

TRANSFORMERS

## Low Voltage Dry Type Transformers

Cleaning and maintenance tips to keep your transformers in optimal condition



Under normal environments and operating conditions, dry type transformers are virtually maintenance free. However, they do require occasional internal cleaning, care and inspection. The frequency of inspection, cleaning and care will depend on the atmospheric and/or environmental conditions at where the transformer is installed.

A continuously energized transformer needs periodic cleaning and maintenance to remove accumulations of dust or dirt from cooling ducts and other surfaces. Large accumulations may reduce cooling efficiency and lead to overheating. Cleaning and maintenance are recommended at least once a year in relatively clean installations and at more frequent intervals in more heavily contaminated atmospheres.

Moisture is detrimental to most insulation systems. It is advisable to dry out any transformer that has been exposed for long periods of time to high humidity. Whenever moisture is visible on insulation surfaces, the unit must be dried before being energized. If moisture is evident, the unit should be dried out by placing it in an oven, by blowing heated air over it, or by placing strip heaters under the coil windings. The temperature of the heated air should not exceed 110C/230F. If strip heaters are used, the elements should not be allowed to come in contact with the transformer. Heat should be applied to both the front and rear of the transformer. Transformers may be subjected to flooding, direct rain or similar applications of water. In such cases, normal drying techniques may not be adequate and the factory should be consulted as the transformer will most likely need to be replaced.



**CAUTION: Any internal inspection, adjustment, cleaning, or maintenance must be done with the transformer de-energized and the windings grounded. Technicians must follow NFPA 70E guidelines.**

Transformers that are de-energized for long periods of time generally require more frequent maintenance and cleaning to ensure removal of contamination.

### Cleaning

Accumulation of dirt on insulating surfaces becomes a hazard when a considerable amount of moisture is absorbed. Vacuuming is the recommended method for cleaning. Special attention should be given to cooling ducts within the winding. Low-pressure dry air can be used if care is taken to avoid driving the contamination into the insulation.

### Maintenance

Maintenance would include dust removal and/or drying (if applicable), tap changing, tightening of bolted connections, general servicing and inspection of auxiliary devices. Additional information related to the installation and maintenance of general purpose transformers can be found in ANSI publication C57.94, "Guide for Installation and Maintenance of Dry Type Transformers".

**Maintenance: ABB's Low Voltage**

QL Dry Type Transformers meet modern efficiency standards and are designed for general purpose lighting and electrical, motors, resistance heating and motor generators (without solid-state drives) applications. Our transformers allow faster installation, easier wiring and enhance safety.

Contact your local ABB representative for more information.