

September 16, 2022

## Toyobo's BREATHAIR® used for non-reserved seats of Nishi Kyushu Shinkansen "Kamome"

BREATHAIR®, a three-dimensional network structured fiber material manufactured by Toyobo Co., Ltd., has been adopted for all seats in non-reserved cars of the Nishi Kyushu Shinkansen bullet train "Kamome", which Kyushu Railway Co., Ltd., (JR Kyushu) will start operating from September 23, 2022.



Nishi Kyushu Shinkansen "Kamome"  
(photo provided by JR Kyushu)



Inside a non-reserved car  
with seats using BREATHAIR®  
(photo provided by JR Kyushu)



BREATHAIR®, a three-dimensional network  
structured fiber material

BREATHAIR® has a three-dimensional structure that consists of each-combined randomized loops of thermoplastic\*<sup>1</sup> elastomer filaments made of Toyobo's PELPRENE®. It is very light, high resilient, durable and breathable. Since its debut in 1996, the product has been used as an alternative to polyurethane cushion materials for a wide range of uses, including mattresses and pillows for use both at home and for business, in addition to seats for railway cars and automobiles.

Being made of PELPRENE®, which is also used as a raw material for automobile parts, BREATHAIR® has heat resistance and high durability meeting the requirements of D1 class, or the highest-level durability category of Japanese Industrial Standard JIS L 4500. Up to date, the material has been used for railway seat cushions in many train cars, including JR Central's Tokaido Shinkansen bullet train "N700S" and JR West's limited express trains "Thunderbird" and "Haruka."

BREATHAIR® is recyclable thanks to its thermoplastic polyester elastomer raw material. To reduce the amount of plastic waste, Toyobo has established a recycling technology for BREATHAIR®, reusing cut-off pieces and substandard products generated during the manufacturing process as its raw material\*<sup>2</sup>. JR Kyushu gave a high rating to Toyobo's long-term business record of supplying the product and its eco-friendly feature, and thus adopted it for the Nishi Kyushu Shinkansen "Kamome."

"Kamome" runs on the new Nishi Kyushu Shinkansen line connecting Nagasaki Station (Nagasaki Prefecture) and Takeo Onsen Station (Saga Prefecture). The new line helps shorten the travel time between Hakata Station (Fukuoka Prefecture) and Nagasaki Station up to 30 minutes to 80 minutes by connecting with the regular train line from Takeo Onsen Station to Hakata Station. (Passengers can transfer to the limited express "Relay Kamome" train on the other side of the same platform.) This is expected to make it easier for travelers from the Fukuoka, Chugoku and Kansai areas to access the western Kyushu region. JR Kyushu is headquartered in Fukuoka, Fukuoka Prefecture, and is headed by President and CEO Yoji Furumiya.

Toyobo will continue promoting the sales of BREATHAIR®, for mattresses, pillows and railway car seats as well as other, new purposes by demonstrating its excellent features.

\*1: The property of becoming softened and molted by heating and becoming solid by cooling again.

\*2: Toyobo is carrying out research and development to recycle used BREATHAIR® products.

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