



# Tip Of The Week

**April 19, 2010**

## Negative Temperature Coefficient

Your motor insulation has a negative temperature coefficient. This means that as the motor temperature rises, like in normal operations, that the insulation resistance to current flow reduces. If insulation temperature goes down, like after a shutdown, the resistance goes up. This change can be dramatic. For every 10 degrees C rise in temperature the resistance is cut in half. For every 10 degrees C drop in temperature the resistance is doubled. Be careful that you are not trying to trend insulation resistance without performing a temperature correction of the readings. Performing a polarization index test during a significant temperature change will provide additional data for evaluation.

To view a case study showing an insulation integrity problem go to <http://www.pdma.com> and click on the Insulation Fault Zone button.

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](mailto:lou@pdma.com).

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