

# New Materials for Industrial Use

## Abstract

Dr. Tetsuya Uchida of Okayama University in Japan, have been developing new materials having porous properties for industrial use.

### ● Industrial Application

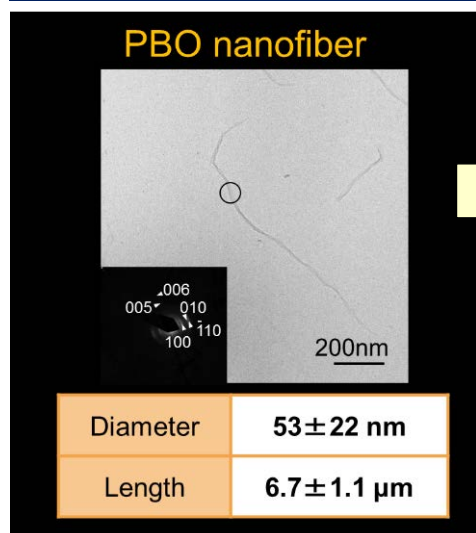
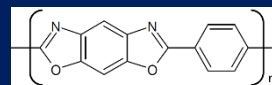
● Heat resistant Filter ● Heat insulator ● Sound insulator ● Acoustic material

## ◆ PBO Nanofiber Porous Mat

Title of Invention : PBO NANOFIBER POROUS MAT

Patent. No. : JP2016/196707

High Performance Polymer Poly(p-phenylene benzobisoxazole)(PBO)



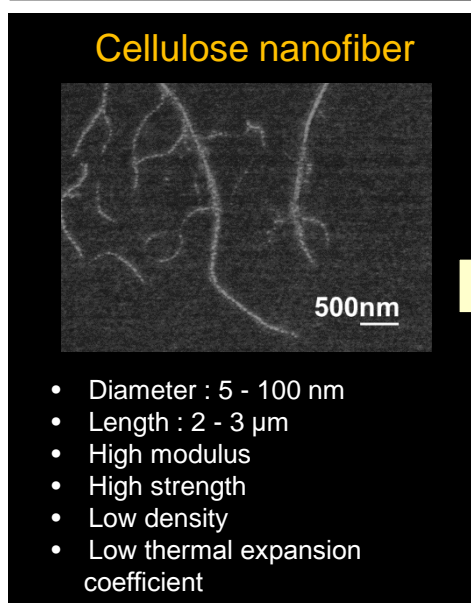
- Weight: 0.0453 g
- Diameter: 4.53 cm
- Thickness: 0.59 cm
- Density:  $4.74 \times 10^{-3} \text{ g/cm}^3$
- Porosity: **99.7 %**
- Specific surface area: about **120 m<sup>2</sup>/g**
- Thermal stability(10% weight loss): **1022 F (550 °C)**

The molecular chains of the PBO were oriented in the longitudinal direction of the nanofibers, and the nanofibers were highly crystalline.

## ◆ Cellulose Nanofiber Porous Mat

Title of Invention : CELLULOSE NANOFIBER POROUS MAT

Patent. No. : JP5988121



Cellulose nanofiber mat



- Weight : 0.6407 g
- Diameter : 7.13 cm
- Thickness : 1.08 cm
- Density : 0.015 g/cm<sup>3</sup>
- Porosity : **99 %**
- Specific surface area : **13.2 m<sup>2</sup>/g**

