



Ideas & Chemistry

Production of BREATHAIR[®], a Replacement for Urethane Foam in Cushions, Begins in Europe

The dedication ceremony was held on September 6, 2013, for the newly completed BREATHAIR[®] production facility of TOYOBO Europe GmbH (headquartered in Düsseldorf, Germany), a member of the Toyobo Group, in Obernburg, State of Bavaria, Germany, and the plant has subsequently begun full-scale production activities.

1. About the BREATHAIR[®] production facility

Name of facility: Obernburg Plant of TOYOBO Europe GmbH

Production capacity: 1,100 tons/ year

Amount invested: Approximately ¥700 million

2. About BREATHAIR[®]

BREATHAIR[®] is a 3-D spring network structure that is manufactured through the conversion to fiber and the complex combination of PELPRENE[®], which is Toyobo's thermoplasticity-type polyester elastomer. BREATHAIR[®] is light as well as highly repulsive and features superior durability and breathability. Because of these superior properties, BREATHAIR[®] is increasingly replacing urethane foam in bed mats, seat cushions, and other applications.

3. Schedule going forward

TOYOBO Europe is working to expand sales of the BREATHAIR[®] business in the European market, where environmental awareness is high. Sales activities are beginning with the development of furniture applications and proceeding to mattresses for medical use, seats for boats, automobiles, and railcars, and other uses.



「BREATHAIR[®]」



Opening ceremony for the Obernburg Plant

Supplementary Information

■ Outline of BREATHAIR®

Toyobo began the volume production of BREATHAIR® in 1996, and it has been adopted as a substitute for urethane foam in seats for railway cars, such as the Shinkansen N-700 Series, and motorcycle seats, where high durability is required. In addition, cushions and mats made using BREATHAIR® are comfortable, do not become damp and musty, and make it easy for sleepers to change position. They can also be laundered whole and find wide application in hospitals and nursing homes.

Reasons for BREATHAIR®'s Durability

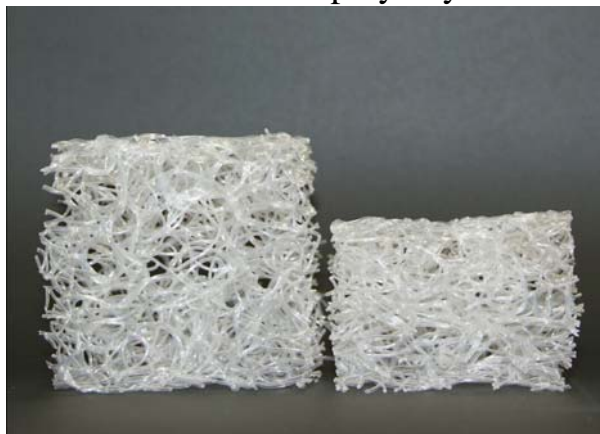
The secret of BREATHAIR®'s durability is that it has the properties of both rubber and engineering plastics, and it is made of PELPRENE®, which is both durable and easy to process. BREATHAIR® is manufactured in a special, patented process, and features superior durability in comparison with materials that use polyethylene as a base.

(1) 「BREATHAIR®」



(Before testing) (After testing)

(2) Network structures made from polyethylene as a base



(Before testing) (After testing)

As a result of compression set tests, BREATHAIR[®], which is made from PELPRENE[®] (photograph on the left above), undergoes almost no settling. However, network structures made from polyethylene (photograph on the right above) do not maintain their thickness and are crushed by about 40% from their original size.

*Testing conditions: JIS K 6400-4 compression set test (A test to determine the ratio of decline from the thickness of the original test object after being subjected to pressure that crushes the object to 50% of the original size and is then kept under heat and pressure for 22 hours in a testing oven temperature of 70°C.

■ Outline of TOYOBO Europe GmbH

Representative: Yoshihisa Yokota

Lines of business: Overall management of the Toyobo Group's business operations in Europe. Manufacture, processing, and sale of films and functional polymers, industrial materials, life science products, and textiles.

Address: Klosterstrasse 18, 40211 Düsseldorf, Germany

Ownership: 100% owned by Toyobo

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