SAE International

SURFACE VEHICLE RECOMMENDED PRACTICE

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Superseding J2724 JUN2006

Measurement of Disc Brake Friction Material Underlayer Distribution

RATIONALE

J2724 has been reaffirmed to comply with the SAE five-year review policy.

1. SCOPE

This procedure describes a method for measuring the fraction of underlayer (also referred to as backing layer) existing at any given height above the a disc brake friction materials shoe plate. Measuring underlayer distribution is useful for computing useable lining thickness and for friction material quality management.

2. REFERENCES

There are no referenced publications specified herein.

3. INSTRUMENTATION

A friction material thickness grinder, a micrometer, and a transparency with a 10 mm grid are required to run this test. A digital camera with image analysis software is a preferred but optional method.

All test measurement equipment must be calibrated and maintained per local standards.

All applicable safety guidelines and procedures must be followed. Dust collectors should be used when grinding the friction material.

4. SAMPLE PREPARATION

This test can be run on new or used disc brake pads with visually distinguishable backing layers.

5. OPERATION

5.1 Visually check the lining for any defects such as: cracks, delaminations, edge lift, un-bonded insulators, or foreign contamination. Record any defects or the absence of defects in the test report.

5.2 Grind the lining to the specified thickness (see Section 6) and measure that thickness. The measured pad thickness must be within +/-0.1 mm of target thickness.

5.3 At each thickness specified, overlay a transparent film with 10 mm grid lines. Using the grid, count the number of squares with 50% or more backing layer and the number of squares with 50% or more friction material. Add these two numbers together and divide to calculate the ratio (percent) of backing layer and friction material. Alternatively, you may photograph the lining (see Figure 1) and use appropriate image analysis software to compute the percentage of underlayer and friction materials.

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