



# Electric Motor Testing Tip of the Week

revolutionizing *electrical* reliability

**December 10, 2007**

## All About Corona, Part Deux

Eddie Brynjebo from ElektroSandberg AB, Karlskrona, Sweden, writes:

Regarding the last tip (November 5, 2007) about partial discharges or corona, it must be stated that it is not only present on high voltage systems. This is due to the fact that it is the derivative of the voltage change ( $dU/dT$ ) that causes these phenomena. This also then means that this is often a reality in low-voltage machines that is run at higher frequencies than the normal 50 or 60 Hz or is run via thyristor drives (i.e., the curve shape is steeper than normal and thus causes voltage to change very fast within the insulation system).

Corona is only the common name of the visual partial discharge, i.e., surface discharges. The presence of partial discharges "inside" and not visible in the insulation system is even more important to know about and to try to avoid. Long time appearing corona will leave tracks and signs that can be seen by a visual inspection inside will not be that easily seen without electrical diagnosis. It can be measured and pinpointed with different methods.

However, some insulation systems can withstand this phenomenon for ages and some cannot.

Hey, thanks for the tip, Eddie. Hope you are happily waiting by your mailbox for your PdMA mug or hat.

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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).