all the pervious tests of XLPE overestimate its thermal endurance characteristics.

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