

Electric Motor Testing Tip of the Week

revolutionizing electrical reliability

January 21, 2007

Corona Part 3: Rise of the Machines

Corona can appear in systems as low as 50V.

For 50 volts to produce corona, it takes a radius of curvature of less than 6.56 x 10-4 inches (0.000656 in). In research, Electrical Engineers have been able to obtain corona down to this level. It is safe to assume that there is some non-linearity involved in actual practice because this formula is derived from the maximum charge a sphere can store in freespace under ideal conditions.

Formula for breakdown of air at STP is:

Vmax = Rin * 3000 / 39.3700787402

Where:

Vmax is the maximum voltage attainable prior to breakdown Rin is the radius of curvature in inches (i.e., 1in radius for a 2in diameter ball) Other values are constants

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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