



A Leader in Electric Motor Testing

# Tip Of The Week

October 19, 2020

## Back to the Basics - Part 3

Part 1 and 2 of the Back to the Basics Series focused on Power Quality and Power Circuit. Continuing the series we now focus on the Insulation Fault Zone.

### *Squirrel Cage AC Induction Fault Zone Analysis - Part 3*

The Insulation Fault Zone examines the ground wall insulation that prevents current from flowing to ground. This element of the electric motor is often blamed as the failure mode, but all too often it is a symptom not the root cause. Other fault zones like Power Circuit and Power Quality can have a detrimental effect on the ground wall insulation system and replacing the motor renews the insulation, but doesn't fix the root cause of the failure. This guarantees a shortened life expectancy of the new insulation system and a repeated failure cycle.

The majority of distribution systems require the motor to be shutdown to properly test the insulation system. Although planned shutdowns and unfortunately unplanned shutdowns tend to drive the test frequency of insulation systems, performing Resistance-to-Ground (RTG), Polarization Index (PI), and Capacitance-to-Ground (CTG) tests when available will give you advanced warning of contamination or degradation in your insulation condition.

To learn more (without leaving your office) about the Fundamentals of MCEMAX for insulation measurements, read about our new web-based training opportunities at <https://www.pdma.com/pdfs/Training/Web%20Based%20Training%20Insert.pdf>.

You are invited to submit an Electric Motor Testing Tip of your own and receive a free PdMA® mug or hat if we publish it! Contact Lou at 813-621-6463 ext. 166 or [lou@pdma.com](mailto:lou@pdma.com).

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