Panasonic INDUSTRY

Learn More,
please visit the website.

Transparent Conductive Film FineX (Fine Cross)

Transparent EMC Shield Applications

For the development of Transparent Electromagnetic Wave Shielding that contribute to improved equipment safety and user comfort, Panasonic proposes Transparent Conductive Film **FineX** (Fine Cross) **which achieves both high transmissivity and low resistance, was developed using Panasonic's proprietary method.**

Transparent EMC Shield is a device capable of reducing or shielding the effects of electromagnetic waves.

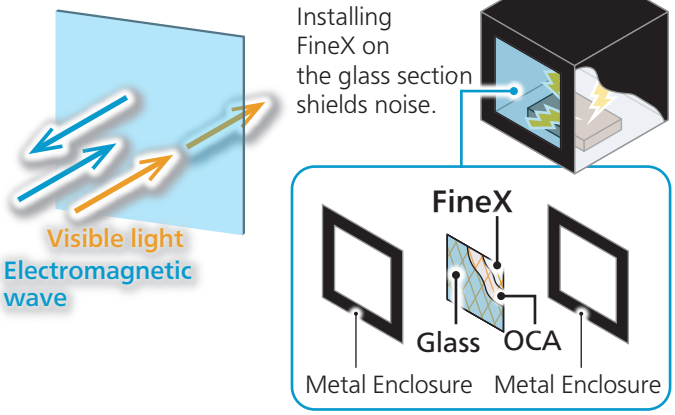
Are you struggling with these **design problems?**

Want to achieve electromagnetic compatibility (EMC) for electrical and electronic devices, but...

In the end, there is no solution other than suppressing the noise source!

FineX (Fine Cross) technology

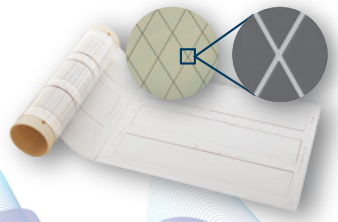
High installation flexibility:
Does transmit visible light.



Feature 1 **Shielding performance** — Achieves electromagnetic wave shielding.

Feature 2 **Transparency** — Achieves both transparency and diffraction reduction.

FineX
Pronounced Fine Cross



Usage examples

Contributing to electromagnetic wave control and improvement of design flexibility

Factory Automation equipment

Suitable for electromagnetic wave shielding applications and enhances safety and visibility.

Facilities

For requiring noise leakage prevention, RFID interference mitigation, and creating a suitable radio wave environment.

Equipment

Prevents noise leakage from monitors and other equipment.

Microwave oven

Effective for shielding against electromagnetic waves and enhances both functionality and visibility.

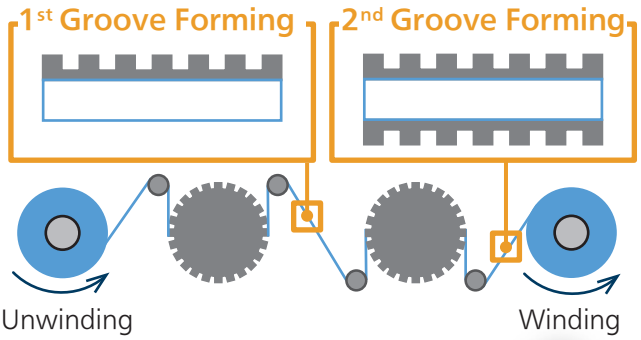
If you have any questions or concerns about the installation of FineX Electromagnetic Wave Shield Solutions on glass or areas where you want to maintain design, or if you would like to know more about the FineX (Fine Cross), please feel free to contact us.

Contact us >

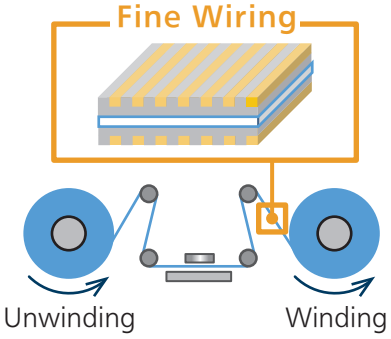
FineX (Fine Cross) Technology

Panasonic's proprietary Roll-to-Roll Process (double-sided full wiring).

Groove Forming Process

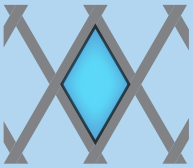


Fine Wiring Process



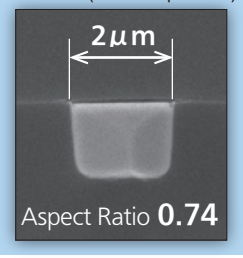
01 Fine Wiring

02 High Aperture Ratio

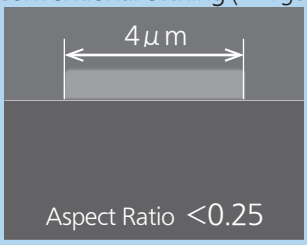


04 Wiring with High Aspect Ratio

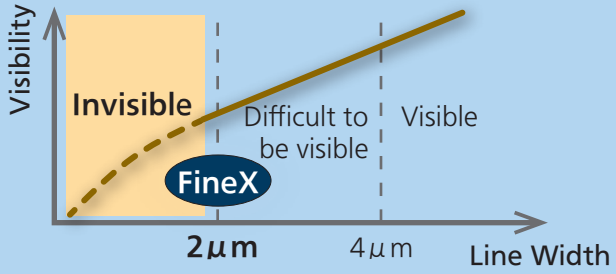
FineX (Actual photo)



Conventional etching (Image)



03 Visibility of Wiring Lines



Specifications

Fundamental Specifications

Item	FineX Panasonic's proprietary Process Metal Mesh	Conventional Etching Method Metal Mesh
Wiring Line Width	2 um or more	4 um
Transmissivity	89 % *1	87 % *1
Aperture ratio	96 %	92 %
Sheet Resistance	2 Ω/sq.	2 Ω/sq.
Frame Wiring (L/S)	8/8 um	15/15 um
Base material	PET・PC	PET・PC
Bendability	R2 mm or more *2	R2 mm or more *2

Dimensions

Max. product size:
580 mm (W) × **700** mm (L)
(Film Thickness : 50 um)

Delivery Form

- Available in rolls or sheets.
- For with FPC and/or with cover lens, please contact our sales representative.

Learn More **FineX**, please visit the website.

Note) Comparison with our prototypes.
*1 : Including film base material. **Approximately 2% improvement in transmissivity** compared to conventional etching process.
*2 : Film only.

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Specifications are subject to change without notice.
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