PdMA CORPORATION A Leader in Electric Motor Testing

Tip Of The Week

February 8, 2010

What is a Double Cage Rotor, Part 2

In the January 5, 2010 tip we discussed what a double cage rotor is. Now that you know some of the design characteristics of the double cage rotor, are there any special considerations that should be given for testing? Yes. More emphasis should be put on the acquisition of an In-Rush/Start-Up test as a baseline. The fact that the majority of the high frequency start-up current exists in the smaller outer bar means that the majority of the start-up stresses occur in the outer bar. This increases the chance of stress cracks or breaks in the outer bar due to non symmetrical thermal expansion. When the motor is at normal operating speed the current is more evenly distributed through both inner and outer bars reducing the influence of a fault in the outer bar on the running current. This reduces the evidence of a faulty rotor bar and may delay the actions taken to reduce secondary damage to the stator. Comparison of the latest In-Rush/Start-Up test to the baseline test will give ample evidence of a change in the rotor health so action can be taken to prevent an unplanned outage.

For more information on rotor testing techniques, view the Rotor Fault Zone analysis module discussion at http://www.pdma.com/webinars/Rotor_Fault_Zone/Rotor.html.

To read the January tip go to http://www.pdma.com/2010_PdMA-tip-week.php.

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.