

Electrical Analysis of Corn Oil as an Alternative to Mineral Oil in Power Transformers

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Abstract : In insulation and cooling of power transformers various liquids are used. Mineral oils have wide availability and low cost. However, they have a poor biodegradability potential and lower fire point in comparison with other insulating liquids. Use of a liquid having high biodegradability is important due to environmental consideration. This paper investigates edible corn oil as an alternative to mineral oil. Various properties of mineral and corn oil like breakdown voltage, dissipation factor, relative dielectric constant, power loss and resistivity were measured according to different standards.

Keywords : breakdown voltage, corn oil, dissipation factor, mineral oil, power loss, relative dielectric constant, resistivity

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