

cutting A is compacter than core cutting B. Thus air gap on core joint transformer B larger than transformer A. This fact also makes transformer B having louder buzz sound than transformer A and results higher inrush current magnitude. Moreover, Transformers used in the experiments was produced by different maker therefore we suggest that the material used was not similar.

Conclusions

In this study, effect of core cutting topology of transformer has been simulated and verified using experimental approach. The difference in magnitude and direction of the magnetic field distribution between core cutting A and core cutting B cause different characteristic of magnetization curves which has been proven by monitoring different point. In fact the magnetization curve was also affected by core material. This resulted in inrush current magnitude. The study shows that core cutting B has larger inrush current than core cutting A. Moreover, demagnetization method using the shunt capacitor and the variable voltage - constant frequency is also used to reduce the inrush current value. Meanwhile, the demagnetization does not change the fact that core cutting has effect on inrush current magnitude.

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