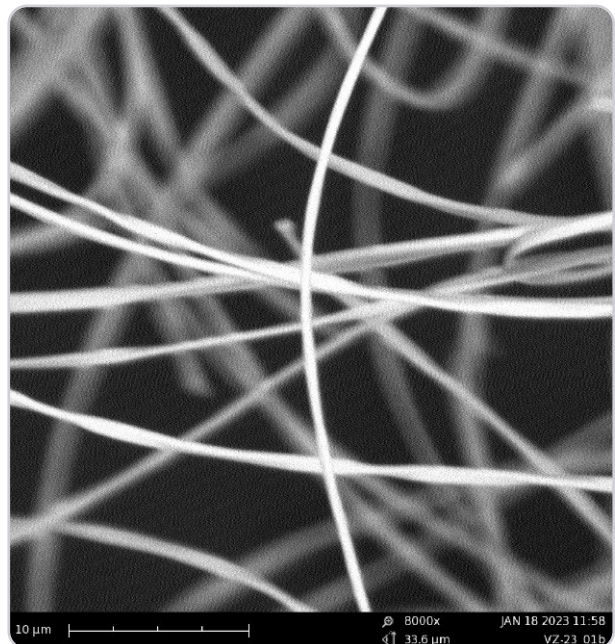
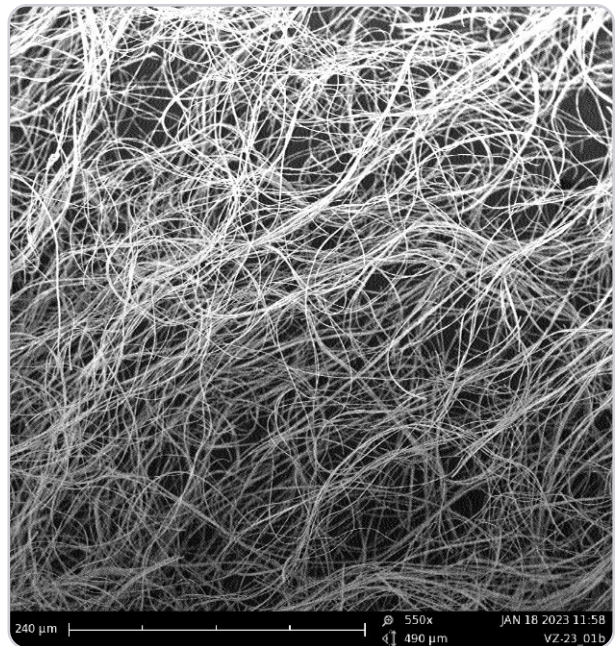


NnF CERAM[®] – ZrO₂

Zirconium 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 Zirconium dioxide matrix enriched with a small amount of porous particles of the same material. The combination of nanofibrous morphology and specific properties of zirconium dioxide predispose ZrO₂ to a wide range of applications in various industries. ZrO₂ nanofibers can also be used 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.

APPLICATIONS

- Electro-ceramics
- Catalysis
- Oxygen sensors
- Abrasives
- Thermal barrier coatings
- Refractories
- Ionic conductors
- Materials for high temperature chemical processes
- Inorganic separator



PHYSICAL PROPERTIES

Nanofibrous structure	Polycrystalline nanofibers High strength High ionic conductivity
Crystalline phase	The crystal phase is monoclinic, at higher temperatures (1175 °C) it becomes tetragonal and at very high temperatures (2350 °C) it becomes cubic.
Form and structure	3D structure
Typical fiber diameter	200 - 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	6 - 12 m^2/g
Melting point	2 700 °C
Thermal conductivity	Low thermal conductivity 1,95 $\text{Wm}^{-1}\text{K}^{-1}$
Electrical conductivity	Low electrical conductivity Electrically conductive above 600 °C
Optical properties	Refractive index 2,2

IMPORTANT NOTICE

All statements, technical information and recommendations in this document are based on tests carried out by the team of PARDAM NANO4FIBERS s.r.o.

