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For immediate release

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Yokohama Rubber to Launch European Sales of Ultra Lightweight and Fuel-Efficient “BluEarth-air EF21”

Tokyo – The Yokohama Rubber Co., Ltd., announced today that it will begin selling its “BluEarth-air EF21” in Europe on a limited-basis from this spring. The “BluEarth-air EF21” uses the most advanced technologies to achieve a new lightweight design that enhances its environmentally sound features. The tire will be available in only one size, 205/55R16 91V.

Seeking to create a more environmentally friendly tire, Yokohama Rubber has employed its latest design technique to achieve a lighter tire that conserves resources by using less material and improves fuel efficiency by contributing to lighter overall vehicle weight. In addition to being light, the “BluEarth-air EF21” has achieved a thin yet highly rigid structure and a weight reduction of about 25% in the tire’s mass. * The tire also achieves excellent wet and fuel-efficient performance from the use of a newly developed special compound and Yokohama Rubber’s state-of-the-art rubber mixing technology, Advanced Reaction Technology in Mixing. As a result, the “BluEarth-air EF21” has received the European tire-grading system’s highest “A” grades for both rolling resistance and wet grip performance.

BluEarth is a YOKOHAMA global tire brand based on the concept of being “environmental, human, and socially friendly”. The brand’s diverse lineup also includes the high-performance, fuel-efficient “BluEarth-A”; the fuel-efficient “BluEarth RV-02” for minivans and crossover SUVs; and the “BluEarth-Es ES32”, a fuel-efficient standard tire.

* Compared with the “ADVAN dB V551”, the YOKOHAMA tire considered to be the standard for tire mass.

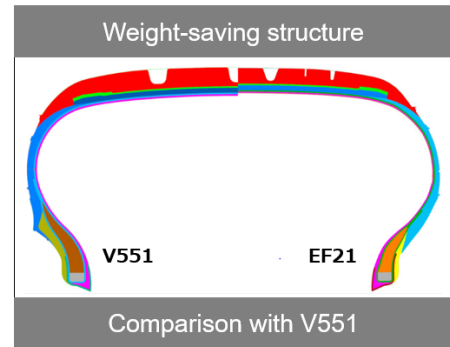


Lightweight Design Technology

Weight-saving structure

Reduced weight and use of materials contributes to environmental conservation by reducing resources used and CO₂ emission in manufacturing stage.

Tire mass weight is 25% less than that of ADVAN dB V551

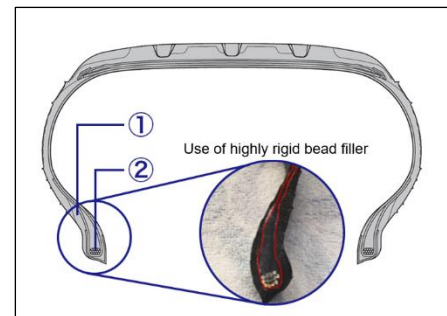


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Lightweight bead structure

Use of highly rigid bead filler and lightweight bead core enhances tire's rigidity while reducing its weight

- ① Highly rigid bead filler
- ② Lightweight bead core



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Keys to Fuel Efficiency and High Wet Performance

Compound developed specifically for the BluEarth-air EF21

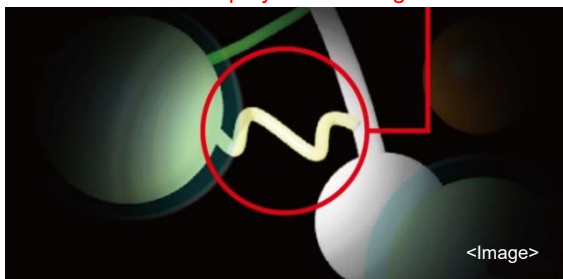
Nano-fine silica

Minute particle agglomerations of silica have been shrunk to tens of nanometer size

Highly reactive coupling agent and silica dispersant

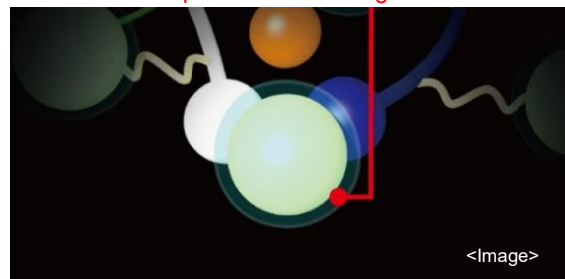
Silica dispersant prevents silica agglomeration, while highly reactive coupling agent strengthens bond between silica and polymers.

Highly reactive coupling agent strengthens silica-polymer bonding



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Silica dispersant facilitates silica dispersion and homogenization



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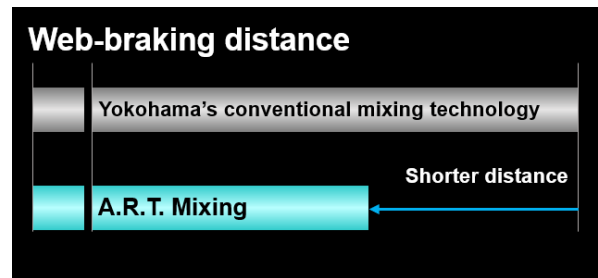
Use of large synchrotron radiation facility, SPring-8

SPring-8, the world's largest synchrotron radiation facility, was used to confirm the bonding state of silica and polymer at the nano level.

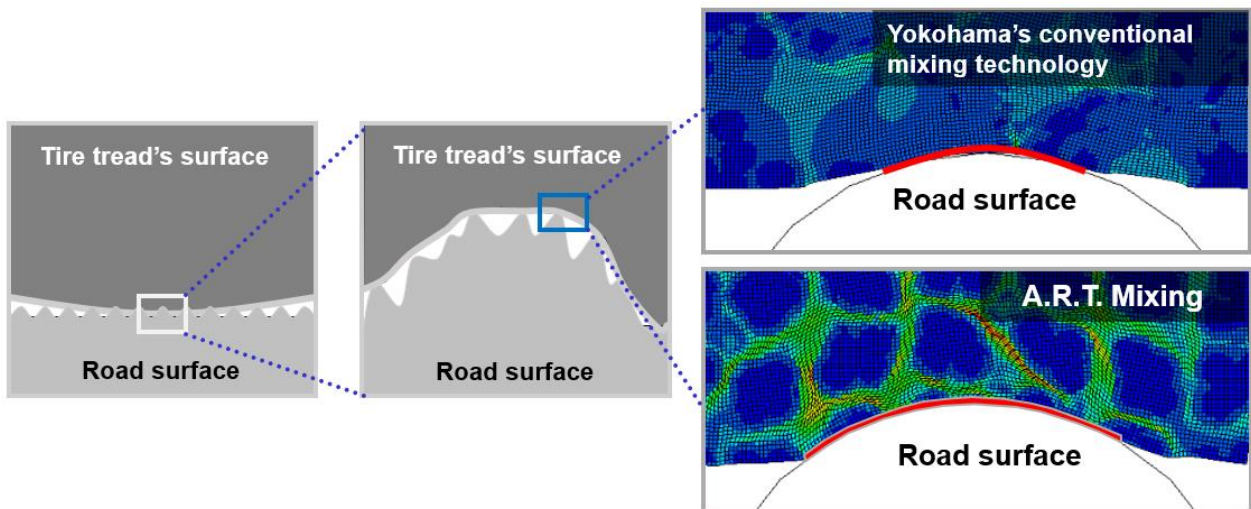
New mixing technology: A.R.T. Mixing (Advanced Reaction Technology in Mixing)

Improves wet-braking performance

A compound's wet-braking performance can be improved by the silica dispersion. Yokohama Rubber's new A.R.T. Mixing technology—the very name of which includes the meaning “mixing with a refined reaction control”—achieves an 11% improvement on the Company's conventional mixing technology's dispersion ability. It also expands the tire's contact area with the road surface, which greatly improves the tire's braking performance on wet road surfaces.



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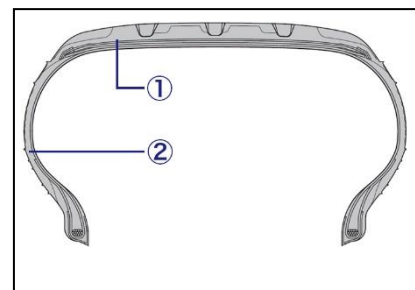


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Super fuel-efficient layered rubber and fuel-efficient side rubber structure

First use of new, low heat-generating rubber in all parts of the tire.

- ① Super fuel-efficient layered rubber: Reduces energy loss by using low heat-generating rubber in lower layers of the tire tread's rubber
- ② Fuel-efficient side rubber structure: Use of fuel-efficient rubber in tire's side reduces energy loss when tire is rolling.



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Application of YOKOHAMA's State-of-the-art Technologies

BluEarth-air EF21's tread pattern design

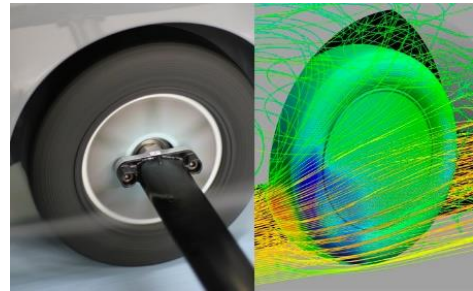
- ① Improved water evacuation and optimized tread rigidity
New groove positioning and groove shape
- ② Improved wet-braking performance
More optimal sipe and groove positioning
- ③ Improved braking performance and reduced pass-by noise
Shoulder shape has been optimized.



BluEarth-air EF21's tread pattern

■Tire development process included simulation of air resistance

Air resistance in tires is one cause of deteriorating fuel efficiency, with the impact considered to be particularly strong when running at high speeds. In addition to wind-tunnel tests, Yokohama Rubber conducts air-resistance simulations when designing tires.



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■Flat logo design does not block airflow

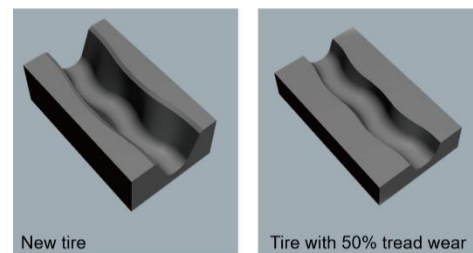
The airflow around rotating tires is complicated. To avoid disturbing airflow as much as possible, the BluEarth-air EF21's side logo abandons elevated lettering in favor of a flat design.

■Five-pitch variation

The BluEarth-air EF21's tread is composed of five pitch sizes optimally arranged through the use of a sound pressure simulation. The five pitch variation reduces sound pressure levels and disperses sound across different frequencies to suppress noise in annoying sound ranges.

■Hybrid wave

"Hybrid wave" features an orderly wave sequence and a wave structure that becomes more minute closer to the groove bottom. As a result, edge length increases with abrasion, helping suppress wet-performance deterioration.



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■Reduction of pass-by noise outside of the vehicle

Yokohama Rubber aims to create fuel-efficient tires that take into consideration people's living environment and contribute to an automobile culture that is friendly to people and society as a whole. Pass-by noise created by vehicles and their tires is reduced by more optimal tread patterns, structures and profiles.