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Winding Resistance and Temperature

Why do we measure the insulation resistance of a motor winding? Because the resistance measurement indicates the ability of the insulation to resist the passage of electricity from coil to coil or to the frame of the motor. High resistance above the recommended IEEE minimum usually indicates a good winding, while low resistance may indicate the winding is dirty or wet. When performing insulation resistance tests, it is important to verify your leads are connected at the proper location and that you have recorded the temperature of the windings under test; insulation resistance varies with winding temperature. In MCEGold, if after testing you need to change the temperature, open the test in Test History, double click on the temperature of the test, enter the correct winding temperature, and click Change Temperature. The resistance test results will be recalculated with the proper temperature and ensure you have collected and saved accurate data to the asset test history.

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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