

Presented Paper at SAE 26th Brake Colloquium & Exhibition

We presented a paper at SAE 26th Brake Colloquium & Exhibition on October 13, 2008. We've presented our papers at this event for six straight years.

1. TITLE

Factorial Effect Analysis of Material and Dimensional Properties of Brake Discs for Reducing Variation in Natural Frequencies

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2. AUTHORS

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3. ABSTRACT

Brake squeal is a critical issue for automotive brake systems and its propensity significantly depends on the natural frequencies of brake discs. The variation in natural frequencies is caused by various factors in the disc manufacturing process, from foundry through machining. To reduce this variation, we analyzed the factorial effects of material and dimensional properties on natural frequencies of brake discs with various configurations by conducting intensive computer-aided engineering experiments. These experiments were performed accurately and quickly with the help of our original brake disc design system. As a result, we determined the critical factors affecting the natural frequencies of brake discs and their contribution.

4. CONTACT

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