Conserving fuel, indulging drivers and passengers, harmonizing transport with the community

Our BluEarth line of tires, launched in July 2010, heralds a new era in tire technologies for improving fuel economy. The BluEarth tires complement continuing progress in reducing rolling resistance with attainment in comfort and quiet unprecedented in fuel-saving tires. Thus do these tires save fuel, indulge drivers and passengers, and harmonize transport with the community. We will position BluEarth as a global brand and will introduce the tires in markets worldwide.

Conserving fuel
The inaugural BluEarth tire, the AE-01, makes big advances in fuel-saving tire performance available at highly affordable prices. That tire has earned a high rating for rolling resistance under Japanese tire manufacturers’ newly unified labeling standards for fuel-saving tires.

Indulging drivers and passengers
Safety and ease of handling have been big emphases in developing the BluEarth AE-01. The tire has qualified for an excellent rating for wet-surface grip under Japan’s new labeling standards for fuel-saving tires. And the BluEarth AE-01 offers the additional appeal of a quiet, comfortable ride.

Harmonizing transport with the community
The BluEarth AE-01’s environmental credentials include advances in reducing external, “pass-by” noise. That makes transport a less-obtrusive presence in the community.

We have deployed the BluEarth AE-01 in the mass-market price zone to maximize its value in preventing global warming. It accommodates a broad range of vehicle types, from medium-sized sedans and minivans to minicars. We offered the BluEarth AE-01 initially in 24 sizes and plan to increase the number of available sizes. Reinforcing the cost performance of the BluEarth AE-01 are advances in wear resistance, which have extended tire life.
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Key technologies

1. Special polymer for preventing temperature buildup during ordinary driving
We employed nanotechnology in developing a rubber polymer for the BluEarth AE-01’s tread compound. The new polymer improves fuel economy by reducing the generation of heat during ordinary driving. It has especially long molecular chains. Longer chains increase strength, and they result in fewer polymer molecules and thus a smaller number of chain ends, where energy loss is greatest. We have configured the ends of the polymer chains, meanwhile, to minimize heat generation. Our new polymer improves wear resistance, as well as improving fuel economy.

2. Orange oil compounding to improve grip
The tread compound that we developed for the BluEarth AE-01 contains orange oil. That oil seeps between the molecules of rubber polymer and imparts suppleness to the compound. As a result, the tread grasps even tiny projections on the road surface, and grip improves greatly. Incorporating orange oil in the BluEarth AE-01’s tread compound improves grip further by promoting the generation of heat during braking and cornering.

3. Fuel-saving simulations for improving overall fuel economy
Contributing to our fuel-saving advances in tires is original computer-simulation technology. That technology helps determine precisely the energy loss that can occur with different kinds of rubber compounds, tread patterns, and tire profiles. It allows for adjusting those and other variables to optimize overall energy efficiency in a tire.