



Fibrous Conductive Materials

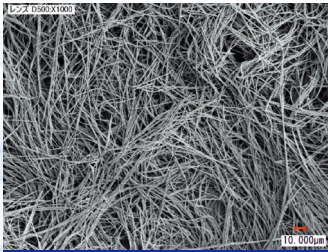
Conductive Nanowires

Conductive Materials for Transparent Conductive Devices.

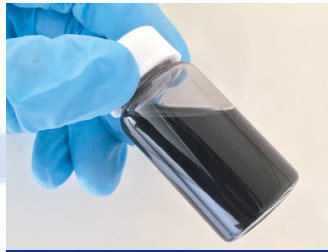
The conductive nanowires developed by UNITIKA have superior long-time reliability to Ag nanowires in IoT devices, automotive devices, and so forth.

▶ **Excellent ion-migration resistance due to Ni-based composition.**

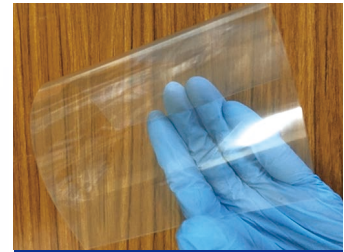
▶ **Surface modification with noble metals further improves conductivity of the nanowires.**



SEM image of the conductive nanowire



Ink containing the conductive nanowire



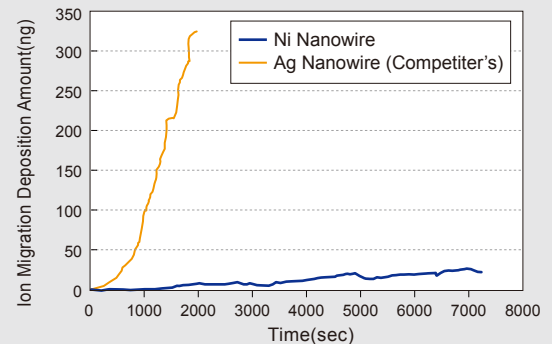
Film coated with the conductive nanowire

Technical data

Nanowire grades, Features, Dimensions, Properties

Nanowire	Feature	Size		Property
		Mean Diameter	Mean Length	Volume Resistivity
Ni Nanowire	Highly Stable	100-150nm	20-30µm	$3 \times 10^{-3} \Omega \cdot \text{cm}$
AgNi Nanowire	Highly Conductive	100-150nm	20-30µm	$5 \times 10^{-5} \Omega \cdot \text{cm}$

Ion Migration Acceleration Test by Dilute Electrolyte Immersion Method

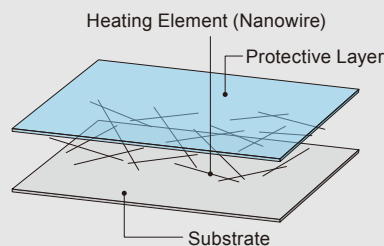


Application examples

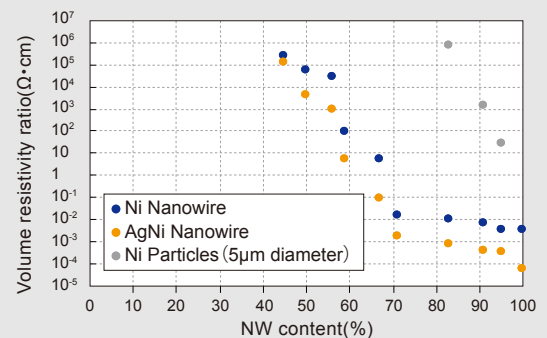
Input Device (e.g. Touchscreen)



Transparent Heater (e.g. Antifogging Application)



Volume resistivity ratio



(Notice) This product is under development. The information in this document is presented without guarantee and warranty.