

## **A Study on the Method of Accelerated Life Test to Electric Rotating System**

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**Abstract :** This paper introduces the study on the method of accelerated life test to electrical rotating system. In recent years, as well as efficiency for motors and generators, there is a growing need for research on the life expectancy. It is considered impossible to calculate the acceleration coefficient by increasing the rotational load or temperature load as the acceleration stress in the motor system because the temperature of the copper exceeds the wire thermal class rating. In this paper, the accelerated life test methods of the electrical rotating system are classified according to the application. This paper describes the development of the test procedure for the highly accelerated life test (HALT) of the 100kW permanent magnet synchronous motor (PMSM) of electric vehicle. Finally, it explains how to select acceleration load for vibration, temperature, bearing load, etc. for accelerated life test.

**Keywords :** acceleration coefficient, electric vehicle motor, HALT, life expectancy, vibration

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