

LABORATORY PROCEEDINGS TO DISPLAY DEEP CRACKS ON CERAMICS INSULATORS USED IN 110 KV HIGH VOLTAGE DISCONNECTING SWITCHES.

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This work presents the most convenient Laboratory Proceedings, that may be used to display superficial and deep cracks in the Ceramics Cylindrical Insulators, which are incorporated in the 110 KV High Voltage Disconnecting Switches. During years of exploitation in the electric fields, some of these Ceramics Post Insulators are affected by cracks, very small in the first stage, but becoming deep and large in time. Besides, other defects like small cracks, pores, lack of material, thermic points etc are at the origin of Ceramics Cylindrical Post Insulators Damage.

It is, of course, more convenient and economic to prevent their breaking in current exploitation. Doing this, we can avoid some very dangerous accidents and save a lot of money and troubles. The usual laboratory proceedings to investigate functional state of Ceramics Cylindrical Insulators are:

- Thermography in infra-red Methods: The Active Method and The Passive Method,
- Penetrating Liquids Methods ;
- Ultrasonic Control Methods.

There have been done examinations at the Electric Fields in Oradea and Alesd, with the Mobile Nondestructive Researches Laboratory and also at the specific laboratories of the Polytechnic University of Bucharest.

Bibliography

1. Carp V, Felea I, Veres M, - „Experimental Researches concerning the 110 KV High Voltage Disconnecting Switches”, Scientific Raport, 2007/2008, University of Oradea
2. Amza Ghe, Carp V, Dumitrascu C. – Raport la Contractul de cercetare de cercetare stiintifica privind, metodele de examinare nedistructiva a izolatoarelor ceramice, incheiat intre Politehnica Bucuresti, facultatea IMST si Universitatea din Oradea, 2007/2008.
3. ASTM E 1213 – 1992 Standard Test Method for Minimum Resolvable Temperature Difference for Thermal Imaging Systems.
4. ASTM E 1316 - 1992 Terminology for Nondestructive Examination
5. A 09 – 400 Essais nondistructifs. Thermographie infrarouge.