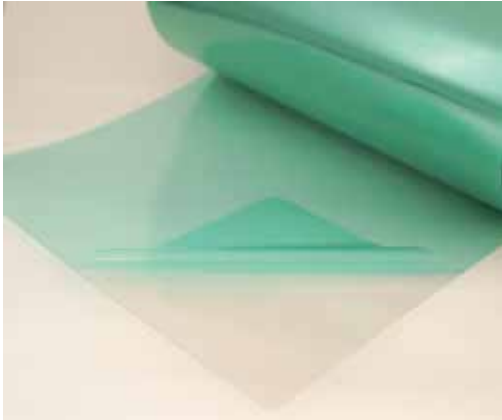


# Transparent Conductive Film

## WINAL Series



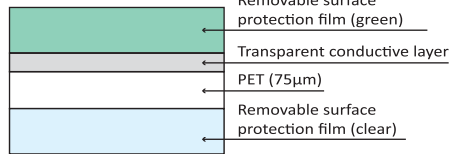
Excellent EMI shielding  
around LCDs and other apertures



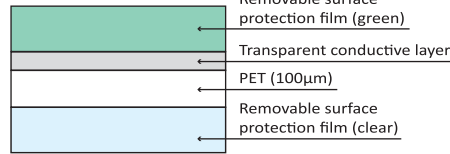
- Low surface electric resistance gives higher shielding effectiveness
- Electrically conductive film with superior optical transparency
- Custom sheet cutting, punching, adhesive tape attachment etc. available upon request

### Cross-section view

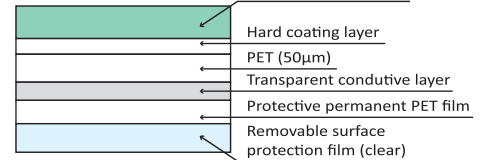
WINAL75-080



WINAL100-020



WINAL50-005



### Specification

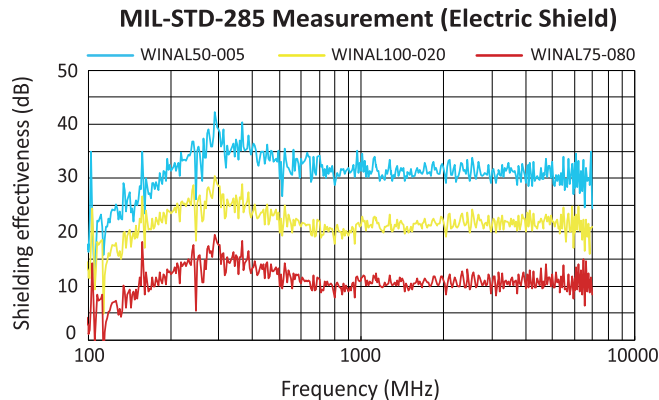
Part Number	WINAL75-080	WINAL100-020	WINAL50-005
Thickness (μm)	75	100	94
Standard Sheet Size (mm)	420 x 600	210 x 297	200 x 297
Shielding Effectiveness (db/1GHz)	10	22	30
Total Light Transmittance (%) <b>*JIS K 7136</b>	76	76	76
Surface Resistance (Ω/□) <b>*JIS K 7194</b>	80	20	5
Flame Retardancy <b>*UL94</b>	VTM-2 equivalent	VTM-2 equivalent	—
Operating Temperature (°C)	-30 - 80	-30 - 80	-30 - 80

**\*Test method**

**\*Surface protection film not included**

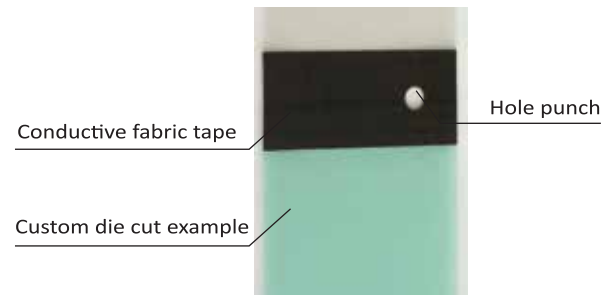
**NEW**

### Characteristics



### Custom liner options

- Addition of conductive fabric tape layer
- Custom die cutting
- Hole punching



**KGS America**  
KITAGAWA INDUSTRIES America, Inc.  
Tel: 1-855-EMC-PART (1-855-362-7278) Email: sales@kgs-ind.com

All statements, specifications, properties, technical information, and recommendations herein are based on tests; however, the accuracy and completeness are not guaranteed and are subject to change without notice due to product improvement and specification change. This statement is made in lieu of all warranties, expressed or implied, including the implied warranties of marketability, and fitness for purpose. KITAGAWA INDUSTRIES America, Inc. obligation under this warranty shall be limited to replacement of product that proves to be defective. Prior to use, the user shall determine the suitability of the product for its intended use, and the user assumes all risk and liability whatsoever in connection therewith. KITAGAWA INDUSTRIES America, Inc. shall have no liability for any injury, loss, or damage arising out of the use of or the inability to use the products. No statement or recommendation contained herein shall have any force or effect unless in an agreement signed by officers of seller and manufacturer.

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**Please request for detailed product specification data prior to purchase**

Volume resistivity stated on our EMI absorber flyer is meant for noise control parameters, where the absorber is considered a conductor, but not for insulation performance. Care should be taken when using absorbers. KITAGAWA INDUSTRIES America, Inc. makes no guarantees as to electrical resistivity values and accepts no liability due to short circuits where EMI absorbers are used directly on a PC Board or areas near high voltage such as for power. The products are designed for EMI noise reduction for electronics. This is not recommended for applications involving human life or extremely high accuracy. Prior to using the products in production, please verify their performance or adhesive strength of PSA for long term use. Avoid applying any external stress such as bending or high amounts of tension. Note when the absorber products are cut, bent, or pulled, there may be a possibility of creating cracks. For storage, keep products in a cool, dry, well-ventilated area at room temperature and avoid high temperatures, humidity, and direct sunlight.

Please contact the sales department at KITAGAWA INDUSTRIES America, Inc. for the use of our products prior to selecting the parts for your application.

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