



### 3. Intermixing of Friction Materials

Disc brake pads and drum brake linings are made by intermixing 10 to 20 kinds of raw materials. Since the required performance varies depending on the customer and vehicle type, we have been changing the raw materials and compositions that we use. The performance requirements for friction materials are that they not be easily affected by the usage environment, heat resistance, mechanical strength, durability, less noise and vibration, and environment-friendly material. Akebono develops and produces high quality products that deliver safety and security to customers based on its unique knowhow and manufacturing technology.

#### Friction Raw Materials

##### Binders



Phenol resin

##### Reinforcements



Aramid fiber



Steel fiber

##### Friction Modifiers



Graphite



Cashew particle

### 4. Aftermarket Parts Business

Akebono products have been adopted as OEM brakes (fitted in new cars) by major global automobile manufacturers. Akebono provides high quality aftermarket brake products developed and produced with high technology knowledge gathered from the OEM business provided to customers throughout the world.

Brakes support customer safety and security throughout the vehicle's life cycle, from the time the new car starts running until the end of its lifetime. During this lifecycle, the aftermarket brake parts are replaced when necessary, for example, when the brake pads and linings are worn away. Akebono provides aftermarket parts for both automaker dealers and the Akebono brand globally. The Company carefully analyzes customer needs and plans and develops aftermarket brakes that customers can choose from.



Aftermarket brake pads for the Japanese market



Aftermarket brake pads for the U.S. market



K4 disc brakes for mini cars\* launched in Japan (\* Displacement under 660cc)

#### Advice to Customers

##### Criteria for Brake Pad Replacement

Brake pads will wear and become thinner through continuous use, which might cause damage to the disk rotors and could lead to replacement of the entire brake.

The thickness of the new pad is about 10 mm (1 cm). It can be used at a thickness of about 7 to 8 mm. When residual thickness is 4 mm or less, we recommend pad replacement for safety's sake.

As these are only guidelines, please check the residual thickness of the pads at a car maintenance facility.

