

## **Comparison on losses and flux distribution between two 3-phase distribution transformers 1000KVA assembled with air gap and without air gap of transformer core lamination**

This paper describes the result of an investigation on the effect of air gap of core lamination in two 3-phase distribution transformers 1000kVA. The investigation involves the variation of power loss, building factor, the third harmonic distortion and flux leakages. The power loss and flux distribution have been measured using no load test in two types of model of setting of core built from the same size and type of M5 (CGO) grades material of laminations. And the loss of the transformer core without air gap of layer joint of core lamination is 2.75% better than the loss of the transformer core with air gap of layer joint of core lamination at 1.7T, 50 Hz. The flux leakage at the corner joint in the core without air gap of layer joint of lamination is lower than that in the transformer core with air gap of layer joint of lamination, over the whole flux density range. The third harmonic distortion of flux is smaller in the transformer core without air gap of layer joint of lamination and larger in the transformer core with air gap of layer joint of core lamination. Using the type without air gap of layer joint of lamination in transformer core is more efficient than the other types of transformer core lamination.