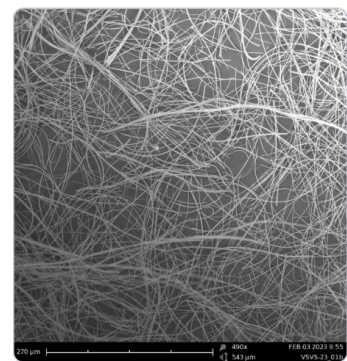
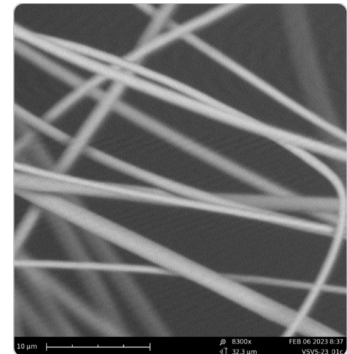


NnF CERAM®

WO₃

 Tungsten trioxide nanofibers

Tungsten trioxide nanofibres are a ceramic material developed and produced by PARDAM NANO4FIBERS s.r.o. in the Czech Republic. These products are based on a ceramic tungsten trioxide matrix enriched with a small amount of porous particles of the same material. The combination of nanofibrous morphology and specific properties of tungsten trioxide predispose WO₃ to a wide range of applications in various industries. WO₃ 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.



Original microscopy imagery

APPLICATIONS

- Gas sensors
- Photocatalysis and catalysis
- Photodetectors
- LED diodes
- Photochromic glasses

NnF CERAM®

WO₃

Physical properties and material notes

PROPERTY	Value
Nanofibrous structure	High melting point - 1473; becomes crystalline by strong annealing
Crystal phase	Amorphous WO ₃
Form and structure	3D structure
Typical fiber diameter	600 - 1 600 nm (±100 nm)
Fiber length	2 to hundreds of μm. Fiber length can be modified by grinding to 2 - 12 μm (80%). Contact us for material modifications.
Specific surface area	5 - 15 m ² /g
Melting point	1 473 °C
Thermal conductivity	Low thermal conductivity 1.63 W m ⁻¹ K ⁻¹
Electrical properties	Electrochromic properties
Optical properties	Specific optical properties

MATERIAL DOPING

Tungsten trioxide nanofibers can be doped with various additives to optimize their specific properties.

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.