



High-tech Window Screen with Nanofiber

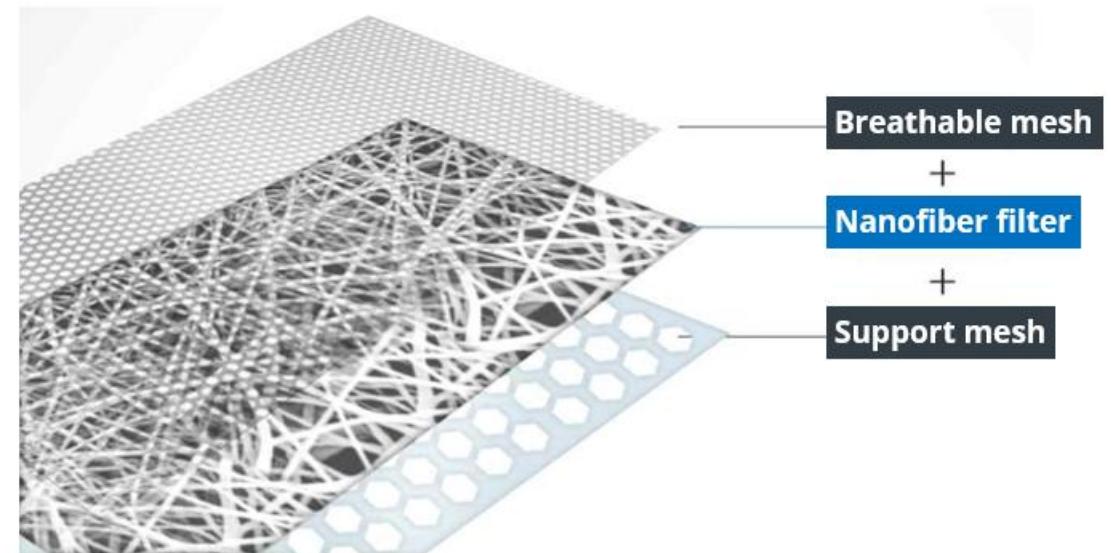
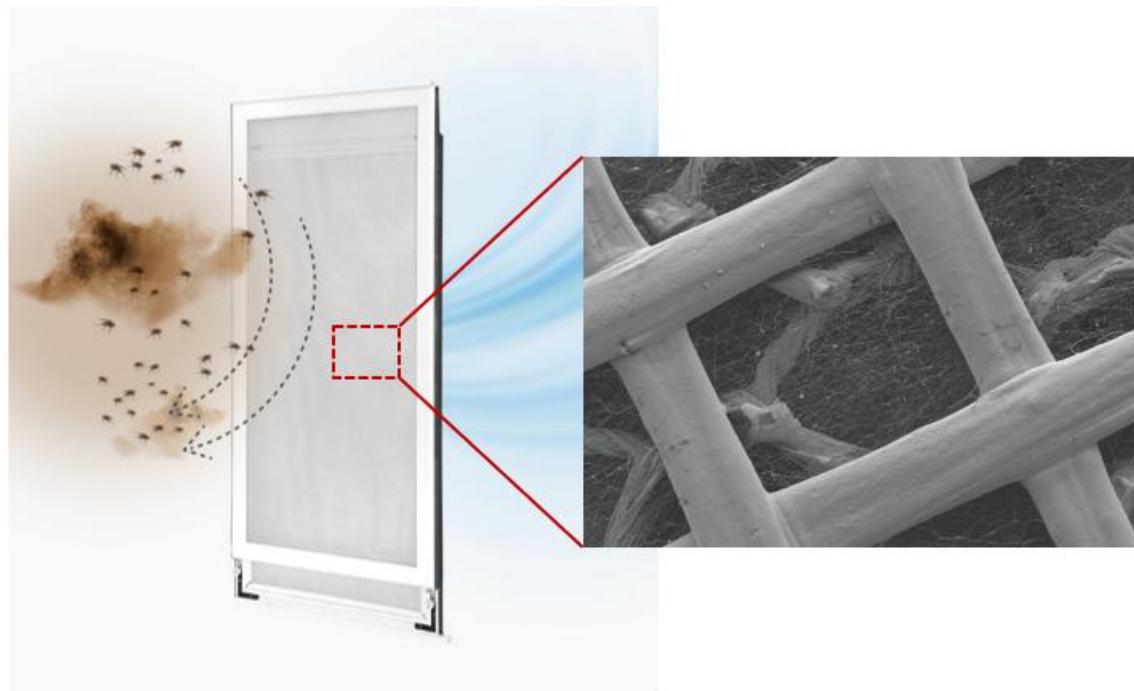
# TN WINDOW SHIELD

Protect Yourself and Your Family



# TN-90 WINDOW SHIELD

- The core of 'TN Window Shield' is state-of-the-art nanofiber filtration technology.
- 'TN Window Shield' is a high-performing functional screen that blocks or restricts a wide spectrum of unwanted airborne particles including pollen and allergens as well as fly ash, agricultural dust, coal dust, bacteria and droplets carrying many virus particles.
- 'TN Window Shield' has superior durability, the performance is maintained for long-term use.



# WHY TN-90 WINDOW SHIELD?

## ► Easy Installation

- Accessibility to existing window frame instead of insect screen

## ► State-of-the-art Nano Technology

- Excellent filtration performance from dense structure of “Nanofiber”
- High air-permeability from numerous porous structure between “Nanofibers”

## ► Superb Durability

- Applied special lamination technology enables long-term use

## ► Easy maintenance

- Performance is maintained through simple cleaning with hand sprayer without any detachment



Excellent  
Filtration  
Efficiency



High  
Porosity &  
Permeability



High Strength  
3-Layer  
Construction



Excellent  
Visibility



Blocks  
UV rays



Blocks  
IR rays



High  
Corrosion  
Resistance



Easy  
Cleaning

# PRODUCT DIFFERENCE



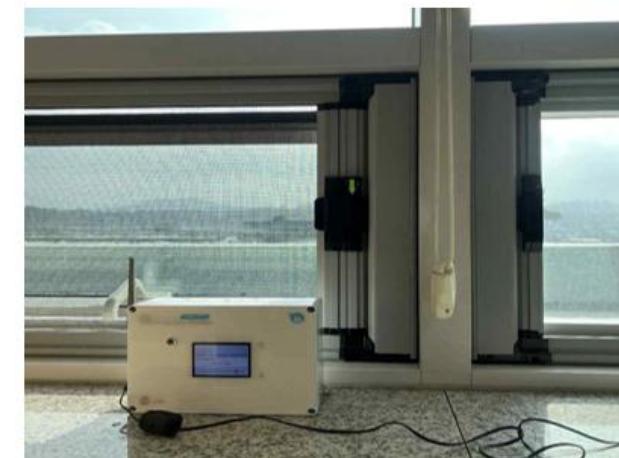
	Regular Insect screen	TNS-90
<b>Description</b>	An obsolete product, not efficient against current threads.	high-tech nanofiber solution to protect against air pollution.
<b>Material</b>	Fiberglass, aluminum, steel.	Nanofiber, polymeric mesh.
<b>Filtration efficiency</b>	Fail to capture the most hazardous particles.	Captures even the smallest dust, smog and PM 2.5 particles
<b>Toughness</b>	Vulnerable to corrosion, and more susceptible to mechanical damage.	Highly resistant because of a solid knitted structure. 3-layered laminated fabric.
<b>Health hazards</b>	Prolonged exposure to the external environment causes the fiberglass to degrade, releasing carcinogenic particles that are hazardous to human health.	Polymers used in the membrane do not release any harmful substances or particles.
<b>Additional effects</b>	Ineffective against UV light and rainwater.	Reduces UV light to passing through, keeps rain out.

# DEMOnSTRATION

## Jeju Int'l Airport

- (General Insect screen) Jan 09. 2023 ~ Jan 13. 2023
- (TN Window Shield) Jan 16. 2023 ~ Jan 20. 2023

Subject		Fine dust (PM 10)	Ultra fine dust (PM 2.5)	Carbon dioxide (CO <sub>2</sub> )
Limit value		100 $\mu\text{g}/\text{m}^3$	50 $\mu\text{g}/\text{m}^3$	1,000ppm
Departure A	Insect screen	20.9	11.1	1,005.3
	TN Window Shield	3.0	2.4	763
	Variance	-86%	-78%	-24%
Departure B	Insect screen	12.8	8.9	826.5
	TN Window Shield	8.9	2.2	597
	Variance	-30%	-75%	-28%
Departure C	Insect screen	13.0	7.3	904.8
	TN Window Shield	3.3	1.6	705
	Variance	-75%	-78%	-22%



# WHERE TO USE



## TN Window Shied is an excellent choice for:

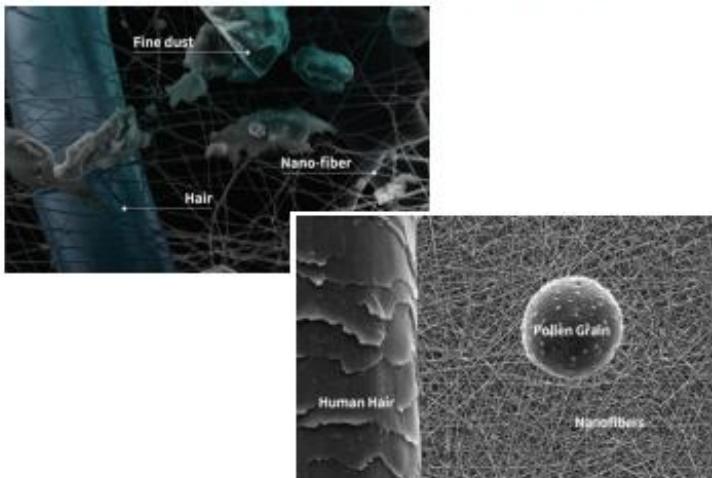
- Homeowners & Condominium Owners
- Real Estate Developers & Builders
- Construction Companies
- Hotel & Hospitality Operations
- Outdoor Patio & Swimming Pool Enclosures
- Government Agencies
- Allergy, Health & Wellness Institutions
- Architecture & Interior Design Firms
- Enclosed Greenhouse, Botanical & Sustainable Agriculture Operations
- Stables, Barns & Equestrian Facilities where Animal Allergy Defense is Required

# NANO FIBER TECHNOLOGY

## Nanofiber Technology

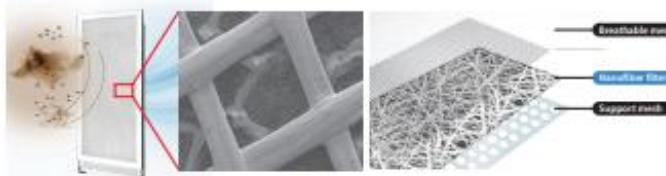
### Nanofiber of TN Windows Shield

- Large extent of surface with high porosity and high volume ratio compared to extent
- Very thin and light like the skin, a dream material where alien substances do not pass while ventilation



## What is ?

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## Solution !

Here, "TN Window Shield" is the new choice for you !!



## Why TN Window Shield ?

### ► Easy Installation

Accessibility to existing window frame instead of insect screen

### ► State-of-the-art Nano Technology

Excellent filtration performance from dense structure of "Nanofiber"  
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### ► Superb Durability

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### ► Easy maintenance

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## Particle Pollution ?

<Source : CDC, Air quality, www.cdc.gov/air/particulate\_matter.html>

- Particle pollution – also called particulate matter (PM) – is made up of tiny particles of solids or liquids that are in the air.

### • These particles may include :

- Dust
- Dirt
- Soot
- Smoke
- Drops of liquid



### • Where does particle pollution come from?

- a) Primary sources cause particle on their own.  
For example, wood stoves and forest fire.

- b) Secondary source let off gases that can form particles. Power plants and coal fires are examples of secondary sources.  
Some other common sources of particle pollution can be either primary or secondary  
- for example, factories, cars and trucks, and construction sites.

## Spending more time indoor ?

- Is it okay if we stay indoors to avoid outdoor particle pollution?  
<Answer> There are lots of **indoor air pollutants**, such as VOCs, Formaldehyde, CO2, Smell, etc.



# PRODUCT PERFORMANCE

**Proven construction case**



**Certification on technology and quality**



**Patent**

**Filtration Efficiency of Pollen Particles**

**Bursting strength**

**Air permeability**