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ABSTRACT

The current trend is to optimize products to achieve maximum efficiency at sustainable costs. De Angeli Prodotti, always attentive to market needs, has introduced in this context Low Thickness Enamel (LTE) technology.

INTRODUCTION

The cables used for the construction of high power transformers are manufactured by transposing enamelled flat conductors. The current trend is to reduce the size of the single strip (I.E. increase the number of individual conductors) to reduce losses due to eddy currents and to increase filling factor. In this application, De Angeli Prodotti introduced the LTE technology which allows to reduce the enamel thickness of each strip ensuring the resistance of the electrical insulation. The adoption of LTE technology allows to keep high the thermal conduction of the CTC reducing the electrical resistivity of the entire winding. CTC LTE also allow to obtain greater filling factors and reduce the overall winding dimensions.

ENGINEERING

De Angeli Prodotti has introduced a new technology helping customers to realize high efficiency machines: a very thin layer of enamel, **up to 0.06 mm** double side thickness, is applied on the conductor surface by designed special dies. A special curing is needed to obtain the best insulation behaviour.

ADVANTAGES

LTE transposed conductors allow to reach higher thermal exchange reducing overall winding ohmic resistance. Its construction help to increase the filling factor and maintain low winding dimensions: for example a CTC with 55 strips can reduce radial dimension more than 1 mm compare to the standard insulation. The higher the number of strips, the more the reduction on radial dimension!

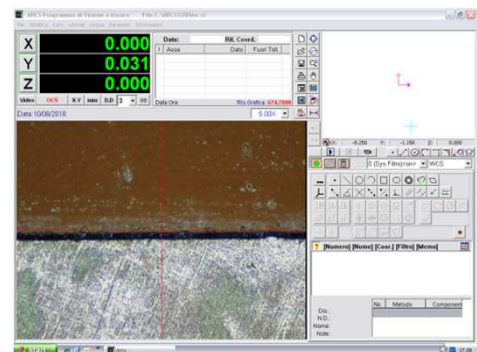


Figure 1. Measurement of enamel thickness

The special curing performed on De Angeli Prodotti ovens guarantee the best adhesion, surface hardness and electrical endurance, avoiding every kind of fault inside the finished CTC cable: LTE technology its synonymous of efficiency and reliability.

CONCLUSIONS

De Angeli Prodotti has introduced an innovative technology named CTC LTE: the best solution that, together with De Angeli special products, give the correct answer to high efficiency challenge.

CONTACTS

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www.deangeliprodotti.com