



A Leader in Electric Motor Testing

Tip Of The Week

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Wire Resistance vs. Insulation Resistance

Conductive resistance is the resistance incurred when current flows in a wire and is commonly referred to as the opposition to current flow in a wire. In an insulation system, there are a number of factors (such as moisture, temperature, contamination, etc.) that affect an insulation system resistance. These factors affect four primary elements of the insulation resistance system; geometric capacitance, conduction resistance, leakage currents, and absorption currents. Of these, the absorption current, also called the polarization current, represents the dominant “charging” current of the insulation system. As the temperature of the insulation system increases, the ability of the insulation system to polarize decreases. The decrease in the ability of the insulation system to polarize decreases the apparent resistance of the insulation system. This decrease in apparent resistance with an increase in temperature, gives the insulation system a negative coefficient of resistance.

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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