



Electric Motor Testing Tip of the Week

revolutionizing *electrical* reliability

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Harmonics and Motor Temperatures

The additional heat produced in the motor's windings, when being powered by a harmonic rich voltage signal, is caused by several phenomena. An electromagnetic load such as a motor is subject to increases in operating temperature due to the high frequency harmonics' inductive heating. Inductive heating is a result of increased eddy currents, hysteresis in the core, and skin effect. Inductive heating increases by the square of the harmonic current order. Therefore, what appears to be a relatively low percentage of harmonic distortion to the fundamental frequency can lead to significantly higher operating temperatures.

To read more about power quality and its impact on motor health go to <http://www.pdma.com/PowerQualityFaultZone.pdf>

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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