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## Standards Associated With Electric Motor Testing

For the next few weeks we will be reviewing various standards associated with electric motor testing. There are a few very often mentioned standards like the IEEE43 and IEEE95. However, there are other applicable standards worth knowing about where the MCEmax technology can be utilized to assist in verifying motor acceptability to the standard.

The IEEE 400-2001(TM) is the Guide for Field Testing and Evaluation of the Insulation of Shielded Power Cable Systems. Section 5 - Direct Voltage Testing, discusses low voltage DC testing (LVDC) as tests performed at or below 5000 volts. In this standard the most common LVDC insulation test for shielded power cables is the polarization index test method. The rationale for using DC voltage test equipment is primarily based on the size and power requirements being so excessive for AC voltage test equipment. However, following are abbreviated advantages of performing acceptance and maintenance tests of shielded cables using DC test voltage:

- Simple, light weight test equipment compared to AC test equipment
- Readily available power supply for equipment
- Extensive history of successful success on laminated insulation systems
- Very effective at identifying conduction or thermally triggered faults
- Very effective at joint and termination interface problem identification

For more information on the polarization index testing referenced in the IEEE400 visit [Identifying Motor Defects Through Fault Zone Analysis \(PDF file\)](#). For more information on the IEEE 400 article go to [IEEE Standards](#).

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).