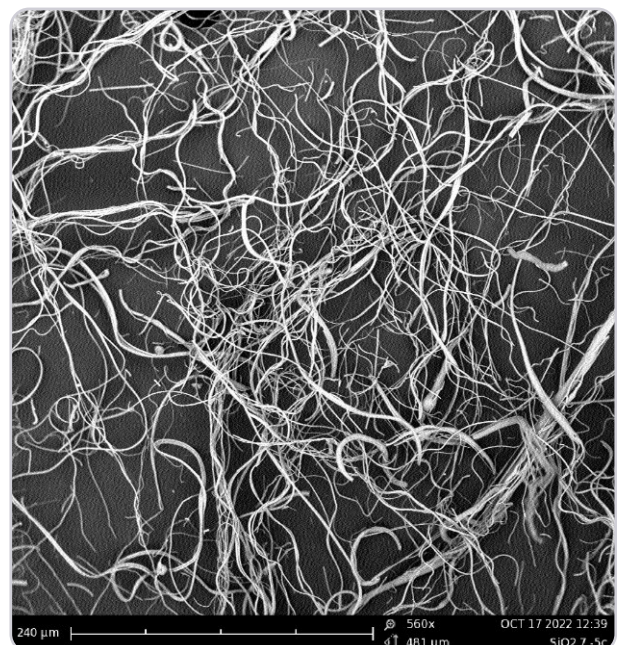
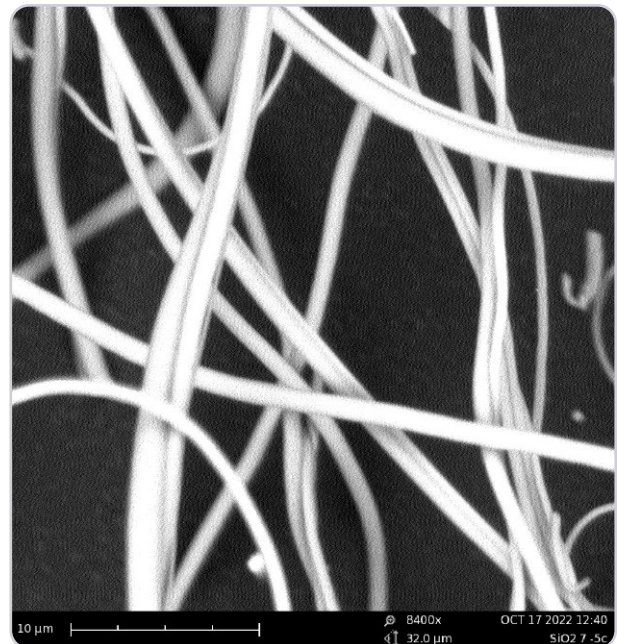


# NnF CERAM<sup>®</sup> - SiO<sub>2</sub> (TEOS)

Silicon dioxide nanofibers are a ceramic material developed and produced by PARDAM NANO4FIBERS s.r.o. in the Czech Republic. These products are based on a ceramic silicon dioxide matrix enriched with a small amount of porous particles of the same material. The amorphous SiO<sub>2</sub> nanofibrous material is highly functional and unique due to its refined fibrous structure and high specific surface area. The properties and characteristics achieved by combining the nanofibrous morphology with the conventional features of silicon dioxide material make SiO<sub>2</sub> nanofibers suitable for applications across various commercial sectors. The material can be produced in large volumes with simple and fast upscaling of production. SiO<sub>2</sub> nanofibers can also serve as a carrier for various catalytic nanoparticles (e.g., Pt, Pd, Ag, Fe), which are incorporated into the porous structure of the nanofibers in a single manufacturing step, without the need for subsequent coating.

## APPLIACATIONS

- Adsorbent of water and other polar sorbents
- Catalyst carrier
- Filtration
- Separation
- Li-ion battery separators
- Sensors



## PHYSICAL PROPERTIES

Nanofibrous structure	Hard and chemically resistant material
Crystalline phase	Amorphous SiO <sub>2</sub>
Form and structure	3D structure
Typical fiber diameter	200 nm - 1 900 nm (±100 nm)
Fiber length	2 to hundreds of μm Fiber length can be modified by grinding to a dimension of 2 - 12 μm (80%). If you need any material modification, please do not hesitate to contact us.
Specific surface area	400 - 700 m <sup>2</sup> /g
Melting point	1 710 °C
Thermal conductivity	Low thermal conductivity
Electrical conductivity	An excellent electrical insulator
Optical properties	Refractive index 1,46

## MATERIAL DOPING

Silicon dioxide nanofibers can be doped with various additives to optimize its specific properties.

## IMPORTANT NOTICE

This product was developed in collaboration with the University of Pardubice and with financial support from the Technology Agency of the Czech Republic (No. TA04011557). All statements, technical information and recommendations in this document are based on tests carried out by the team of PARDAM NANO4FIBERS s.r.o.

