

Influence of Insulation System Methods on Dissipation Factor and Voltage Endurance

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Abstract : This paper reviews the comparison of Resin Rich (RR) and Vacuum Pressure Impregnation (VPI) insulation system qualities for stator bar of rotating electrical machines. Voltage endurance and tangent delta are two diagnostic tests to determine the quality of insulation systems. The paper describes the trend of dissipation factor while performing voltage endurance test for different stator bar samples made with RR and VPI insulation system methods. Some samples were made with the same strands and insulation thickness but with different main wall material to prove the influence of insulation system methods on stator bar quality. Also, some of the samples were subjected to voltage at the temperature of their insulation class, and their dissipation factor changes were measured and studied.

Keywords : VPI, resin rich, insulation, stator bar, dissipation factor, voltage endurance

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