
August 31, 2009

Temperature or Embrittlement

A polarization index (PI) test with an index value of greater than 8 may be an indication of heat or age related insulation embrittlement. IEEE-43 suggests for a PI index value greater than 8 to inspect for signs of thermal damage and perform a "Tap test" to see if the insulation has hardened. Hardening of the insulation results in a very slow polarization of the insulation often showing up as a near linear increase in ground resistance throughout the PI test. Performing a PI test on a motor shortly after the motor has been deenergized can also result in a continuous rise in ground resistance readings as the motor cools down throughout the PI test. Remember, insulation has a negative temperature coefficient meaning that its resistance varies opposite of temperature.

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. 126 or lou@pdma.com.

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