

Nanowires

NANOWIRES (NW)

Format/size:

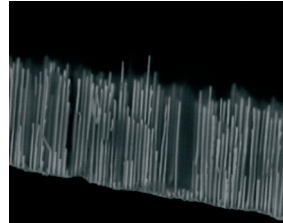
- Diameters of nanowires from 30 up to 200 nm
- Length from 1 up to several μm

Types:

- Single or multilayer metallic nanowires of Ni, Au and Co
- Embedded into PAA or dispersed in solution

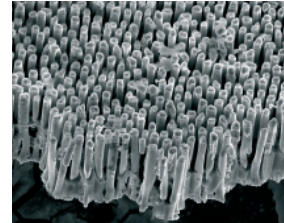
METALLIC NANOWIRES

Gold nanowires



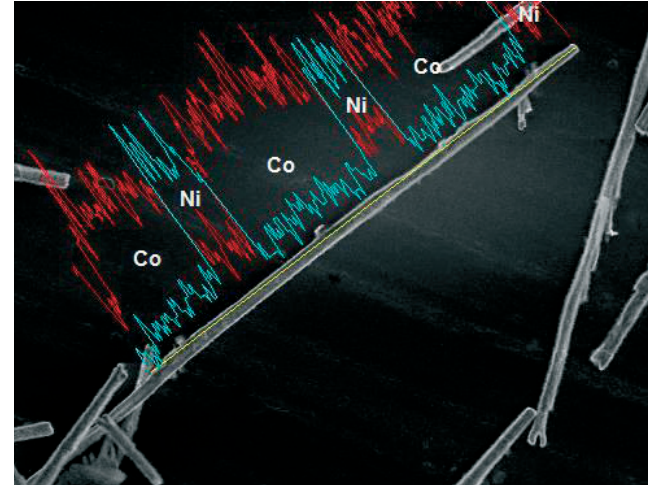
5 μm

Nickel nanowires



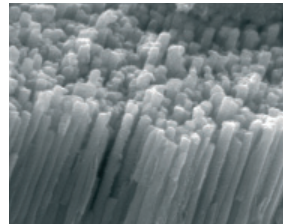
5 μm

Ni/Co multilayered nanowires



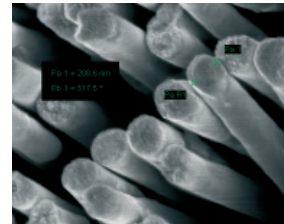
1 μm

Nickel nanowires



1 μm

Nickel nanowires



1 μm

Nanoparticles

NANOPARTICLES (NP)

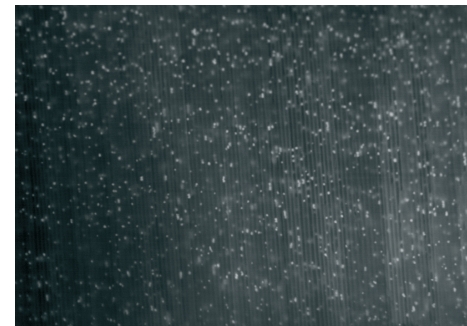
Format/size:

- Diameters of nanoparticles (principal diameter) from 30 up to 200 nm

Types:

- metallic nanoparticles of Au
- Embedded into PAA or dispersed in solution of ethanol

Gold nanoparticles embedded into PAA



1 μm

Technical specifications listed above are typical.

Different format/sizes and material combinations are possible on request [info@nanomaterials.it]. Nanomaterials.it is equipped to manufacture porous anodic oxides on large area and complex shaped substrates.

OUR COMPANY

Nanomaterials.it is an Italian company established in 2009 and located near Milano. Our firm focuses on the development of nanostructured templates of anodic alumina and titania, nanowires, and nanoparticles in order to implement new technologies based on these hi-tech materials. The experience of Progalvano Srl, as well known electroplating industry supplier, is joined to the expertise of the others partners in the field of nanotechnologies to offer innovative solutions and satisfy the demand of a variety of new hi-tech markets.

MISSION

Nanomaterials.it is aimed at the development, the production, and the commercialization of nanostructured materials and surfaces for a variety of applications such as: photonic, microfluidic, photocatalysis, sensing and biomedical applications.

TECHNOLOGY

Nanotechnologies combined with surface engineering has become a subject of great scientific and industrial interest for the implementation of nanostructures and new materials. Over the last decades, major advances in research and technology have been made possible due to the successful development of self-organized nanoscale materials. Nanomaterials.it is specialized in the electrochemical production of nanostructured materials, particularly in the fabrication of ordered porous nanostructures and their application in technologically advanced fields.

PRODUCTS

Our main production consists of nanoporous anodic oxides (Al_2O_3 and TiO_2), nanowires and nanoparticles.

Nanoporous Anodic Oxides

POROUS ANODIC TITANIA (PAT)

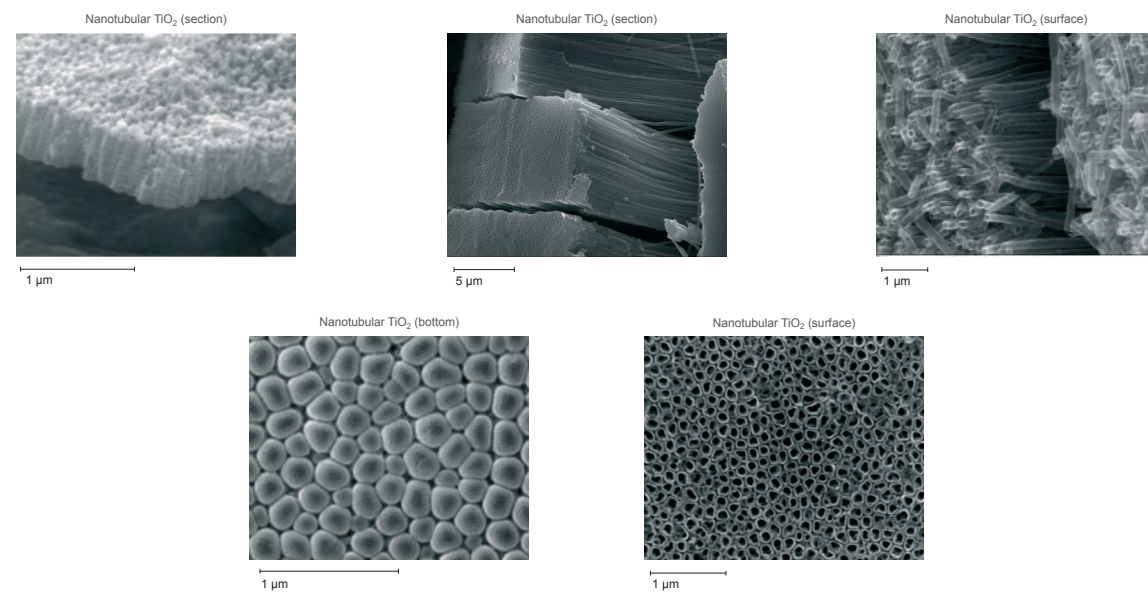
Format/size:

- Round shape foils with, with diameters of 13 – 25 – 42 mm
- TiO_2 nanotubes thickness from 0.5 up to several μm
- Tube diameters from 30 up to 200 nm

Types:

- Starting material: pure titanium (>99.9%) or Ti alloy (e.g. TiAlV)
- Disordered pore arrangement
- Supported on Ti substrate or other substrates (e.g. Si, ITO)
- Thermally treated, functionalized

NANOTUBULAR TITANIA TEMPLATES made on Ti sheets



POROUS ANODIC ALUMINA (PAA)

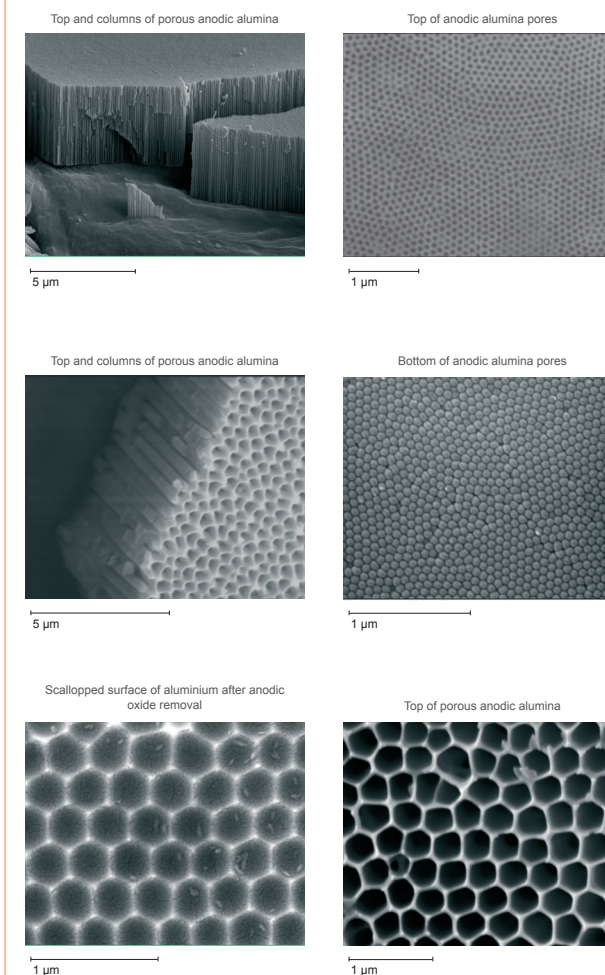
Format/size:

- Round shape foils, with diameters of 13 – 25 – 42 mm
- Al_2O_3 nanopores thickness from 15 up to 100 μm
- Pore diameters from 30 up to 200 nm

Types:

- Starting material: pure aluminium (>99.99%) or Al alloys
- Disordered or highly ordered pore arrangement
- Free-standing, supported on Al substrate or other substrates (e.g. Si, ITO)
- Pore bottom closed or opened
- Pore bottom opened and metalized (e.g. Au)
- Thermally treated, functionalized.

TEMPLATES of PAA supported on Al substrate or other substrates (e.g. Si, ITO)



MENBRANES of PAA free-standing nanopores

