

**Presented Paper at SAE 25th Brake Colloquium & Exhibition**

We presented a paper at SAE 25th Brake Colloquium & Exhibition on October 10, 2007. We've presented our papers at this event for five straight years.

**1. TITLE**

**Design for Homogeneity of Brake Discs to Reduce Judder, from R&D to Manufacturing**

Paper No. 2007-01-3961

**2. AUTHORS**

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**3. ABSTRACT**

We studied the relationship between disc thickness variation (DTV) and casting material properties and clarified that the circumferential homogeneity of brake discs has significant effects on brake judder. As a solution, we established an integrated system for developing and manufacturing homogeneous brake discs to reduce judder by making the most of our integrated business process from R&D through manufacturing, including our in-house foundries. The system we developed consists of the following elements: foundry engineering to obtain homogeneous discs, an original flake graphite structure index (K-FGI) to measure the homogeneity of our products, and accelerated wear tests on a brake dynamometer to estimate the potential on-brake DTV growth.

**4. CONTACT**

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